



Junior  
Worldmark  
Encyclopedia of

# Physical Geography

VOLUME

5

Afghanistan  
to Denmark

Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**



Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

VOLUME **1**

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Afghanistan to Comoros

Karen Ellicott and Susan B. Gall,  
Editors



## JUNIOR WORLDMARK ENCYCLOPEDIA OF PHYSICAL GEOGRAPHY

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# Countries of the World, by Continent

## **Africa**

Algeria  
Angola  
Benin  
Botswana  
Burkina Faso  
Burundi  
Cameroon  
Cape Verde  
Chad  
Comoros  
Congo, Democratic Republic of the  
Congo, Republic of  
Côte d'Ivoire  
Djibouti  
Egypt  
Equatorial Guinea  
Eritrea  
Ethiopia  
Gabon  
Gambia, The  
Ghana  
Guinea  
Guinea-Bissau  
Guyana  
Kenya  
Lesotho  
Liberia  
Libya  
Madagascar  
Malawi  
Mali  
Mauritania  
Mauritius  
Morocco  
Mozambique  
Namibia  
Niger  
Nigeria  
Rwanda  
São Tomé and Príncipe  
Senegal  
Seychelles  
Sierra Leone  
Somalia  
South Africa  
Sudan  
Swaziland  
Tanzania

Togo  
Tunisia  
Uganda  
Zambia  
Zimbabwe

## **Asia**

Afghanistan  
Armenia  
Azerbaijan  
Bahrain  
Bangladesh  
Bhutan  
Brunei  
Cambodia  
China  
Cyprus  
East Timor  
Georgia  
India  
Indonesia  
Iran  
Iraq  
Israel  
Japan  
Jordan  
Kazakhstan  
Korea, North (Democratic People's Republic of)  
Korea, South (Republic of)  
Kuwait  
Kyrgyzstan  
Laos  
Lebanon  
Malaysia  
Mongolia  
Myanmar  
Nepal  
Oman  
Pakistan  
Philippines  
Qatar  
Russia  
Saudi Arabia  
Singapore  
Sri Lanka  
Syria  
Taiwan  
Tajikistan  
Thailand



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# COUNTRIES OF THE WORLD, BY CONTINENT

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Turkey  
Turkmenistan  
United Arab Emirates  
Uzbekistan  
Vietnam  
Yemen

## **Australia**

Australia

## **Europe**

Albania  
Andorra  
Austria  
Belarus  
Belgium  
Bosnia and Herzegovina  
Bulgaria  
Croatia  
Czech Republic  
Denmark  
Estonia  
Finland  
France  
Germany  
Greece  
Hungary  
Iceland  
Ireland  
Italy  
Latvia  
Liechtenstein  
Lithuania  
Luxembourg  
Macedonia  
Malta  
Moldova  
Monaco  
Netherlands  
Norway  
Poland  
Portugal  
Romania  
Russia  
San Marino  
Serbia and Montenegro  
Slovakia  
Slovenia  
Spain  
Sweden  
Switzerland  
Ukraine  
United Kingdom  
Vatican City

## **North America**

Antigua and Barbuda  
Bahamas  
Barbados  
Belize  
Canada  
Costa Rica  
Cuba  
Dominica  
Dominican Republic  
Ecuador  
El Salvador  
Guatemala  
Haiti  
Honduras  
Jamaica  
Mexico  
Nicaragua  
Panama  
Puerto Rico  
Saint Kitts and Nevis  
Saint Lucia  
Saint Vincent and the Grenadines  
United States of America

## **Oceania**

Note: The island nations lying in the Pacific Ocean are not part of any continent.

Fiji  
Kiribati  
Marshall Islands  
Micronesia  
Nauru  
New Zealand  
Palau  
Papua New Guinea  
Samoa  
Solomon Islands  
Tonga  
Tuvalu  
Vanuatu

## **South America**

Argentina  
Bolivia  
Brazil  
Chile  
Colombia  
Paraguay  
Peru  
Suriname  
Trinidad and Tobago  
Uruguay  
Venezuela

# Reader's Guide

*Junior Worldmark Encyclopedia of Physical Geography* presents a comprehensive survey of the physical geography of 192 countries of the world plus Taiwan, Antarctica, and Puerto Rico.

The entries are arranged alphabetically by country in five volumes. Following the format of other popular titles in the *Junior Worldmark* series, information in each entry is presented in a consistent format, allowing student researchers to find information and compare countries quickly and easily.

A topographic map—with notable mountain ranges and peaks, lakes, rivers, deserts, and coastal areas labeled—accompanies each entry. In addition, more than 200 photographs illustrate the varied landscapes found in the countries of the world. Adding further interest are the “Did You Know?” boxes appearing in the entries, noting interesting or unusual geographic features or facts or explaining regional geographic references.

## Organization

Each volume begins with the contents listed for that volume, followed by a cumulative table of contents for all five volumes in the set. To help researchers who wish to identify a country within one of the world's continents, a finder table—Countries of the World by Continent—appears at the front of each volume. Words to Know, a glossary of terms related to geography, completes the front matter. Entries for individual countries follow. Although all numbered rubrics are included in every entry, entries vary in length depending primarily on the geographic complexity of the country's land area.

Each entry begins with a list of key facts about the physical characteristics of the country; measurements are provided in both metric and English units. Student researchers should be reminded that geography is an imprecise science, and measurements of geographical features may vary from source to source.

## Key Facts

### ■ Official name

The countries of the world are referred to by a common name; the more formal official name is listed here.

### ■ Area

The country's area, usually including islands, is provided in square kilometers and square miles.

### ■ Highest point on mainland

The height, in meters and feet, is given for the highest point on the mainland portion of the country. For most countries, this is also the highest point anywhere in the country.

### ■ Highest point in territory

For some countries with islands and territories, the highest point not on the mainland is provided in meters and feet.

### ■ Lowest point on land

The elevation, in meters and feet, for the lowest point on the mainland portion of the country is provided.

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## READER'S GUIDE

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### ■ Hemispheres

The country's hemispheres (Northern, Southern, Eastern, and Western) help the researcher locate the country on the globe.

### ■ Time zone

The time zone of the country's capital is provided, with the time related to Greenwich Mean Time (GMT). For some large countries, more than one time zone may be listed.

### ■ Longest distances

Measurements in kilometers and miles of the country's widest points from north to south and east to west are given. For some countries, longest distances may be measured on a slight diagonal (northwest to southeast, for example).

### ■ Land boundaries

The total distance making up the country's borders with other nations is provided in kilometers and miles, followed by the border distances with the individual neighboring countries.

### ■ Coastline

Coastline measurements, in kilometers and miles, are approximate. Coastline measurements are likely to vary from source to source.

### ■ Territorial sea limits

The territory extending into the ocean over which the country claims control or jurisdiction. Territorial sea limits are given in kilometers and nautical miles, and generally govern activities such as fishing and mineral rights.

*The first four numbered rubrics offer a general overview of the country.*

### 1 🌐 LOCATION AND SIZE

This section gives the reader an overview of where the country lies and provides its relation to the bodies of water around it. Also included is information about whether the country is divided into states, provinces, or other internal administrative units.

### 2 🌐 TERRITORIES AND DEPENDENCIES

Many countries exercise jurisdiction over territories—often islands—that are not part of the mainland. This section lists any such territories and dependencies.

### 3 🌐 CLIMATE

The general climate of the country is described, with a table providing seasonal temperature ranges included for many countries. General information about rainfall and snow patterns is also included here.

### 4 🌐 TOPOGRAPHIC REGIONS

An overview of the general topography (shape of the country's land surface) is provided, with key features (mountain ranges, plateaus, deserts, valleys, lakes, rivers) noted.

*The next eight numbered rubrics—5 through 12—describe specific geographic features. All entries include all eight headings. Since all countries do not include every geographic feature, individual entries note the absence of specific features.*

### 5 🌐 OCEANS AND SEAS

The oceans and seas bounding the country are listed. Subheadings describe specific features of the country and its coastal areas. Subheads are used in entries as appropriate and may include:

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## READER'S GUIDE

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### Seacoast and Undersea Features

Includes discussion of nearby undersea features of note, such as deep ocean trenches or coral reefs.

### Sea Inlets and Straits

Includes major bays, gulfs, sounds, channels, straits, and other sea inlets that characterize the coastal areas.

### Islands and Archipelagos

Major islands and island chains are described here.

### Other Coastal Features

Includes notable peninsulas, isthmuses, and describes the type and quality of the coastal areas.

### 6 INLAND LAKES

Major and significant lakes are included. When a lake straddles a border between two countries, it is covered in both entries. Major man-made reservoirs are also included in this section in some entries.

### 7 RIVERS AND WATERFALLS

Describes important rivers, giving length and general characteristics. Also includes major waterfalls.

### 8 DESERTS

Arid and semi-arid flatland regions are described.

### 9 FLAT AND ROLLING TERRAIN

Areas that range from flat and treeless to rounded terrain are described.

### 10 MOUNTAINS AND VOLCANOES

Mountain peaks, including volcanoes, are described here, typically in the context of a mountain range.

### 11 CANYONS AND CAVES

Notable canyons and cave systems are described.

### 12 PLATEAUS AND MONOLITHS

Regions of high elevation but with relatively flat terrain and monoliths (huge stone outcroppings) are described here.

*The final two numbered rubrics describe notable man-made features, and provide resources for further study. Supplementing the Further Reading suggestions provided in each entry is the Selected Sources for Further Study that appears in the back of each volume.*

### 13 MAN-MADE FEATURES

Notable man-made features—such as dams, canals, major bridges, tunnels, and other structures—that affect a country's geography are described.

### 14 FURTHER READING

This section lists selected books and Web sites that provide more information on the country's geography.

### Additional Features

Additional reference materials appear at the back of each volume. Researchers looking for comparative information on some of the world's key geographic features can refer to a series of Appendixes. These provide the following rankings: continents by area;

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## READER'S GUIDE

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countries by area; countries by population; oceans and seas by area; oceans by depth; islands by area; deserts by area; mountain peaks by height; volcanoes by height; rivers by length; waterfalls by height; lakes by area; and lakes by depth. The seven wonders of the ancient world and seven wonders of the natural world are described in the final two appendixes. Lastly, a listing of selected references for the further study of physical geography completes the backmatter. Volume 5 contains a cumulative general index to all five volumes. Topographic world maps appear on each volume's endsheets.

### Photographs

The photographs in *Junior Worldmark Encyclopedia of Physical Geography* were assembled

with assistance from ARAMCO; Raoul Russo, UNESCO imaging; Marcia L. Schiff, AP/Wide World Photos; Maura Malone, EPD Photos; and Mimi Dornack, National Geographic Imaging.

### Comments and Suggestions

We welcome your comments and suggestions for features to be included in future editions. Please write: Editors, *Junior Worldmark Encyclopedia of Physical Geography*, U•X•L, 27500 Drake Road, Farmington Hills, Michigan 48331-3535; call toll-free: 1-800-877-4253; fax to (248) 699-8097; or send e-mail via <http://www.gale.com>.

# Words to Know

## A

**aboriginal** ④ Something that is the first or earliest known of its type in a country or region, such as an aboriginal forest.

**aborigines** ④ The first known inhabitants of a country and their descendants.

**acid rain** ④ Rain (or snow) that has become slightly acidic by mixing with industrial air pollution.

**alluvial plain** ④ Flatlands containing deposits of alluvium.

**alluvium** ④ Clay, silt, sand, or gravel deposited by running water, such as a stream or river.

**Antarctic Circle** ④ (also called South **Frigid Zone**) The parallel of latitude approximately 66°33' south and the region that lies between this latitude and the south pole; the region surrounding Antarctica.

**aquatic** ④ Of or relating to the water, particularly the animals and plants that live there.

**aqueduct** ④ A pipe or channel, usually man-made, that carries water from a remote source. Also, a bridge-like structure that carries water over obstacles.

**aquifer** ④ An underground layer of porous rock, sand, or gravel that holds water.

**arable land** ④ Land that is naturally suitable for cultivation by plowing and is used for growing crops.

**archipelago** ④ A group of islands or a body of water containing many islands.

**Arctic** ④ Relating to the northernmost part of the Earth that lies within and around the Arctic Circle. Also, **arctic**: anything that is frigidly and invariably cold.

**Arctic Circle** ④ (also called the North **Frigid Zone**) The parallel of latitude approximately 66°33' north and the region that lies between this latitude and the north pole.

**arid** ④ Extremely dry, particularly applied to regions of low rainfall where there is little natural vegetation and agriculture is difficult.

**artesian well** ④ A type of well where underground pressure forces water to overflow up to the surface.

**atmosphere** ④ The air surrounding the Earth's surface.

**atoll** ④ An island consisting of a strip or ring of coral surrounding a central lagoon.

**avalanche** ④ A swift sliding of snow or ice down a mountain.

## B

**badlands** ④ Eroded and barren land.

**Balkan Peninsula** ④ The southernmost peninsula of Europe, which is surrounded by the Adriatic, Ionian, Aegean, and Black seas

**Balkan States** ④ (also called The Balkans) Those countries that lie on or near the Balkan Peninsula; includes Albania, Bulgaria, continental Greece, southeast Romania, European Turkey, Serbia and Montenegro, Slovenia, Croatia, Bosnia and Herzegovina, and Macedonia.

**Baltic States** ④ The countries of Estonia, Latvia, and Lithuania. These independent countries were once provinces of Russia and all border on the Baltic Sea.

**barren land** ④ Unproductive land that is partly or entirely treeless.

**barrier island** ④ An island parallel to the shore that was formed by wave and tidal action and protects the shore from rough ocean waves.

**barrier reef** ④ A coral reef that lies parallel to the coast, often forming a lagoon along the shore.

**basalt** ④ Black or nearly black dense rock, usually formed by the solidification of magma or from some other high-temperature geological event.

**basin** ④ A depression on land or on the ocean floor. Usually relatively broad and gently sloped, as compared to a trench, canyon, or crater.

**bay** ④ A wide inlet of a sea or a lake.

**bayou** ④ A stagnant or slow-moving body of water.

**beach** ④ An area of sediment deposited along the shoreline of a large body of water through the action of waves and the process of erosion.

**bedrock** ④ Solid rock lying under loose earth.



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## WORDS TO KNOW

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**bight** ④ A bend in a coastline that forms an open bay.

**bluff** ④ Elevated area with a broad, steep cliff face.

**bog** ④ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter.

**bora** ④ A very cold wind blowing from the north in the Adriatic Sea region.

**broadleaf forest** ④ A forest composed mainly of broadleaf (deciduous) trees, as opposed to a coniferous forest.

**butte** ④ An elevated, flat-topped area, similar to but smaller than a plateau or mesa.

### C

**caldera** ④ A crater formed by the eruption of a volcano.

**canal** ④ An artificial waterway constructed to connect two bodies of water or for irrigation of farmland.

**canyon** ④ A deep gorge cut by a river, usually found in arid regions and often surrounded by plateaus.

**cape** ④ A part of the coast that protrudes into a body of water.

**Caribbean** ④ The region that includes the Caribbean Sea, its islands, and the Central or South American coastal areas of the sea.

**catchment** ④ Area that collects water.

**cave** ④ Hollow man-made or natural passages in the Earth with an opening to the surface.

**cay (or key)** ④ A small, low-lying island or reef formed by coral or sand.

**Caucasus** ④ Region between the Black and Caspian seas that forms the traditional boundary between Europe and Asia; includes the countries of Georgia, Azerbaijan, and Armenia, as well as parts of southwestern Russia.

**Central America** ④ A region of southern North America that extends from the southern border of Mexico to the northern border of Colombia; includes the countries of Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama

**channel** ④ A narrow body of water that connects two larger areas of water; an area where water flows through a narrow restricted path.

**cliff** ④ A high, vertical face of rock.

**climate** ④ Weather conditions pertaining to a specific area.

**cloud forest** ④ A tropical forest that is covered in clouds throughout most of the year, usually located on mountain peaks.

**coast** ④ Typically, the land that borders an ocean or sea.

**coastal** ④ Relating to the area along the coast.

**coastal plain** ④ A fairly level area of land along the coast of a land mass.

**coniferous forest** ④ A forest consisting mainly of evergreen trees such as pine, fir, and cypress trees.

**conifers** ④ Trees and plants that have needle-like, or scale-like, leaves and also produce cones; evergreens.

**contiguous** ④ Sharing an edge or boundary or connected without any breaks, as in *the 48 contiguous states*.

**continent** ④ One of the seven major land masses of Earth.

**continental climate** ④ A climate typical of the interior of a continent. Particulars can vary widely depending on the region, but in general, areas with a continental climate have greater variations in daily and seasonal temperatures than areas with a maritime climate.

**continental divide** ④ An extensive elevated region of land that separates the drainage basins of a continent so that the rivers on either side of the divide flow in opposite directions.

**continental shelf** ④ A shallow submarine plain extending from the coast of a continent into the sea and varying in width; typically the shelf ends in a steep slope to the ocean floor.

**coral reef** ④ A ridge in warm water areas of the ocean made up of the limestone and calcium deposits of coral animals.

**cordillera** ④ A continuous ridge, range, or chain of mountains; part of the principal mountain system of a continent or country.

**crater** ④ A bowl-shaped depression on the surface of the Earth, generally with relatively deep, steep, sides. The most common type of crater is a caldera, formed by volcanic eruption. Other craters are created by explosions or by impact, such as from a meteoroid.

**cyclone** ④ A violent rotating wind storm, particularly one that originates in the southwestern Pacific or the Indian Ocean. Cyclones rotate counterclockwise in the northern hemisphere and clockwise in the southern hemisphere.

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## WORDS TO KNOW

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### D

- dam** ☉ A structure built across a river that restricts its flow, causing a reservoir to form behind it. Dams are often used to generate hydropower.
- deciduous** ☉ Relates to trees or shrubs that shed their leaves on a regular basis, as opposed to those that retain them (coniferous).
- deforestation** ☉ The removal or clearing of a forest, usually to enable the land to be used for another purpose, such as agriculture or settlements.
- delta** ☉ Triangular-shaped deposits of soil formed at the mouths of large rivers. They are formed out of the silt carried by the river and have the effect of forcing the river to split into distributary channels, sometimes over a very wide area.
- depression** ☉ Any place where the Earth's surface is lower than the surrounding terrain.
- desert** ☉ Any dry land area with little precipitation and sparse vegetation; often a sandy region but also includes areas of permanent cold that are generally lacking plant life.
- desertification** ☉ The process where land that supports vegetation gradually becomes desert as a result of climatic changes, land mismanagement, or both.
- dike** ☉ An artificial riverbank built up to control the flow of water.
- discontiguous** ☉ Not connected to or sharing a boundary with.
- distributary** ☉ A stream that branches off from a river and never rejoins it, flowing independently into another body of water.
- doldrums** ☉ An area near the equator characterized by variable winds and periods of calm.
- dormant volcano** ☉ A volcano that has not exhibited any signs of activity for an extended period of time.
- dune** ☉ A mound or ridge of loose, wind-blown sand.

### E

- Earth** ☉ Fifth-largest planet in the solar system; its orbit is third from the sun, its circumference is 40,064 kilometers (24,900 miles) at the equator and 40,000 kilometers (24,860 miles) when measured around the poles. The diameter at the equator is 12,753 kilometers (7,926 miles) and, from pole to pole, 12,711 kilometers (7,900 miles).

**earthquake** ☉ Shaking or other movement of the earth that is caused by tectonic shifts or volcanic activity.

**East Asia** ☉ A subregion of Asia that includes the countries of China, Mongolia, Korea, and the islands of Taiwan and Japan.

**easterlies** ☉ Winds or air currents blowing more or less consistently from east to west.

**Eastern Europe** ☉ A geopolitical term that usually refers to those countries in the east of Europe that were once allied with the Soviet Union under the Warsaw Pact (1955-1991). Today, the independent countries of the region include: Albania, Bulgaria, Czech Republic, Slovakia, Hungary, Croatia, Slovenia, Bosnia and Herzegovina, Poland, Romania, Serbia and Montenegro, and Macedonia.

**Eastern Hemisphere** ☉ The half of the Earth's surface that extends east of the Prime Meridian to the 180th meridian.

**eddy** ☉ An air or water current that follows a course different from that of the main flow and usually has a swirling circular motion.

**El Niño** ☉ The warming of the ocean off the west coast of South America that causes a change in climate elsewhere in the world, especially in North America. El Niño conditions have occurred about every four to twelve years.

**enclave** ☉ A country or portion of a country that lies entirely within the boundaries of one other country. Also, a culturally distinct community within a country.

**endangered species** ☉ A plant or animal species that is at risk of becoming extinct.

**endemic** ☉ Anything that is native to, unique to, or characteristic of a specific place or region.

**equator** ☉ An imaginary line running around the middle of the Earth halfway between the North and South Poles. Identified as 0° latitude, it divides the Northern and Southern Hemispheres.

**erosion** ☉ Changes in the shape of the Earth's surface as a result of damage from wind, water, or ice.

**escarpment** ☉ (also called scarp land) A steep slope that separates areas of different elevations.

**estuary** ☉ The region where a river and a large lake or sea meet so that their waters gradually blend into each other.

**Eurasia** ☉ The land mass that contains the continents of Europe and Asia.

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## WORDS TO KNOW

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**exclave** ④ Part of a country that is separated from the larger, main portion of the country by foreign territory.

### F

**Far East** ④ Traditionally, those countries that are a part of East Asia and the easternmost portion of Siberia. Often, the term includes the countries of Southeast Asia as well.

**fault** ④ (also called a fault line) A fracture in the Earth's crust where the rock formation splits, allowing the opposing sides to shift. Most commonly found along the boundaries between tectonic plates, the shifting sometimes causes earthquakes.

**fen** ④ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter and is fed by surrounding soils and groundwater. Fens are similar to bogs but have higher nutrient levels.

**fjord** ④ A relatively narrow arm of the sea that indents deeply into the land, with generally steep slopes or cliffs on each side.

**flood** ④ The flow of excessive quantities of water over land that is generally above water.

**flood plain** ④ An area of low-lying land bordering a stream of water where floods, and the resulting deposits of alluvium, occur frequently.

**Frigid Zone** ④ Either of the extreme north and south latitude zones of the Earth. The North Frigid Zone lies between the North Pole and the Arctic Circle. The South Frigid Zone lies between the South Pole and the Antarctic Circle. The climate of these regions is characterized by extreme cold throughout the year.

### G

**game reserve** ④ An area of land reserved for wild animals that are hunted for sport or for food.

**geopolitical** ④ Refers to the relationship between geographic, political (or governmental), and cultural aspects of a nation or region.

**geothermal energy** ④ Energy derived from the heat that constantly and naturally radiates out from the center of the Earth. Also used to describe the radiation itself.

**geyser** ④ A hot spring that periodically erupts through an opening in the surface of the Earth, spewing boiling water and steam.

**glacier** ④ A large body of ice that moves along the Earth's surface.

**gorge** ④ A deep, narrow passage with steep, rocky walls.

**grassland** ④ An area where the vegetation is mostly grasses and other grass-like plants, often providing a transition between forests and deserts.

**Greenwich Mean Time** ④ The time at Greenwich, England, in the United Kingdom. This time is used as a basis for calculating time throughout most of the world. It is also called universal time, and is abbreviated GMT.

**groundwater** ④ Water located below the earth's surface, providing a source for wells and springs.

**gulf** ④ A large inlet of a sea or ocean that is partially enclosed by land, such as by capes or peninsulas.

**Gulf Stream** ④ Warm ocean current flowing from roughly the Gulf of Mexico northeast along the coast of North America, then east toward Europe.

### H

**harbor** ④ A protected inlet along the shore of a sea or lake that is deep enough for ships to anchor.

**hardpan** ④ A layer of hardened clay soil, usually underlying a thin layer of topsoil.

**hardwoods** ④ Deciduous trees, such as cherry, oak, maple, and mahogany, that produce very hard, durable, and valuable lumber.

**harmattan** ④ An intensely dry, dusty wind felt along the coast of Africa between Cape Verde and Cape Lopez. It prevails at intervals during the months of December, January, and February.

**headland** ④ Slightly elevated land lying along or jutting into a body of water.

**headstream** ④ Stream that forms the source of a river.

**headwater** ④ Source of a stream or river.

**heath** ④ Uncultivated land with low shrubs.

**hemisphere** ④ Any half of the globe. The Northern and Southern Hemispheres are divided by the equator while the Eastern and Western Hemispheres are divided by the Prime Meridian and 180° longitude.

**hill** ④ A rounded area of elevation rising more or less prominently above the surrounding, flatter landscape. Hills are generally no more than 300 meters (1,000 feet) high.

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## WORDS TO KNOW

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**Humboldt Current** ☉ A cold ocean current that runs north from Antarctica along the west coast of South America, primarily from June to November.

**hurricane** ☉ A tropical storm originating in the Atlantic or Pacific Oceans, generally with winds over 74 miles per hour.

**hydropower** ☉ (also called hydroelectric power) Electricity generated by the flow of water through the turbines of river dams.

### I

**iceberg** ☉ A massive block of floating ice that has broken off of a glacier or an ice shelf through a process known as calving.

**ice caps** ☉ Ice sheets covering less than 50,000 square kilometers (19,000 square miles). They form primarily in polar and sub-polar regions, generally occupying high and relatively flat regions.

**ice shelves** ☉ Sheets of ice that extend from the edge of a continent over the surface of the ocean, with ocean water flowing beneath them. They typically range from approximately 200–1000 meters (500–3,500 feet) thick. The Arctic Ocean is partly covered by ice shelves and the continent of Antarctica is almost completely surrounded by them.

**indigenous** ☉ A native species; vegetation that originates from or occurs naturally within a particular region.

**Indochina** ☉ A subregion that includes the peninsular countries of southeast Asia that lie between India and China, including: Vietnam, Laos, Cambodia, Thailand, Myanmar (Burma), and the mainland territory of Malaysia. The term indicates that the culture in these countries has been influenced by both Indian and Chinese traditions.

**inlet** ☉ Any water filled indentation along a coast or shore, such as a bay or gulf; a narrow passage through which water from an ocean or other large body of water passes, usually into a bay or lagoon.

**International Date Line** ☉ An arbitrary, imaginary line at about 180° longitude that designates where one day begins and another ends.

**island** ☉ A land mass entirely surrounded by water.

**isthmus** ☉ A narrow strip of land that connects two larger bodies of land such as two continents, a continent and a peninsula, or two parts of

an island. An isthmus is bordered by water on two sides.

### K

**karst** ☉ An area of limestone characterized by caverns and rock formations that are caused by erosion and underground streams.

**key.** See *cay*.

### L

**Labrador Current** ☉ A North Atlantic current that flows southward from polar waters along the east coast of Canada.

**lagoon** ☉ A shallow body of water, often connected with or barely separated from a nearby ocean or sea by coral reefs or sandbars.

**lake** ☉ A large inland body of standing water.

**landlocked country** ☉ A country that does not have direct access to an ocean; a country that is completely surrounded by other countries.

**landslide** ☉ A flow of muddy soil or loose rock that is usually triggered by heavy rainfall in areas where the terrain is steep.

**Latin America** ☉ A geopolitical term that relates to the countries that are south of the United States in the Western Hemisphere, particularly countries where the Latin-based languages (or Romance languages) of Spanish, Portuguese, and French are spoken.

**latitude** ☉ (also called parallel) An imaginary line running around the Earth parallel to the equator. The equator is at 0° latitude and divides the Earth into two sets of lines of latitude, north and south. Each set covers 90°.

**lava** ☉ Molten rock (magma) that has been poured out on the Earth's surface, usually through a volcano.

**leeward** ☉ The direction identical to that of the prevailing wind.

**littoral** ☉ A coastal region or shore; or, the area between the high water and low water marks of a shore or coastal region.

**loam** ☉ Light soil consisting of clay, silt, and sand.

**loess** ☉ A windblown accumulation of fine yellow clay or silt.

**longitude** ☉ (also called meridian) An imaginary line that extends along the surface of the Earth directly from one pole to another. The Earth is divided into 360 degrees of longitude, with 0° being designated as the Prime Meridian.

## WORDS TO KNOW

### M

**Maghreb** ☉ Region in northwest Africa made up of Algeria, Morocco, and Tunisia.

**magma** ☉ Molten rock beneath the Earth's surface that has been melted by the heat of the Earth's interior. When magma breaches the Earth's surface it is known as lava.

**mangrove** ☉ A tree that abounds on tropical shores in both hemispheres. It is characterized by its numerous roots that arch out from its trunk and descend from its branches. Mangroves form thick, dense growths along the tidal mud, covering areas that are hundreds of miles long.

**marine life** ☉ The life that exists in or is formed by the seas and oceans.

**maritime climate** ☉ The climate and weather conditions typical of areas bordering large bodies of water. Generally, areas close to water have more even temperatures than areas with a continental climate.

**marsh** ☉ An area of soggy land, usually covered wholly or in part by shallow water and containing aquatic vegetation.

**massif** ☉ The central part of a mountain or the dominant part of a range of mountains.

**mean temperature** ☉ The air temperature unit measured by adding the maximum and minimum daily temperatures together and dividing the sum by two; an average temperature.

**Mediterranean** ☉ The region surrounding the Mediterranean Sea.

**Mediterranean climate** ☉ A wet-winter, dry-summer climate with a moderate annual temperature range, as is typically experienced by countries along the Mediterranean Sea.

**meridian.** See **longitude.**

**mesa** ☉ An isolated, elevated, flat-topped area of land, typically larger than a butte but smaller than a plateau.

**Mesopotamia** ☉ The name means, "between rivers," and refers to the territory between and around the Tigris and Euphrates rivers (currently a part of Iraq). This area has been nicknamed "The Cradle of Civilization" because it was home to the ancient empires of Babylon, Sumer, and Assyria, among others. The Tigris and Euphrates are also two of the four rivers mentioned in the Biblical story of Eden.

**Middle East** ☉ A geopolitical term that designates those countries of southwest Asia and northeast Africa that stretch from the Mediterranean Sea to the borders of Pakistan and Afghanistan, including the Arabian Peninsula. This area was considered to be the midpoint between Europe and East Asia, usually called the Far East. The term is sometimes used to include all the countries of that general region that are primarily Islamic.

**mistral** ☉ In southern France, a cold, dry, northerly wind.

**moist tropical climate** ☉ A weather pattern typical to the tropics, known for year-round high temperatures and large amounts of rainfall.

**monolith** ☉ A large, natural rock formation, usually one that is isolated from other areas of high elevations; a large, stone block, column, or figure.

**monsoon** ☉ Seasonal change in the wind direction of Southeastern Asia, leading to wet and dry seasons. A monsoon develops when there is a significant difference in air temperatures over the ocean and the land.

**moor** ☉ A poorly drained open area containing peat and heath.

**moraine** ☉ A deposit of rocky earth deposited by a glacier.

**mountain** ☉ A lofty elevation of land, generally higher than 300 meters (1,000 feet), but varying greatly depending on the surrounding terrain, with little surface area at its peak; commonly formed in a series of ridges or in a single ridge known as a mountain range.

### N

**nature preserve** ☉ An area (often a park) where one or more specific species of plants and/or animals are protected from harm, injury, or destruction.

**Northern Hemisphere** ☉ The northern half of the Earth's surface, as measured from the equator to the North Pole.

### O

**oasis** ☉ Originally, a fertile spot in the Libyan Desert where there is a natural spring or well and vegetation; now refers to any fertile tract in the midst of a wasteland.

**ocean** ☉ The entire body of saltwater that covers almost three-fourths of the Earth's surface; any of the five principal divisions of the ocean.

## WORDS TO KNOW

**Oceania** ④ Oceania is a term that refers to the islands in the region that covers the central and south Pacific and its adjacent seas; sometimes includes Australia, New Zealand, and the Malay Archipelago (an large group of islands off the southeast coast of Asia).

### P

**pampas** ④ Grass-covered plain of South America.

**panhandle** ④ A long narrow strip of land projecting like the handle of a frying pan.

**parallel.** *See* **latitude.**

**peneplain** ④ A flat land surface that has been subjected to severe erosion.

**peninsula** ④ A body of land surrounded by water on three sides.

**permafrost** ④ A frozen layer of soil that never thaws.

**petroglyph** ④ Ancient carvings or line drawings created on the surface of rocks by prehistoric peoples; often found in caves.

**plain** ④ An expansive area free of major elevations and depressions.

**plateau** ④ A relatively flat area of an elevated area of land.

**plate tectonics** ④ A set of theories about the Earth's structure used by many geologists to explain why land masses and oceans are arranged as they are and why seismic activity occurs. According to plate tectonics the Earth's surface, including the bottom of the oceans, rests on a number of large tectonic plates. These plates are slowly moving over the interior layers of the Earth. Where they grind against each other, earthquakes and other seismic activity occurs, and the shape of the land gradually changes.

**polar circle** ④ (also called the polar region) A circular region around the North and South Poles that separates the frigid polar zones from the temperate zones. The Earth has two polar circles, the Arctic Circle in the north and the Antarctic Circle in the south.

**polar climate** ④ A humid, severely cold climate controlled by arctic-like air masses, with no warm or summer season.

**polder** ④ A low land area reclaimed from a body of water and protected by dikes or embankments.

**pole (geographic pole)** ④ The extreme northern and southern points of the Earth's axis, where the axis intersects the spherical surface. The

geographic North Pole is located at 90°N latitude/0° longitude. The geographic South Pole is located at 90°S latitude/0° longitude.

**pole (magnetic pole)** ④ Either of two points on the Earth's surface, close to the geographic North Pole and South Pole, where the magnetic field is most intense. The North Magnetic Pole is located at 78°N latitude/104°W longitude in the Queen Elizabeth Islands of northern Canada. The South Magnetic Pole is located at 66°S latitude/139°E longitude on the Adélie Coast of Antarctica.

**pond** ④ A small body of still, shallow water.

**prairie** ④ An area of level grassland that occurs in temperate climate zones.

**Prime Meridian** ④ The meridian designated as 0° longitude that runs through Greenwich, England, site of the Royal Observatory. All other longitudes are measured from this point.

### R

**rainforest** ④ A dense forest of tall trees with a high, leafy canopy where the annual rainfall is at least 254 centimeters (100 inches) per year.

**rain shadow** ④ An area that receives very little precipitation due to natural barriers, such as mountains, which keep rain clouds from covering the region.

**Ramsar** ④ The Ramsar Convention on Wetlands of International Importance is an international organization concerned with the preservation and protection of major wetland environments throughout the world.

**ravine** ④ A steep, narrow valley or gorge, usually containing the channel for a stream.

**reef** ④ String of rocks or coral formations, usually on a sandy bottom, that are barely submerged.

**reforestation** ④ Systematically replacing forest trees that were lost due to fire or logging.

**reservoir** ④ A lake that was formed artificially by a dam.

**Ring of Fire** ④ The region of seismic activity roughly outlined by a string of volcanoes that encircles the Pacific Ocean.

**river** ④ A substantial stream of water following a clear channel as it flows over the land.

**riverine** ④ Related to a river or the banks of a river.



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## WORDS TO KNOW

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### S

**Sahel** ☉ Sahel is an Arabic word meaning “shore.” It refers to the 5,000 kilometer (3,125 mile) stretch of savanna that is the shore or edge of the Sahara desert. The Sahel spreads west to east from Mauritania and Senegal to Somalia.

**salinization** ☉ An accumulation of soluble salts in soil. This condition is common in irrigated areas with desert climates, where water evaporates quickly in poorly drained soil due to high temperatures. Severe salinization renders soil poisonous to most plants.

**salt pan** ☉ (also salt flat) An area of land in a sunny region that is periodically submerged in shallow water, usually due to tides or seasonal floods. The sun causes the shallow water to evaporate and leave the salt it contained behind on the ground.

**sand bar** ☉ A deposit of sedimentary material that lies in the shallow water of a river, lake, or sea.

**savanna** ☉ (also spelled savannah) A treeless or near treeless plain of a tropical or subtropical region dominated by drought-resistant grasses.

**Scandinavia** ☉ The region of northwestern Europe that lies on the peninsula bordered by the Atlantic Ocean, the Baltic Sea, and the Gulf of Bothnia. Even though Norway and Sweden are the only two countries that lie directly on this peninsula, the countries of Denmark, Iceland and Finland are usually considered to be Scandinavian countries in a cultural context.

**sea** ☉ A body of salt water that is connected to (and therefore a part of) the ocean; sometimes, a name given to a large lake.

**sea level** ☉ The level of the ocean’s surface, specifically the average between the levels at high tide and low tide. Sea level is often designated as 0 meters (0 feet) and is used as the baseline for measuring elevations and depressions on land and on the ocean floor.

**seasonal** ☉ Dependant on the season. The flow of rivers and volume of lakes often varies greatly between seasons, as can vegetation.

**seasons** ☉ Regular variations in weather patterns that occur at the same times every year.

**sedimentary rock** ☉ Rock, such as sandstone, shale, and limestone, formed from the hardening of material deposits.

**seismic activity** ☉ Relating to or connected with an earthquake or earthquakes in general.

**semiarid** ☉ A climate where water and rainfall is relatively scarce but not so rare as to prohibit the growth of modest vegetation. Semiarid areas are often found around arid deserts and semiarid land is sometimes called a desert itself.

**shoal** ☉ A shallow area in a stream, lake, or sea, especially a sand bank that lies above water at low tide or during dry periods.

**shore** ☉ Typically, the land that borders a lake or river; may also be used to designate the land bordering an ocean or sea.

**sierra** ☉ A rugged, jagged, irregular chain of hills or mountain.

**silt** ☉ Fine, gravel-like, inorganic material, usually sand and coarse clay particles, that is carried by the flow of a river and deposited along its banks. Silt is generally very fertile soil.

**skerry** ☉ A rocky island.

**slough** ☉ A marshy pond that occurs in a river inlet.

**softwoods** ☉ Coniferous trees with a wood density that is relatively softer than the wood of those trees referred to as hardwoods.

**sound** ☉ A wide expanse of water, usually separating a mainland from islands or connecting two large bodies of water; often lies parallel to the coastline.

**South Asia** ☉ A subregion of Asia that includes the countries of Afghanistan, Pakistan, India, Bangladesh, and Nepal.

**Southeast Asia** ☉ A subregion of Asia that lies between India on the west, China to the north, and the Pacific Ocean to the east. The region includes the Indochina Peninsula of the South China Sea, the Malay Peninsula, and the Indonesian and Philippine Archipelagos. The countries of Southeast Asia are: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

**Southern Hemisphere** ☉ The southern half of the Earth’s surface between the equator and the South Pole.

**Southwest Asia** ☉ A subregion of Asia that includes Turkey and extends southward through the Arabian Peninsula. Iran can also be included in the region.

**spring** ☉ Water flowing from the ground through a natural opening.

**stalactites** ☉ Deposits of calcium carbonate formed in a cavern or cave that hang down from the ceiling like icicles.

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## WORDS TO KNOW

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**stalagmites** ④ Deposits of calcium carbonate formed in a cavern or cave that rise up from the floor like cones or columns.

**steppe** ④ A flat, mostly treeless, semiarid grassland, marked by extreme seasonal and daily temperature variations. Although sometimes used to describe other areas, the term applies primarily to the plains of southeastern Europe and Central Asia.

**strait** ④ Narrow body of water connecting two larger bodies of water.

**stream** ④ Any flowing water that moves generally downhill from elevated areas towards sea level.

**subarctic climate** ④ A high latitude climate. The continental subarctic climate has very cold winters; short, cool summers; light precipitation; and moist air. The marine subarctic climate is a coastal and island climate with polar air masses causing high levels of precipitation and extreme cold.

**subcontinent** ④ A land mass of great size, but smaller than any of the continents; a large subdivision of a continent.

**subtropical climate** ④ A middle latitude climate dominated by humid, warm temperatures and heavy rainfall in summer, with cool winters and frequent cyclonic storms.

### T

**taiga** ④ An area of open forest made up of coniferous trees.

**tectonic** ④ Relating to the structure of the Earth's crust.

**tectonic plate** ④ According to the theory of plate tectonics, the outer layer of the Earth consists of a series of large plates of rock called tectonic plates. The largest plates have entire oceans or continents on their surface.

**Temperate Zone** ④ The parts of the Earth lying between the Tropics and the polar circles. The North Temperate Zone is the area between the Tropic of Cancer and the Arctic Circle. The South Temperate Zone is the area between the Tropic of Capricorn and the Antarctic Circle. Temperate zones are marked by the greatest seasonal variations in temperature; however, temperatures and rainfall tend to stay within a moderate range, without extremes.

**terraces** ④ Successive areas of flat lands.

**terrain** ④ General characteristics of the Earth's surface in a region, including its characteristic vegetation.

**tidal bore** ④ A distinctive type of wave that travels up a shallow river or estuary on the incoming tide. It is a dramatic phenomenon that occurs in few places in the world; the incoming tidal waters flow against the river's current.

**tidal wave.** *See* **tsunami.**

**tide** ④ The rise and fall of the surface of a body of water caused by the gravitational attraction of the sun and moon.

**timber line** ④ The point of high elevation on a mountain above which the climate is too severe to support trees.

**topography** ④ The surface features of a region; also, the study of such features.

**tornado** ④ A violent, whirling wind storm that forms a funnel-shaped cloud and moves in a path over the surface of the Earth.

**Torrid Zone** ④ The part of the Earth's surface that lies between the Tropic lines, so named for the warm, humid, character of its climate.

**trade winds** ④ Winds that consistently blow from the northeast and southeast toward the equator.

**trench** ④ A steep-sided depression in the ocean floor where the water is very deep.

**tributary** ④ Any stream that flows into another larger stream.

**tropical monsoon climate** ④ One of the tropical rainy climates; it is sufficiently warm and rainy to produce tropical rainforest vegetation, but also has a winter dry season.

**Tropic of Cancer** ④ A latitudinal line located 23°27' north of the equator, the highest point on the globe at which the sun can shine directly overhead.

**Tropic of Capricorn** ④ A latitudinal line located 23°27' south of the equator, the lowest point on the globe at which the sun can shine directly overhead.

**tsunami** ④ A powerful, massive, and destructive ocean wave caused by an undersea earthquake or volcanic eruption.

**tundra** ④ A nearly level, treeless area whose climate and vegetation are characteristically arctic due to its position near one of the poles; the subsoil is permanently frozen.

**typhoon** ④ Violent hurricane occurring in the region of the South China Sea, usually in the period from July through October.

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## WORDS TO KNOW

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### U

**UNESCO** ④ The United Nations Educational, Scientific, and Cultural Organization. An international organization promoting peace and security around the world through education, science, culture, and communication.

### V

**valley** ④ An elongated depression through which a stream of water usually flows, typically an area that lies between mountains, hills, and/or other uplands.

**vegetation** ④ Plants, including trees, shrubs, grasses, and other plants.

**volcano** ④ A hole or opening through which molten rock and superheated steam erupt from the interior of the Earth. Also, a mountain created by the accumulation of these ejected materials.

### W

**wadi** ④ Dry stream bed, usually in a desert region in southwest Asia or north Africa.

**waterfall** ④ A steep, natural descent of water flowing over a cliff or precipice to a lower level.

**watershed** ④ An area of shared water drainage, where all the rainfall drains into a common river or lake system.

**waves** ④ The alternate rise and fall of ridges of water, generally produced by the action between the wind and the surface of a body of water.

**weather** ④ Atmospheric conditions at a given place and time.

**Western Europe** ④ A geopolitical term that usually refers to those countries of Europe that are allies of the United States and Canada under the North Atlantic Treaty Organization (NATO, established 1949). The original European countries in NATO were Belgium, France, Great Britain, Italy, Luxembourg, the Netherlands, and Portugal. Today, Western European countries also include Germany, Spain, Ireland, and Austria. Though Denmark is geographically part of Europe, it is culturally considered as part of Scandinavia.

**Western Hemisphere** ④ The half of the Earth's surface that lies west of the Prime Meridian to 180° longitude.

**West Indies** ④ The islands lying between North America and South America made up of the Greater Antilles (Cuba, Haiti, Dominican Republic, Jamaica, and Puerto Rico), the Lesser Antilles (Virgin Islands, Trinidad and Tobago, Barbados), and the Bahamas.

**wildlife sanctuary** ④ An area of land set aside for the protection and preservation of animals and plants.

**windward** ④ Facing into the prevailing wind, or lying closest to the direction from which the wind is blowing.

Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

# Afghanistan

- **Official name:** Islamic Republic of Afghanistan
- **Area:** 647,500 square kilometers (250,001 square miles)
- **Highest point on mainland:** Mount Nowshak (7,485 meters/24,558 feet)
- **Lowest point on land:** Amu Darya River (258 meters/846 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 4:30 P.M. = noon GMT
- **Longest distances:** 1,240 kilometers (770 miles) from northeast to southwest; 560 kilometers (350 miles) from northwest to southeast
- **Land boundaries:** 5,529 kilometers (3,436 miles) total boundary length; China, 76 kilometers (47 miles); Iran, 936 kilometers (582 miles); Pakistan, 2,430 kilometers (1,511 miles); Tajikistan, 1,206 kilometers (750 miles); Turkmenistan, 744 kilometers (463 miles); Uzbekistan, 137 kilometers (85 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Afghanistan is a landlocked nation (does not have access to the sea) in south-central Asia. At the crossroads of north-south and east-west trade routes, the country has been invaded many times, by Alexander the Great in the fourth century B.C., and by the Soviet Union in the twentieth century A.D. Almost as large as the state of Texas, Afghanistan is bounded by six different countries. Afghanistan's longest border—accounting for its entire southern boundary and most of its eastern one—is with Pakistan. The shortest one, bordering China's Xinjiang province, is only 76 kilometers (47 miles), at the end of the Wakhan corridor.

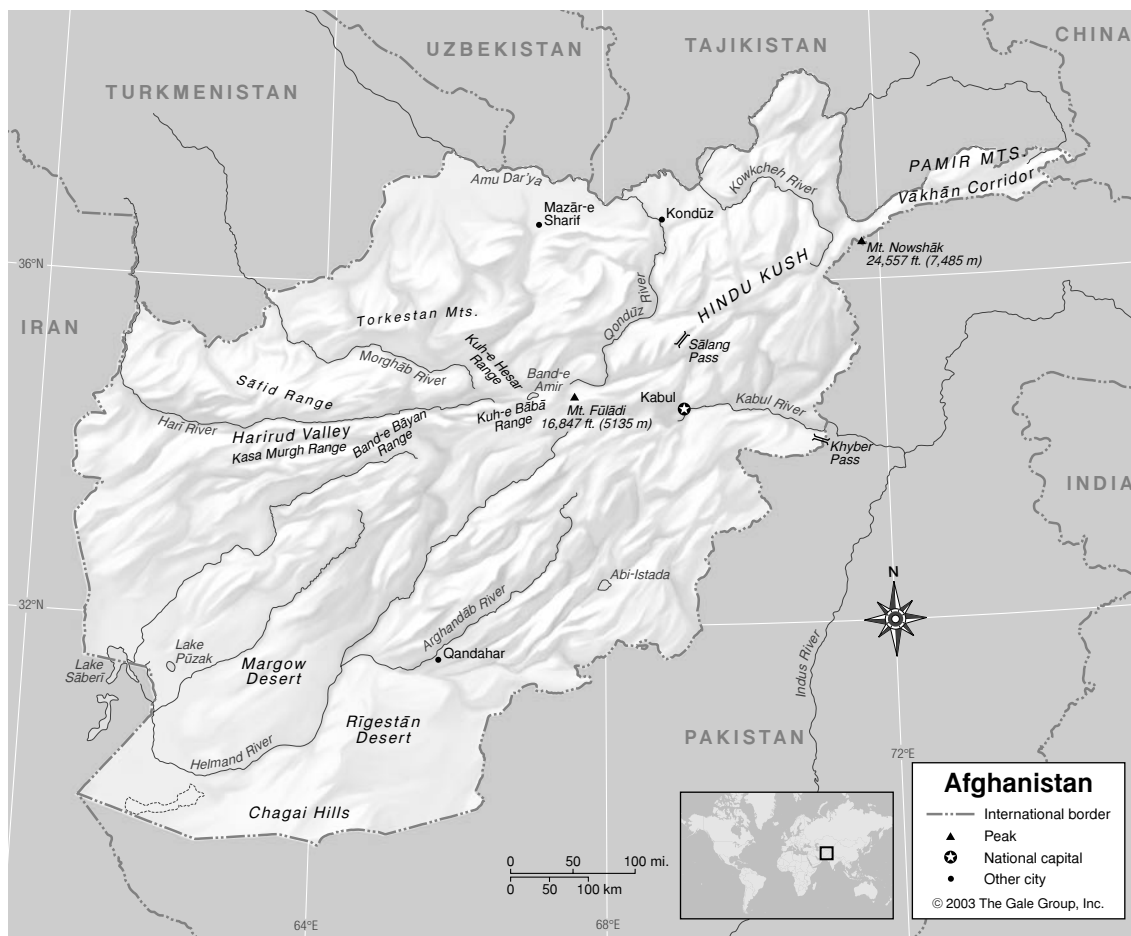
## 2 🌐 TERRITORIES AND DEPENDENCIES

Afghanistan has no territories or dependencies.

## 3 🌐 CLIMATE

The climate of Afghanistan ranges from semi-arid (light annual rainfall) to arid (almost no annual rainfall), with wide variations in temperature, both between seasons and between different times of day. Its summers are hot and dry, but its winters are bitterly cold. Recorded temperatures have ranged as high as 53°C (128°F) and as low as -26°C (-15°F) in the central highlands, which have a subarctic climate. (Subarctic climate features long, very cold winters with short, cool summers, and little rainfall.) Summertime temperatures in Kabul, the capital of Afghanistan, can vary from 16°C (61°F) at sunrise to 38°C (100°F) by noon. Summer highs in Jalalabad average 46°C (115°F). The mean January temperature in Kabul is 0°C (32°F). Strong winds that blow between June and September (called the “Winds

# AFGHANISTAN



of 120 Days”) can have a velocity of up to 180 kilometers per hour (108 miles per hour).

In much of the country, rainfall is sparse and irregular, averaging 25 to 30 centimeters (10 to 12 inches) and mostly occurring between October and April. Rainfall is generally heavier in the eastern part of the country than in the western regions. Afghan summers are generally dry, cloudless, and hot. Humid air from the Persian Gulf (body of water lying west of Afghanistan between Saudi Arabia and Iran) sometimes produces summer showers and thunderstorms in the southwest. Most of the precipitation in the mountains falls in the form of snow—and sometimes as hail. During the Soviet Union’s occupation of Afghanistan

in the 1980s, the Afghan resistance fighters called *mujahideen* referred to the heavy hail that fell in the mountains as “Allah’s mine-sweepers” because its force was sometimes strong enough to set off land mines.

SEASON	MONTHS	AVERAGE TEMPERATURE
Summer	June to September	16 to 33°C (61 to 91°F)
Winter	November to March	-8 to 2°C (18 to 36°F)

## 4 🌐 TOPOGRAPHIC REGIONS

From northeast to southwest, the Hindu Kush Mountains divide Afghanistan into three major regions: 1) the central highlands, which form part of the Himalaya Mountains and



# AFGHANISTAN



© UNESCO/Dominique Roger

*The northern plains contain Afghanistan's most fertile soil.*

comprise roughly two-thirds of the country's area; 2) the southwestern plateau, which accounts for one-fourth of the land; and 3) the smaller northern plains area, which contains the country's most fertile soil. The Wakhan corridor, lying between Tajikistan and Pakistan, is a narrow panhandle in the northeast Hindu Kush.

## **5** 🌐 **OCEANS AND SEAS**

Afghanistan is landlocked. The nearest seacoast is roughly 483 kilometers (300 miles) south in Pakistan on the shores of the Arabian Sea.

## **6** 🌐 **INLAND LAKES**

There are few lakes in Afghanistan, and the largest of them are along the country's southwestern border. The Daryacheh-e Namakzar and the Hamun-e Säberī (also called Lake

Helmand) have most of their surface area in Iran. Lake Zorkul is located in the Wakhan corridor near the border with Tajikistan. Abi-Istada, about 193 kilometers (120 miles) northeast of Qandahar, is a salt lake. Five small lakes in the central highlands, collectively called Band-e Amir, are known for their unusual colors, which range from a filmy white to a deep green.

## **7** 🌐 **RIVERS AND WATERFALLS**

Afghanistan's drainage system is landlocked. Most of its rivers and streams end in shallow desert lakes or oases (plural of oasis; any fertile tract in the midst of a wasteland) inside or outside the country's boundaries. A few rivers in the eastern part of the country, however, eventually reach the Arabian Sea after first emptying into the Indus River in Pakistan.

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In the western part of the northern plains many rivers disappear underground before emptying into the Amu Darya River (also called the Oxus River). In the west, the sandy deserts along the Iranian frontier (border) have no watercourses (natural flowing water).

The Amu Darya River, at 2,661 kilometers (1,654 miles) long, is the country's longest river. About 965 kilometers (600 miles) of its upper course separates Afghanistan from its neighbors Turkmenistan, Uzbekistan, and Tajikistan. The Helmand is the principal river in the southwest, bisecting (crossing through) the entire region. The Helmand is approximately 1,400 kilometers (870 miles) long. The Kabul River, 515 kilometers (320 miles) long, is a vital source of water in the Kuh-e Baba Mountains.

## 8 DESERTS

The Rigestan Desert, along the country's southern border, occupies roughly one-quarter of the southwestern plateau. Sand ridges and dunes alternate with wide desert plains devoid of vegetation. West of the Rigestan Desert lies the Dasht-e Margo, a desolate region with salt flats. A flat strip of desert and grassy steppe (treeless flat land) extends along the banks of the Amu Darya River. Desert areas are also found along the foothills of the central Hindu Kush and west of Mazar-e Sharif.

## DID YOU KNOW?

The city of Mazar-e Sharif is famous throughout the Islamic world as the place where Ali, the son-in-law of the Muslim prophet Muhammad, is buried.

## 9 FLAT AND ROLLING TERRAIN

North of the mountainous central highlands are the northern plains, Afghanistan's smallest natural region, with an area of approximately 103,600 square kilometers (40,000 square miles). They stretch from the Iranian border in the west to the foothills of the Pamir mountains in the east. The eastern half of this region, which forms a part of the Central Asia steppe, is bounded by the Amu Darya River. The northern plains have an average elevation of 609 meters (2,000 feet), except for the Amu Darya valley floor, which drops to as low as 183 meters (600 feet).

## 10 MOUNTAINS AND VOLCANOES

The mountainous central highlands formed by the Hindu Kush and its subsidiary ranges (the ranges that branch from the Hindu Kush) are extensions of the Himalayas. Crossing the country for 965 kilometers (600 miles) from east to west and covering an area of approximately 414,400 square kilometers (160,000 square miles), this area contains towering peaks alternating with steep gorges and barren slopes.

This mountain system—Afghanistan's dominant physical feature—is composed of three high ridges. The main ridge begins in China and runs southwestward as the eastern Hindu Kush, with summits over 6,400 meters (21,000 feet) high. The highest mountains are in the Wakhan corridor, including the country's highest peak, Mount Nowshak. At the Anjuman Pass, the eastern Hindu Kush becomes the central Hindu Kush. The Kuh-e Baba range runs parallel to and south of the central Hindu Kush. Other important mountain ranges include the Kuh-e Hisar, the Firoz Kuh, and the Paropamisus.

A similar series of ranges runs parallel to the Paropamisus and Hindu Kush at lower altitudes along the southern rim of the northern

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# AFGHANISTAN

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plains. In addition, several mountain chains fan out to the southwest. In the southeast, several lower ridges enclose long valleys that run parallel to the boundary with Pakistan. The valley region that is home to the capital city of Kabul is bounded by this range system.

## 11 CANYONS AND CAVES

The caves that have been used for military purposes since the 1970s are largely man-made (see below). Afghanistan has few natural caves; limestone, from which most natural caves are formed, is found only in isolated areas of the country. Afghanistan's largest natural cave is the 1,120-meter-long (1,120-foot-long) Ab Bar Amada northwest of Kabul.

## 12 PLATEAUS AND MONOLITHS

The southwestern plateau southwest of the central highlands is an arid region of desert and semidesert extending into Pakistan to the south and into Iran to the west. From an altitude of about 914 meters (3,000 feet) at its highest point, it slopes gently to the southwest. A few large rivers traverse this plateau, including the Helmand and its major tributary the Arghandab. The southwestern plateau region covers approximately 129,500 square kilometers (50,000 square miles) and includes the Rigestan Desert.

## 13 MAN-MADE FEATURES

Afghanistan's so-called "caves" are actually man-made dugouts built into the mountains by *mujahideen* rebels fighting the Soviet Union during the 1970s and 1980s. Al Qaeda Muslim extremists also used the caves for military purposes in 2001 and 2002. The dugouts are between 3 and 9 meters (10 to 30 feet) deep.

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# Albania

- **Official name:** Republic of Albania
- **Area:** 28,748 square kilometers (17,864 square miles)
- **Highest point on mainland:** Mount Korabit (2,753 meters/9,033 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 6 P.M. = noon GMT; has Daylight Savings Time
- **Longest distances:** 148 kilometers (92 miles) from east to west; 340 kilometers (211 miles) from north to south
- **Land boundaries:** Total: 720 kilometers (447 miles); Former Yugoslav Republic of Macedonia, 151 kilometers (94 miles); Serbia and Montenegro, 287 kilometers (179 miles); [Serbia 114 kilometers (71 miles), Montenegro 173 kilometers (108 miles)]; Greece, 282 kilometers (175 miles)
- **Coastline:** 362 kilometers (225 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Albania is one of the smallest countries in Europe. It is located in southeastern Europe on the west coast of the Balkan peninsula (the peninsula surrounded by, from west to east, the Adriatic, Ionian, Aegean, and Black Seas) along the Strait of Otranto, which connects the Adriatic and Ionian Seas. Albania covers 28,748 square kilometers (17,864 square miles), or slightly more area than the state of Maryland.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Albania has no territories or dependencies.

## 3 🌐 CLIMATE

Albania has a coastal Mediterranean climate (hot, dry summers and rainy winters) in the western regions and a continental climate (hot summers and cold winters) in the east. The coastal plain has mild, rainy winters and hot, dry summers. In the mountains, air masses moving south across the European continent

produce warm to hot summers and very cold winters with heavy snowfall; summer rainfall is also heavier in this region than on the coast. Albania's average annual temperature is 15°C (59°F). Average annual rainfall ranges from about 100 centimeters (40 inches) on the coastal plain to more than 250 centimeters (100 inches) in the mountains.

## 4 🌐 TOPOGRAPHIC REGIONS

More than 70 percent of Albania's terrain is rugged and mountainous, with mountains running the length of the country from north to south. The remainder consists mostly of coastal lowlands. These lowlands stretch from the northern border to Vlorë, covering 200 kilometers (124 miles) from north to south and extending as much as 50 kilometers (31 miles) inland. A large part of this region is former marshland (soft, wet land; also called wetlands) that was reclaimed during the Communist era (1944–90). (Reclaimed land is an area in which

# ALBANIA



the natural conditions have been changed, usually by building dams or dikes, to redirect the water.) The reclaimed land in Albania is now used for agriculture.

## 5 OCEANS AND SEAS

Albania lies on the southeastern shore of the Adriatic Sea and is also bordered by the Ionian Sea to the south.

## Seacoast and Undersea Features

Albania has no significant undersea features.

## Sea Inlets and Straits

Albania has no good natural harbors. The Strait of Otranto, which connects the Adriatic Sea with the Ionian Sea, borders Albania on

the southwest, separating it from the “heel” on the southeastern tip of the Italian peninsula.

## Islands and Archipelagos

The island of Sazan lies off the coast of Albania, west of Vlorë. The islands in the Ionian Sea off the south coast of Albania belong to Greece.

## Coastal Features

Albania’s Ionian Sea coastal area is known for its rugged natural beauty, with rocky highlands extending right to the edge of the beach; the area between Vlorë and Sarandë is called the “Riviera of Flowers.” The beaches along the Adriatic coast stretch about 300 kilometers (188 miles), with sandy beaches and shallow coastal waters.

## 6 INLAND LAKES

Albania has three large lakes, which it shares with several neighboring countries: Lake Scutari (Skadarsko Jezero) with Serbia and Montenegro, Lake Ohrid (Ohridsko Jezero) with Macedonia, and Lake Prespa (Prespansko Jezero) with Greece. Lake Ohrid is the deepest lake, not only in Albania but also in the Balkans, with a depth of 294 meters (965 feet).

## 7 RIVERS AND WATERFALLS

Albania’s major rivers are the Drin, the Mat, the Buenë, the Seman, the Shkumbin, and the Vjosë. They all empty into the Adriatic Sea. The Buenë is Albania’s only navigable river. (A navigable river is one that can be used by boats.)

## 8 DESERTS

There are no desert regions in Albania.

## 9 FLAT AND ROLLING TERRAIN

Citrus fruits, maize, and wheat are grown in Albania’s coastal lowlands. Although the former marshland in the region was drained

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# ALBANIA

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EPD/Miguel Torres Curado

*Albania's rural landscape.*

to create productive agricultural land, flooding still occurs.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Albania's mountains are located to the north, east, and south of the coastal lowlands. They can be divided into three groups. The northernmost range, the North Albanian Alps, is an extension of both the Montenegrin limestone plateau and the Dinaric Alps, which run parallel to the Adriatic coast in Croatia and in Montenegro. Some of the mountains in this region reach heights greater than 2,700 meters (8,800 feet). These limestone peaks are the country's most rugged. Albanians call

them "the accursed mountains," because they present a barrier to travel.

The central uplands extend south along the Macedonian border, from the Drin River valley to the southern mountains. The central uplands are generally lower than the North Albanian Alps. However, Albania's highest peak, Mount Korabit, is located in these mountains. The southern highlands are lower and more rounded than the mountains to the north. At the southernmost end of Albania, south of Vlorë, the mountains reach all the way across the country, meeting the Ionian Sea.

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# ALBANIA

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## DID YOU KNOW?

Lake Ohrid in Albania is one of only two places in the world (the other is Russia) where a rare fish called the koran can be found. The koran has a delicate flavor and is similar to carp and trout.

### 11 CANYONS AND CAVES

There are a few caves with stalactites in Albania in the eastern region near the largest lakes.

### 12 PLATEAUS AND MONOLITHS

There are no significant plateaus in Albania.

### 13 MAN-MADE FEATURES

Several dams, the first of which was built in the early 1960s, generate hydroelectric energy. The Drin River has been dammed to produce

hydroelectric energy, and marshland has been reclaimed for agriculture.

### 14 FURTHER READING

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<http://www.care.org.al/mission.htm>  
(accessed January 27, 2003).

Geography of Albania, Land of the Eagles. <http://www.albania.co.uk/geography/index.html/>  
(accessed June 17, 2003).

# Algeria

- **Official name:** Democratic and Popular Republic of Algeria
- **Area:** 2,381,740 square kilometers (919,590 square miles)
- **Highest point on mainland:** Mount Tahat (3,003 meters/9,853 feet)
- **Lowest point on land:** Chott Melrhir (40 meters/131 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 2,400 kilometers (1,500 miles) from east to west; 2,100 kilometers (1,300 miles) from north to south
- **Land boundaries:** 7,341 kilometers (4,561 miles) total boundary length; Tunisia, 958 kilometers (595 miles); Libya, 982 kilometers (610 miles); Niger, 956 kilometers (594 miles); Mali, 1,376 kilometers (855 miles); Mauritania, 463 kilometers (288 miles); Morocco, 1,637 kilometers (1,017 miles)
- **Coastline:** 998 kilometers (620 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Algeria is the largest of the three countries that form the Maghreb region of northwest Africa. (The Maghreb region is made up of Algeria, Morocco, and Tunisia.) Algeria is the second-largest country in Africa; only Sudan is larger. Algeria is a little less than three-and-a-half times the size of Texas, and it is as large as the whole of Western Europe.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Algeria has no territories or dependencies.

## 3 🌐 CLIMATE

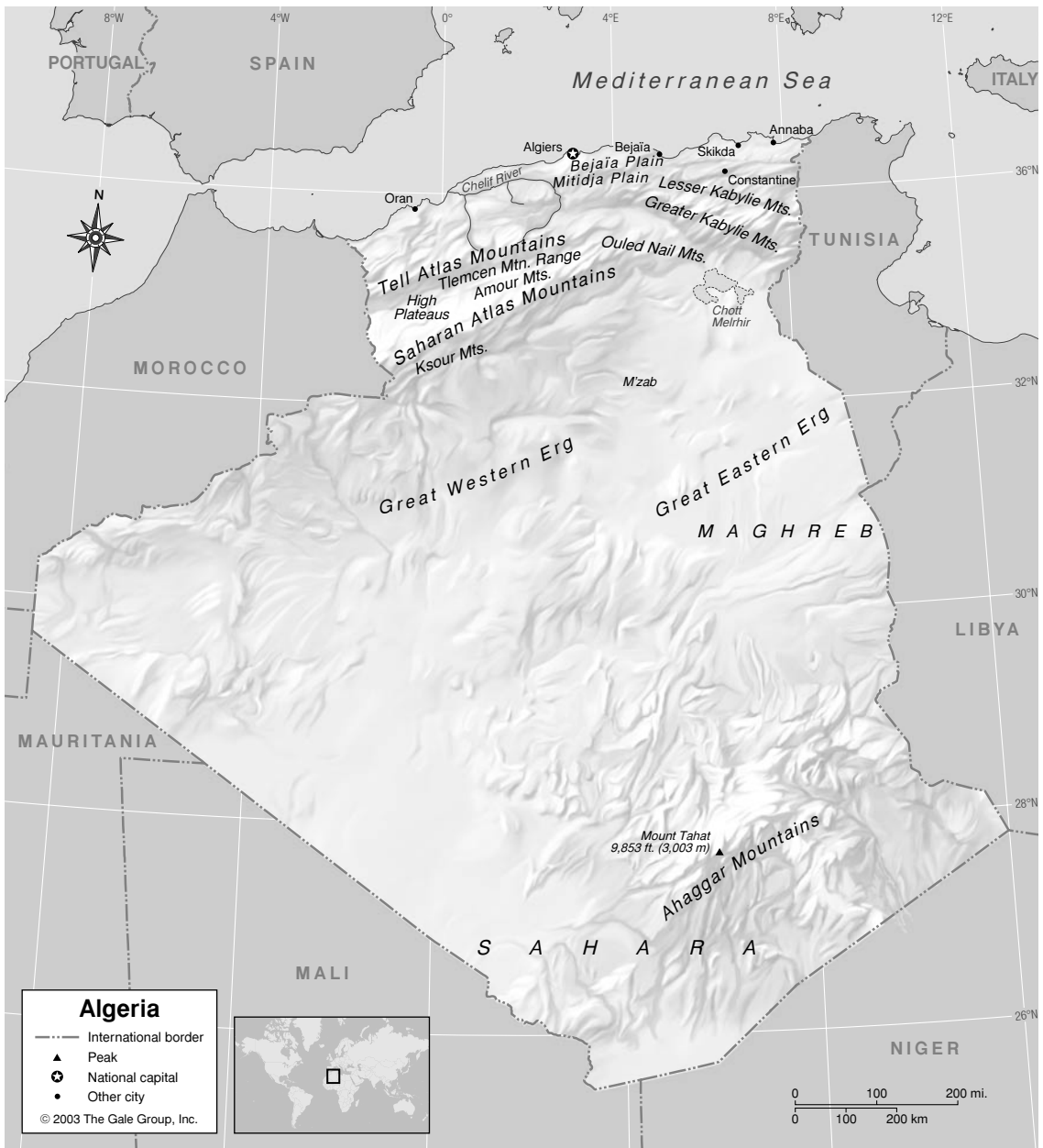
Algeria's geographical diversity produces a range of climatic conditions. The northern part of the country has a Mediterranean climate with mild, wet winters and hot, dry summers. The plateau region has a semiarid (having light annual rainfall) climate, with greater contrasts between summer and winter. Temperatures vary the most in the Sahara

Desert region, which has an arid climate with almost no annual rainfall. Summer temperatures average about 25°C (77°F) in the northern coastal region, 27°C (81°F) on the plateau, and 34°C (93°F) in the desert, where readings as high as 49°C (120°F) have been recorded. Average winter temperatures range from about 5°C (41°F) on the plateau to about 11°C (52°F) in the north; winter lows in the desert can plummet to as low as -10°C (14°F). The hot, dusty wind known as the sirocco often blows in the summer.

Just as its temperatures vary, Algeria's rainfall also differs by region. Fewer than 10 centimeters (4 inches) of rain fall annually in the Sahara Desert, but as many as 100 centimeters (40 inches) may fall in the easternmost section of the mountainous Tell region in the north. Precipitation is heaviest between September and December, tapering off in January. Very little rainfall occurs in the



# ALGERIA



summer months. Drought occurs frequently in the Saharan region.

## 4 🌐 TOPOGRAPHIC REGIONS

The southern 80 percent of Algeria's land is in the Sahara Desert and almost completely

uninhabited. The northern half of the desert is less arid than the southern half, and most of the region's oases (any fertile tract in the midst of a wasteland) are found here. The southern zone of the Sahara is almost totally arid and consists mostly of barren rock.

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# ALGERIA

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EPD/RAMSAR/Ammar Boumezbour

*This fougara, lying in approximately the center of Algeria, is a partially underground system of channels to distribute water from the oasis, Ouled Saïd, to families living in the surrounding area.*

Its most prominent feature is the Ahaggar mountain range, which rises in the southeast.

To the north of the Sahara lies the Tell region, made up of consecutive belts of land extending west to east, roughly parallel to the Mediterranean border. The region consists of a narrow strip of coastal plains and the two Algerian sections of the Atlas Mountains (Tell Atlas and Saharan Atlas), as well as a plateau that separates them. In contrast to the Tell region, the prominent topographic features (mountains, plains, and basins) in the northeastern corner of Algeria do not parallel the coast.

## **5** OCEANS AND SEAS

The Mediterranean Sea borders Algeria to the north. The Mediterranean Sea is an almost

completely landlocked sea that lies between southern Europe, northern Africa, and southwest Asia. It links to the Atlantic Ocean in the west through the Strait of Gibraltar, and to the Red Sea in the southeast through the Suez Canal. It also connects to the Black Sea to the northeast through the Dardanelles, the Sea of Marmara, and the Bosphorus.

### **Sea Inlets and Straits**

Algeria's Mediterranean coastline is relatively smooth, especially in the center. The shallow Gulf of Bejaïa is the only indentation of any size. There are several smaller bays at the eastern and western ends of the coast.

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# ALGERIA

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## Coastal Features

Coastal plains alternate with steep uplands along much of the coast, except for the easternmost section, where the coast is mostly mountainous.

## 6 🌐 INLAND LAKES

There are shallow salt lakes and salt marshes (soft, wet lands) in the high plateaus.

## 7 🌐 RIVERS AND WATERFALLS

Because its rainfall is scanty and irregular, Algeria has few permanent inland bodies of water and no navigable rivers (rivers that can be used for boating). Almost all of the Algerian rivers flow only seasonally (during rainy periods) or irregularly. The longest and best known of these is the Chelif, which wanders for 230 kilometers (143 miles) from its source in the Tell Atlas to the Mediterranean Sea. Most of the Tell streams diminish to trickles or go dry in summer. In the western part of the country, reservoirs have been developed for irrigation in the Chelif and Hamiz river basins (area drained by a river). The land in the southernmost Saharan region is largely arid but contains some date-palm oases.

## DID YOU KNOW?

**C**hott Ech Chergui, lying southwest of Algiers near the border with Morocco, is the second largest chott (or shatt, salt-water lake) in North Africa. (Only Chott Djerid in Tunisia is larger.) The chott features marshy, stagnant water, while the region around Chott Ech Chergui is barren. In winter, migrating waterfowl nest around Chott Ech Chergui.

## 8 🌐 DESERTS

South of the Saharan Atlas, the Algerian portion of the Sahara Desert extends southward 1,500 kilometers (931 miles) to the country's borders with Niger and Mali. Its average elevation is about 460 meters (1,500 feet). Immense areas of sand dunes, called ergs, occupy about one-fourth of the desert. The two major ergs are the Grand Erg Occidental (Great Western Erg) and the larger Grand Erg Oriental (Great Eastern Erg), where enormous dunes 2 to 5 meters (7 to 16 feet) high are spaced about 40 meters (130 feet) apart. Much of the remainder of the desert is covered by bare, rocky platforms called hamada that are elevated above the sand dunes. Almost the entire southeastern quarter of the desert is taken up by the Ahaggar Mountains. They are surrounded by sandstone plateaus cut by deep gorges and, to the west, a flat, pebble-covered expanse that stretches to the Mali frontier (border).

The Sahara is the world's largest desert. It spans the width of the African continent from the Atlantic Ocean to the Red Sea, extending over parts of Algeria, Morocco, Tunisia, Mali, Chad, Niger, and Sudan. The Sahara covers a vast area of around 8,547,000 square kilometers (3,300,000 square miles).

## 9 🌐 FLAT AND ROLLING TERRAIN

The major cities of Algiers, Oran, and Annaba are located on Algeria's narrow coastal plains. The port cities of Bejaia and Skikda also are situated along the coast. The country's most fertile agricultural areas are in these northern plains, including the gentle hills that extend 100 kilometers (62 miles) westward from Algiers.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Atlas Mountains cover much of Morocco and extend eastward into Tunisia. Within Algeria, they are known as the Tell Atlas and

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# ALGERIA

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Saharan Atlas ranges. The Tell Atlas, farther to the north, extends from the Moroccan frontier in the west to Bejaia in the east. Its peaks, some of which rise to heights of over 1,830 meters (6,000 feet), include the Greater and Lesser Kabylie, as well as the Tlemcen and Madjera summits.

The Saharan Atlas Mountains separate the Maghreb desert region from the Sahara Desert to the south. They are higher and more continuous than the Tell Atlas Mountains, and they consist of three ranges: the Ksour near the Moroccan border, the Amour, and the Ouled Nail south of Algiers. Dominating the southeast area of the country are the Ahaggar Mountains, with irregular heights reaching above 2,000 meters (6,561 feet). Algeria's highest peak, Mount Tahat (3,003 meters/9,853 feet), rises from in this range.

## 11 CANYONS AND CAVES

About 50 miles (80 kilometers) east of Algiers, there are a few limestone caves as well as near Tlemcen in the northwest.

## 12 PLATEAUS AND MONOLITHS

The High Plateaus stretch for more than 600 kilometers (372 miles) eastward from the Moroccan border. They consist of a steppe-like (treeless) tableland lying between the Tell and Saharan Atlas ranges. Averaging between

1,100 and 1,300 meters (3,609 and 4,265 feet) in elevation in the west, the plateaus drop to 400 meters (1,312 feet) in the east. They are so dry that they are sometimes considered part of the Sahara.

## 13 MAN-MADE FEATURES

Most of the Tell streams diminish to trickles or go dry in summer, but in the west, reservoirs have been developed in the Chelif and Hamiz river basins for irrigation purposes.

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Miftah Shamali Web site. <http://i-cias.com/m.s/algeria/> (accessed June 19, 2003).

# Andorra

- **Official name:** Principality of Andorra
- **Area:** 468 square kilometers (180 square miles)
- **Highest point on mainland:** Coma Pedrosa Peak (Pic de Coma Pedrosa) (2,946 meters/9,665 feet)
- **Lowest point on land:** Riu Runer (Riu Runer) (840 meters/2,755 feet)
- **Hemispheres:** Eastern and Northern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 30.1 kilometers (18.7 miles) from east to west; 25.4 kilometers (15.8 miles) from north to south
- **Land boundaries:** 120.3 kilometers (74.6 miles) total boundary length; France, 56.6 kilometers (35.1 miles); Spain, 63.7 kilometers (39.5 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Andorra is one of the smallest independent countries on earth. It is a landlocked nation (does not have access to the sea) located on the southern slopes of the Pyrenees Mountains between Spain and France.

With a total land area of 468 square kilometers (180 square miles), Andorra is about two-and-one-half times the size of Washington, D.C. The country is divided into seven parishes.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Andorra has no territories or dependencies.

## 3 🌐 CLIMATE

Andorra has a temperate (moderate) climate, but the winters are severe because of the high elevation. Snow completely fills the northern valleys for several months. Summers are generally warm and dry. Most of the country's rainfall occurs from October to May.

## 4 🌐 TOPOGRAPHIC REGIONS

Andorra's terrain (land) is rough and mountainous. Surrounding the mountain peaks, which often rise higher than 2,900 meters (9,500 feet), there are many narrow gorges and valleys.

There is very little level ground. All the valleys are at least 900 meters (3,000 feet) above sea level, and the mean (midpoint between highest and lowest) elevation is over 1,800 meters (6,000 feet).

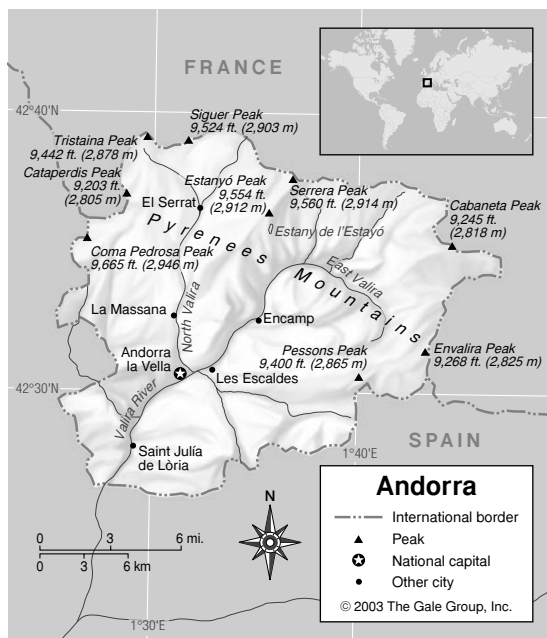
## 5 🌐 OCEANS AND SEAS

Andorra is a landlocked nation.

## 6 🌐 INLAND LAKES

Andorra has several small mountain lakes that are usually named after the highest nearby peak. For instance, the Tristaina Lakes are located near the Tristaina Peak (Pic de Tristaina) and Lake Estanyó (Estany de l'Estanyó) is located near the Estanyó Peak (Pic de l'Estanyó). The Circle of Pessons is a series of small glacial pools linked together and set in the largest

# ANDORRA



## 10 🌐 MOUNTAINS AND VOLCANOES

Andorra is located in the chain of mountains known as the Pyrenees. Because of its mountainous terrain it is a very popular site for winter skiing.

The highest mountain peak is Coma Pedrosa Peak (Pic de Coma Pedrosa), which rises to 2,946 meters (9,665 feet). It is located near the western point where the borders between Andorra, France, and Spain meet.

Further north along the border with France are the Cataperdis Peak (Pic de Cataperdis), which rises to 2,805 meters (9,203 feet), and Tristaina Peak (Pic de Tristaina), which rises to 2,878 meters (9,442 feet). To the east are the Siguer Peak (Pic de Siguer), with an elevation of 2,903 meters (9,524 feet), Serrera Peak (Pic de Serrera), 2,814 meters (9,232 feet), and Nerassol Peak (Pic de Nerassol), 2,533 meters (8,310 feet).

Near the southern border is Cabaneta Peak (Pic de Cabaneta), with an elevation of 2,818 meters (9,245 feet).

## 11 🌐 CANYONS AND CAVES

Archeological excavations have shown that the first inhabitants of Andorra were cave dwellers. The oldest known cave site in Andorra is the Balma de La Margineda, a rock shelter found near Andorra la Vella on the Valira River.

Archeologists believe that groups of Mesolithic hunter-gatherers lived here between the 10,500 B.C. and 5,500 B.C. Arrow tips, flint stones, bone tools, ceramic fragments, and human remains have been found here.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no significant plateau regions in Andorra.

glacial granite circle in Andorra. It is located near the Pessons Peak (Pic dels Pessons).

## 7 🌐 RIVERS AND WATERFALLS

The Valira River (Riu Valira) is Andorra's main river. It has two branches and leads to six small open basins (areas drained by rivers).

The North Valira (Valira del Norte) is the northwest branch of the main river, flowing through the cities of La Massana, Ordino, and El Serrat. The East Valira (Valira d'Orient) is the northeast branch, flowing through Les Escaldes, Encamp, Canillo, Soldeu, and Pas de la Casa.

## 8 🌐 DESERTS

There are no desert regions in Andorra.

## 9 🌐 FLAT AND ROLLING TERRAIN

Since most of Andorra is mountainous, there are no significant areas of plains, or flat land.

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# ANDORRA

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EPD/Saxifraga/Jan van der Straaten

*Andorra's landscape is mountainous.*

## **13** 🌐 **MAN-MADE FEATURES**

There are no major man-made structures affecting the geography of Andorra.

## **14** 🌐 **FURTHER READING**

### **Books**

De Cugnac, Pascal. *Pyrenees & Gascony: Including Andorra*. London: Hachette UK, 2000.

Morgan, Bryan. *Andorra, the Country in Between*. Nottingham: Palmer, 1964.

Taylor, Barry. *Andorra*. Santa Barbara, CA: Clio Press, 1993.

### **Web Sites**

Andorra, the Pyrenean Country. <http://www.andorra.ad/angles/index.htm> (accessed June 17, 2003).

# Angola

- **Official name:** Republic of Angola
- **Area:** 1,246,700 square kilometers (481,226 square miles)
- **Highest point on mainland:** Mount Moco (Morro de Moco) (2,620 meters/8,596 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,758 kilometers (1,092 miles) from southeast to northwest; 1,491 kilometers (926 miles) from northeast to southwest; the Cabinda Province extends 166 kilometers (103 miles) north-northeast to south-southwest and 62 kilometers (39 miles) east-southeast to west-northwest
- **Land boundaries:** Total land boundaries 5,198 kilometers (4,812 miles); Democratic Republic of the Congo, 2,511 kilometers (1,557 miles), of which 220 kilometers (85 miles) is the boundary of the discontinuous Cabinda Province; Republic of the Congo, 201 kilometers (77.5 miles); Namibia, 1,376 kilometers (531 miles); and Zambia, 1,110 kilometers (428.5 miles)
- **Coastline:** 1,600 kilometers (992 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Angola is located on the west coast of the African continent, south of the equator. Angola is south and southeast of the Democratic Republic of Congo (DROC), northwest of Zambia, north of Namibia, and east of the Atlantic Ocean. Cabinda Province is separated from the rest of Angola by the DROC and is completely surrounded by that country and the Republic of the Congo. With a total land area of 1,246,700 square kilometers (481,226 square miles), including the exclave (area separate from the main part of a country) of Cabinda, Angola is slightly less than twice the size of Texas. Angola is divided into eighteen provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

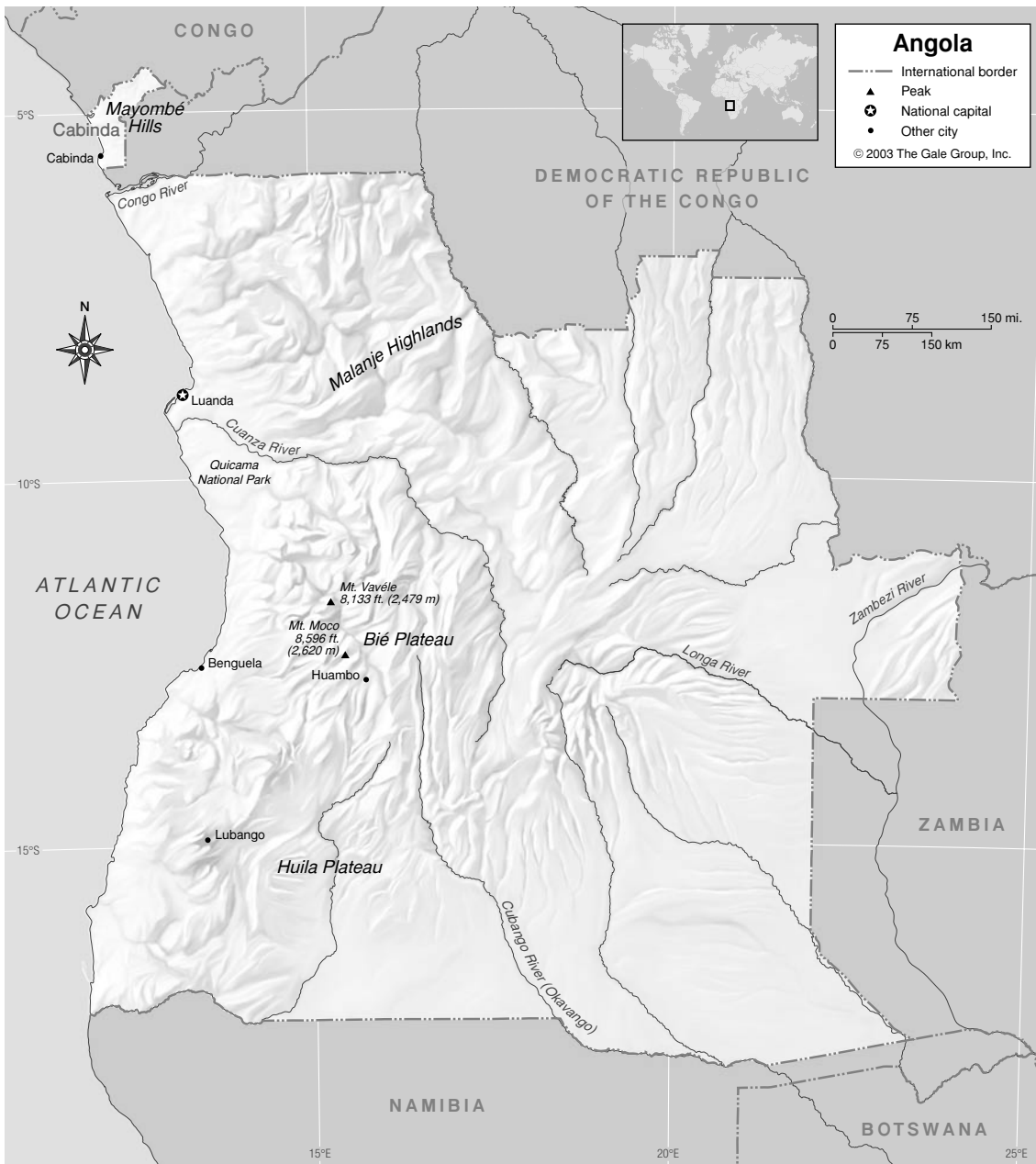
Angola has no territories or dependencies.

## 3 🌐 CLIMATE

Angola's temperatures and climates vary from region to region. The north has a wet, tropical (supports plant growth year round) climate; the east has a moderate tropical climate; and the southern central strip near the border with Namibia has hot, dry desert conditions. There are two seasons in Angola: a dry, cool winter and a hot, rainy summer. The average temperature is about 20°C (68°F); however, temperatures are warmer along the coast and cooler on the central plateau. The annual average rainfall is 5 centimeters (2 inches) near the southern coast (Namibe); 34 centimeters (13 inches) at the northern coast (Luanda); and as high as 150 centimeters (59 inches) in the northeast. Regions of Angola do suffer from occasional drought.



# ANGOLA



## 4 TOPOGRAPHIC REGIONS

Most of Angola is covered with broad tablelands (broad areas that are higher in elevation than their surroundings) that are greater than 1,000 meters (3,300 feet) high. Angola also has high plateaus in the central and south-

ern regions as high as 2,400 meters (7,920 feet). There are many rivers in Angola, but only a few of them are navigable (suitable for boating). The Cabinda region, which lies between DROC and Republic of the Congo just north of the Angolan mainland, is also a part of Angola. The wet regions of the north



EPD/Cynthia Bassett

*The zebra still finds habitat in Angola.*

and northwest, including Cabinda, are covered with thick forests, while the drier areas in the center of the country support sparse savanna-like grassy vegetation. Land abuse, such as desertification (land losing its ability to support plant life), forest loss, and water impurity are significant environmental problems.

## **5** 🌐 **OCEANS AND SEAS**

### **Seacoast and Undersea Features**

Angola's western coast borders on the Atlantic Ocean. The waters off the coast support a fishing industry that contributes to export income.

### **Coastal Features**

The Atlantic coastland is an arid (almost no annual rainfall) strip that is well irrigated by the western-flowing rivers. The coastal

lowlands vary in width from approximately 25 kilometers (15 miles) to more than 150 kilometers (93 miles).

## **6** 🌐 **INLAND LAKES**

There are no major lakes within Angola.

## **7** 🌐 **RIVERS AND WATERFALLS**

Most rivers originate in central Angola. Several rivers flow toward the Atlantic coast and provide both hydroelectric power and irrigation for the normally dry coastal strip. Only two rivers are navigable by any but the very smallest boats.

The Cuanza (Kuanza or Kwanza) River, located in the central portion of the country, is the longest river at 966 kilometers (600 miles), but only 200 kilometers (126 miles) of its length is navigable. The Cuanza drains into

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# ANGOLA

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the Atlantic Ocean. The Cuango (Kwango) River, located in the northern region, is a fairly navigable waterway that drains into the Congo River system. The Cuando (Kwando) and Cubango Rivers both drain southeast to the Okavango (Cubango) Swamp.

The southernmost rivers in Angola, which flow to the Atlantic, are seasonal and thus are completely dry during much of the year.

## 8 🌐 DESERTS

The southern desert-steppe is sandy and dry and has sparse vegetation, except along the major rivers. Inconsistent precipitation keeps the far south somewhat dry. The area is marked by sand dunes, which give way to dry scrub (low shrubby plants) in the central portions.

## 9 🌐 FLAT AND ROLLING TERRAIN

The coastal grasslands are well irrigated because of the drainage of the rivers from the higher central plateaus. Elephant grass and scrubby forest cover the surface of the sandy floodplains. Meadows and pastures constitute about 23 percent of the total land area.

The Mayombé Hills in northeast Cabinda were once covered by rain forest. As of 2002, much of the rain forest trees had been cut down.

## 10 🌐 MOUNTAINS AND VOLCANOES

The highest peak in Angola is Mount Moco (Morro de Moco) with an elevation of 2,620 meters (8,596 feet). It is located just northwest of Huambo.

Other major peaks rising from the coastal lowlands are Mount Mejo (Morro de Mejo) at 2,583 meters (8,474 feet) in the Benguela region and Mount Vavéle (Morro de Vavéle) at 2,479 meters (8,133 feet) in Kuanza Sul. Running through the center of the country (and into Zambia) is the Lunda Divide, a set of low

ridges marking the divisions between west- and east-flowing rivers.

## 11 🌐 CANYONS AND CAVES

There are no significant caves or canyons in Angola.

## 12 🌐 PLATEAUS AND MONOLITHS

The Bié Plateau, also known as the Great Central Plateau, covers most of Angola. Precipitation at the highest points in the central plateau permits the growth of deciduous forest (trees that lose their leaves), although much of the forest has been cut down for timber and fuel. The climate and soils of these central plateaus support a variety of vegetation. Most of the eastern half of Angola is a relatively flat and open plateau characterized by sandy soils.

## 13 🌐 MAN-MADE FEATURES

The country has six dams, but as of 2002, only three were functioning. The Cambembe Dam on the Cuanza River provides power to Luanda.

## 14 🌐 FURTHER READING

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Black, Richard. *Angola*. Santa Barbara, CA: Clio Press, 1992.

Broadhead, Susan H. *Historical Dictionary of Angola*. 2nd ed. Metuchen, NJ: Scarecrow Press, 1992.

Cushman, Mary Floyd. *Missionary Doctor, The Story of Twenty Years in Africa*. New York: Harper & Brothers, 1944.

Laurè, J. *Angola*. Chicago: Children's Press, 1990.

U.S. Department of State. *Angola, 1996 Post Report*. Washington, DC: The Department of State, 1996.

### Web Sites

Welcome to the Republic of Angola. <http://www.angola.org/> (accessed June 17, 2003).

# Antarctica

- **Official name:** Antarctica
- **Area:** 14,000,000 square kilometers (5,405,430 square miles)
- **Highest point on mainland:** Vinson Massif (5,140 meters/16,864 feet)
- **Lowest point on land:** Bentley Subglacial Trench (2,540 meters/8,333 feet below sea level)
- **Hemispheres:** Southern, Eastern, and Western
- **Time zone:** Each research station chooses its own time zone (usually based on its home country)
- **Longest distances:** Longest distance traversing the South Pole 5,339 kilometers (3,337 miles); shortest distance traversing the South Pole 1,234 kilometers (771 miles)
- **Land boundaries:** None
- **Coastline:** 17,968 kilometers (11,164 miles)
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

The continent of Antarctica is almost entirely south of the Antarctic Circle (66.5°S), surrounded by the Southern Ocean. Both the geographic and magnetic South Poles are located on the continent. With a total area of about 14,000,000 square kilometers (5,405,430 square miles), Antarctica ranks fifth in size among the world's continents, larger than Australia or Europe. It is slightly less than one-and-one-half times the size of the United States.

## 2 🌐 TERRITORIES AND DEPENDENCIES

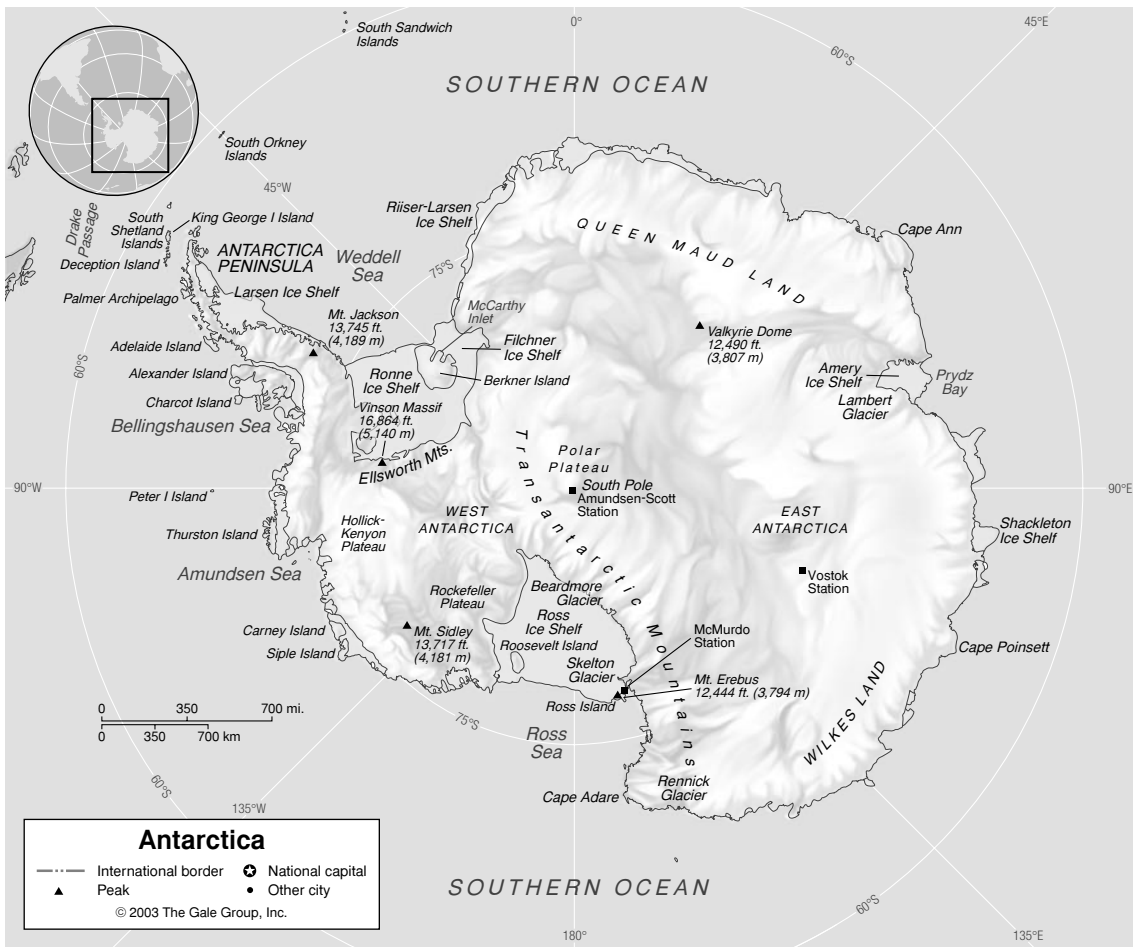
Antarctica is unique. It is a continent, but it has no native population or government. It does not belong to any one nation, but parts of Antarctica are claimed by seven different countries: Argentina, Australia, Chile, France, New Zealand, Norway, and the United Kingdom. The international community, however, does not recognize their claims, and

they cannot enforce them under the terms of the Antarctic Treaty, which has been signed by forty-five nations of the world. First signed in 1961 by twelve nations, the treaty specifies that “Antarctica shall be used for peaceful purposes only.” As of 2002, twenty-seven nations held consulting member status in the international treaty agreements protecting Antarctica.

## 3 🌐 CLIMATE

The average annual temperature in the interior is a frigid -57°C (-71°F), with a mean summer temperature of -40°C (-40°F) and an average winter temperature of -68°C (-90°F). In the coastal areas, the mean summer temperature is 0°C (32°F). McMurdo Station near the Ross Ice Shelf in East Antarctica has the most moderate climate, with a mean winter temperature of -9°C (16°F). The lowest temperature ever recorded on Earth was at Vostok, East Antarctica, where the mercury dipped to -89°C (-129°F) in 1983.

# ANTARCTICA



Since the 1950s, scientists have recorded an overall increase in temperature on Antarctica of about 2°C (4°F), which is much more than the increase in overall temperature elsewhere in the world. Five of the largest ice shelves have shrunk in size during this time period. Some scientists speculate that this is an early sign of global warming caused by human activity, but this theory has not been proven.

Antarctica has continuous daylight from mid-September to mid-March and six months of continuous darkness from mid-March to mid-September. During the daylight months, the continent receives more solar radiation than equatorial regions. Observation has

shown that the layer of high-atmosphere ozone that helps reflect harmful solar radiation away from Earth's surface is thin to non-existent over Antarctica. The ozone hole varies in size from season to season, but it appears to be expanding. Many blame human activity for this hole in the ozone, but the exact causes are unknown.

Most of the continent receives less than 5 centimeters (2 inches) of precipitation annually, in the form of snow.

## 4 TOPOGRAPHIC REGIONS

Antarctica is generally described as having two parts, West Antarctica and East Antarc-

# ANTARCTICA

tica. West Antarctica lies directly south of the South American continent and includes the Antarctic Peninsula, which extends farther north than any other part of the continent. East Antarctica is the larger region; it lies south of the southern tips of Africa and Australia. East and West Antarctica are separated by the Transantarctic Mountains.

About 98 percent of the land area is permanently covered with ice. The remainder is exposed barren rock. Antarctica is generally mountainous, with elevations typically ranging from 2,000 to 4,000 meters (6,600 to 13,200 feet). Mountain peaks rise to heights in excess of 5,000 meters (16,500 feet).

There are no native vertebrate animals on Antarctica. The ocean waters surrounding Antarctica support several species of whale, seals (including the crabeater, elephant, and leopard seal), and about a dozen species of birds, the best-known of which are two varieties of penguin, the Adélie and Emperor. Penguins are birds, but they cannot fly.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

In 2000, the International Hydrographic Association drew boundaries for a new ocean, called the Southern Ocean, that encompasses all of the water south of 60° latitude. Since this decision, the ocean surrounding Antarctica has been called the Southern Ocean. Due to the great temperature differences between the ice and the open ocean, as well as the lack of any land to impede them, powerful winds blow across the Southern Ocean and the southernmost parts of the surrounding oceans.

The Southern Ocean is home to the Antarctic Circumpolar Current. This ocean current flows east completely around the earth in a great circle just to the north of Antarctica. The current is the most powerful on earth, and it is

unique in that it is unimpeded by landforms as it travels around the globe. The current tends to keep cold water to the south, near Antarctica, and holds warmer water back to the north, with a relatively sharp boundary flowing down the middle of the current known as the Antarctic Convergence.

### Sea Inlets and Straits

All of the Antarctic seas are inlets of the Southern Ocean. The Bellingshausen Sea lies off the western coast of the Antarctic Peninsula. It is named for Russian explorer Fabian von Bellingshausen, the first person to sail completely around Antarctica in 1819–21. His expedition also gave names to Queen Maud

## DID YOU KNOW?

Both the geographic and magnetic south poles are located on the continent of Antarctica. Earth's two geographic poles are designated as 90°N latitude/0° longitude (North Pole) and 90°S latitude/0° longitude (South Pole).

Earth's magnetic poles represent the two nearly opposite ends of the planet where the earth's magnetic intensity is the greatest. These locations are different than the geographic poles. The South Magnetic Pole is located at 66°S latitude and 139°E longitude on the Adélie Coast of Antarctica. The North Magnetic Pole is located at 78°N latitude and 104°W longitude in the Queen Elizabeth Islands of northern Canada.

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# ANTARCTICA

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Land and Peter I Island. Off of West Antarctica is the Amundsen Sea, named for the Norwegian explorer Roald Amundsen, who was the first explorer to reach the South Pole.

The Ross Sea lies off the coast of the Ross Ice Shelf directly south of New Zealand. Both are named for Sir James C. Ross, an explorer in the region in 1839–43 from the United Kingdom. The Weddell Sea is named for the British explorer James Weddell, who conducted an exploration in 1823. It is the body of water east of the Antarctic Peninsula.

The Drake Passage lies between Antarctica and South America, which is located hundreds of miles to the north of Antarctica.

## Islands and Archipelagos

Antarctica's largest island, Alexander Island (43,200 square kilometers/16,700 square miles), is separated from the Antarctic Peninsula by the George VI Sound, although thick ice sheets connect the two land masses. There are dozens of smaller islands in the Bellingshausen Sea and Amundsen Seas, including Thurston, Siple, Carney, and Charcot Islands. Further north along the Antarctic Peninsula is Adelaide Island and the Palmer Archipelago. Most of these islands are connected to the mainland mass by ice.

Berkner Island (3,880 square kilometers/1,500 square miles), covered by the Ronne and Filchner Ice Shelves, lies in the McCarthy Inlet of the Weddell Sea. Roosevelt Island is the largest land mass found within the Ross Sea, but it is completely covered by the Ross Ice Shelf. Ross Island is smaller, but it has access to the ocean in the summer months.

The South Shetland Islands, situated between Antarctica and the southern tip of South America, include Deception Island and King George I Island, among others. Deception Island lies in an active volcanic field

known as the Branfield Rift. It is a horseshoe-shaped island with a central caldera (a crater formed by the eruption of a volcano) that has a surface area of about 26 square kilometers (10 square miles) and is breached at one end to be accessible from the open sea. The water of the caldera is heated by underground volcanic activity and has at times reached the boiling point. Also lying in the ocean between Antarctica and South America are the South Orkney Islands, South Georgia, and the South Sandwich Islands. Zavodovski Island in the South Sandwich Islands is home to one of the largest penguin colonies in the world—with a population estimated at two million penguins.

## Coastal Features

Even during the summer, only a few coastal areas are ever free of ice, including parts of Wilkes Land in East Antarctica and parts of the Antarctic Peninsula. During the winter, the ocean around Antarctica freezes, surrounding the continent with ice that expands far out to sea. As winter proceeds, the ice surrounding the Antarctic land mass grows at the rate of about 103,600 square kilometers (40,000 square miles) per day. By the heart of winter, it is roughly six times larger than normal, expanding the effective size of the continent to 33,000,000 square kilometers (13,000,000 square miles).

Almost half of the coastal regions are covered by ice shelves, which are formed as thick fields of ice branch out into the ocean. The ice shelves meet the bottom of the ocean near the shores but narrow into surface ice sheets (with water beneath them) as they stretch away from the land. The shelves extend out into the water for hundreds of kilometers.

The Ross Sea and the Weddell Sea both contain enormous ice shelves. The Ross Ice Shelf in the sea of the same name is the larger of the two, with an area of roughly 336,770

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square kilometers (130,100 square miles). The Ronne, Filchner, Larsen, and Riiser-Larsen Ice Shelves are all found in the Weddell Sea.

West Antarctica has a highly irregular coastline, with many small peninsulas and inlets, most of them ice-covered. The S-shaped Antarctic Peninsula extends far to the northeast. It comes closer to another continent (South America) than any other part of Antarctica. Away from the Weddell and Ross Seas, East Antarctica has a much more regular coastline than the western part of the continent. It arcs in a rough half circle from one sea to the other. Since this coast is much closer to the Antarctic Circle than that of West Antarctica, its ice shelves are smaller. The Amery Ice Shelf, along the East Antarctic coast, envelops most of Prydz Bay, that coastline's only significant indentation. East Antarctica extends north slightly beyond the Antarctic Circle at both Cape Ann and Cape Poinsett. The Shackleton Ice Shelf lies not far from the second of these capes. Cape Adare marks the point where the East Antarctic coast curves sharply inwards to form one side of the Ross Sea.

## **6** **INLAND LAKES**

While a large portion of the world's fresh water is located on Antarctica, it is present mostly in the form of ice. Non-frozen water does exist, however, in the lakes beneath the ice. These lakes are believed to be at least 30 meters (100 feet) deep. Scientists are studying these lakes to determine whether they support any marine life. To conduct their experiments, they must use exceptionally sterile methods to collect specimens in order to avoid contaminating the glacial environment.

Antarctica's largest known lake, Lake Vostok (26,000 square kilometers/10,000 square miles), is approximately the same size as North America's Lake Erie, but it is buried under 3.5 kilometers (2.8 miles) of ice. Other

lakes found in the McMurdo Dry Valleys include Lake Vanda, Lake Brownworth, Lake Fryxell, Lake Bonney, and Lake Hoare. These lakes are fed by runoff from the glaciers that lie in the deepest mountain valleys. During the summer, the air temperatures warm to about the freezing point (0°C/32°F), causing the glaciers to melt slightly and to send water flowing

## **DID YOU KNOW?**

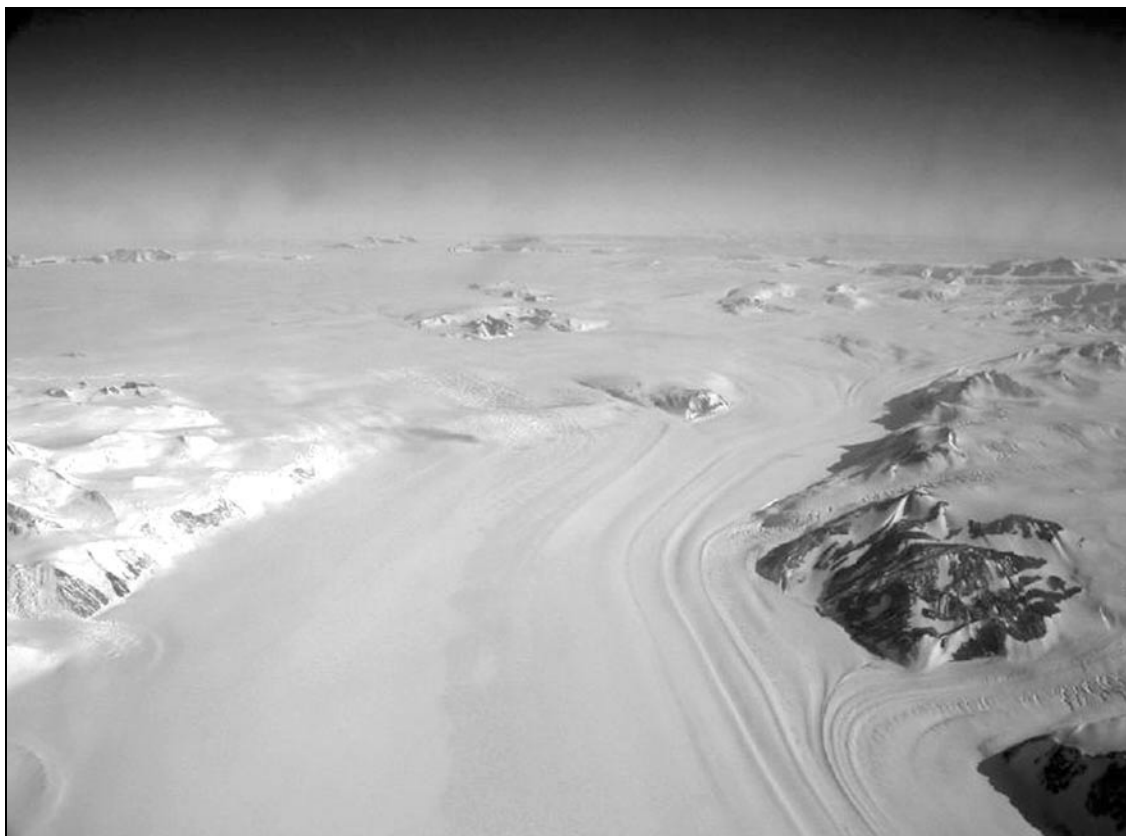
**T**he discovery of the geographic South Pole is a story of one of the most famous exploration "races" in history. British adventurer Robert F. Scott set out to be the first person to reach the South Pole in 1909. At the same time, unbeknownst to Scott, Norwegian explorer Roald Amundsen was making secret plans to try the trip himself. When Amundsen set sail in 1910, he told his crew and government that he was on his way to the North Pole. Shortly after setting off, he switched directions and the race began. Amundsen reached the pole first, on December 14, 1911, and he set up a small tent and a flag to mark the occasion. This is what Scott saw when he arrived only a few weeks later on January 18, 1912. Unlike Amundsen, Scott and his crew did not survive the trip back from the South Pole. Today, the research station located at the South Pole is named in honor of these two explorers.



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# ANTARCTICA

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EPD Photos/Ted Scambos

*The stark landscape of the Skelton Glacier, which lies near McMurdo Research Station.*

into small streams for a few weeks before the temperature again drops below freezing. The stream flow feeds the lakes, which lie beneath 3 meters (10 feet) of permanent ice cover.

## **7** 🌐 **RIVERS AND WATERFALLS**

The only river of any significance in Antarctica is the Onyx River. With a length of about 25 kilometers (20 miles), it is the largest of the streams that flow during the summer months. The Onyx River flows into Lake Vanda.

## **8** 🌐 **DESERTS**

Due to the lack of precipitation, the entire continent is technically considered a desert, despite the fact that it holds more than two-thirds of the world's fresh water. By definition,

a desert is any barren land with very little rainfall, extreme temperatures (both hot and cold), and sparse vegetation. This definition can include a permanently cold region, such as Antarctica.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

In Antarctica, glaciers (a large body of ice that moves over Earth's surface) completely cover the land beneath them, allowing only the most dramatic mountain peaks to poke through. Antarctica contains 90 percent of the world's natural ice total. Over land, it averages 2 kilometers (1.5 miles) thick, and is about 3.5 kilometers (3 miles) deep at its widest point. The East Antarctic glaciers are slightly larger than the West Antarctic glaciers. Some coastal

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# ANTARCTICA

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areas support a few lichens during the summer months, but the ice sheets are otherwise barren.

Glaciers move over the land at a slow and steady pace. Dramatic formations and striations (stripes, believed to be remnants of volcanic ash) may be observed in the glaciers. The advancing edge of the glacier becomes a high sheer cliff as the top levels of ice push forward. The Antarctic polar ice cap moves an average of 10 meters (33 feet) each year.

In East Antarctica, the continent's largest valley glacier, the Lambert Glacier, lies over several mountain peaks that rise to 1,017 meters (3,355 feet). Massive sections of ice discharge from the Lambert Glacier to become part of the floating Amery Ice Shelf each year. Other noteworthy glaciers include the Skelton Glacier, Rennick Glacier, Recovery Glacier, and Beardmore Glacier.

Lying between the mountain peaks of the Transantarctic Mountains are Victoria Valley, Wright Valley, and Taylor Valley. These large, relatively ice-free territories are known collectively as the McMurdo Dry Valleys. They account for about 4,800 square kilometers (1,733 square miles) of dry land in an area measuring approximately 60 by 75 kilometers (48 by 60 miles). The valleys are ice-free because the mountains impede the flow of the sheet of ice that covers most of the rest of the continent. The valleys are filled with sandy, spongy gravel.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Dividing Antarctica into two regions, East Antarctica (Greater Antarctica) and West Antarctica (Lesser Antarctica), is the continent's major mountain range, the Transantarctic Mountains.

The Antarctic Peninsula, a finger of land jutting into the ocean from the mainland of

West Antarctica, is also mountainous, with underlying volcanic activity. The Ellsworth Mountains of West Antarctica include the territory's highest point, the Vinson Massif (5,140 meters/16,864 feet). Other notable peaks in West Antarctica are Mount Sidley (4,181 meters/13,717 feet), Mount Jackson (4,189 meters/13,745 feet), and Mount Berlin (3,518 meters/11,543 feet).

East Antarctica features at least two active volcanoes, and scientists believe they will likely discover more that have peaks buried beneath the ice. Mount Erebus (3,794 meters/12,444 feet), one of the active volcanoes, is on Ross Island. Other notable peaks in East Antarctica are Mount Melbourne at 2,732 meters (9,016 feet) and the Gamgurtsev Subglacial Mountains at 4,030 meters (13,300 feet).

## **11** 🌐 **CANYONS AND CAVES**

The Bentley Subglacial Trench, a canyon extending 2,540 meters (8,333 feet) below sea level, is covered by solid ice, making it the lowest point on Earth that is not underwater.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Even where it is not mountainous, Antarctica's elevations are high. Its average elevation of roughly 2,440 meters (8,000 feet) is greater than that of any other continent. As a consequence, most of the land areas outside of the mountain ranges can be considered to be plateaus. Covered by thick ice, most of these plateaus have no names. A few exceptions are the Hollick-Kenyon and Rockefeller Plateaus in West Antarctica, and the Polar Plateau over the South Pole in East Antarctica. The elevation of the South Pole is 2,835 meters (9,355 feet).

## **13** 🌐 **MAN-MADE FEATURES**

There are about seventy research stations on Antarctica that are operated by scientists from around the world. Only about half of these centers are used year-round; the others are

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# ANTARCTICA

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occupied only during the summer months. Researchers come to Antarctica from many different fields of study, including astrophysics and astronomy, biology, meteorology, geology, oceanography, and biomedicine, among others. The largest research community is at McMurdo Station, governed by the United States and located on Hut Point Peninsula of Ross Island, which is the southernmost point of solid ground that is accessible by ship. There are more than one hundred structures in the complex, including a harbor, a landing strip, and the DASI (Degree Angular Scale Interferometer) telescope observation point for the study of cosmic microwave background radiation. Resident scientists number about twelve hundred people in the summer months and two hundred people in the winter.

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# Antigua and Barbuda

- **Official name:** Antigua and Barbuda
- **Area:** 440 square kilometers (170 square miles) total area; Antigua, 280 square kilometers (108 square miles); Barbuda, 161 square kilometers (62 square miles); Redonda, 1.3 square kilometers (5 square miles)
- **Highest point on mainland:** Boggy Peak (402 meters/1,319 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 14.4 kilometers (9 miles) from east to west; 22.4 kilometers (14 miles) from north to south
- **Land boundaries:** No international boundaries
- **Coastline:** 153 kilometers (95 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles); exclusive economic zone: 370 kilometers (200 nautical miles)

## 1 🌐 LOCATION AND SIZE

Antigua and Barbuda, a dependency of the United Kingdom, is part of the Leeward Islands, in the eastern part of the Caribbean Sea. Its total area, which is nearly two-and-one-half times that of Washington, D.C., includes the islands of Antigua (280 square kilometers/108 square miles) and Barbuda (161 square kilometers/62 square miles), and the uninhabited island of Redondo (1.3 square kilometers/5 square miles). The country is divided into six parishes.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Antigua and Barbuda has no territories or dependencies.

## 3 🌐 CLIMATE

Temperatures average 29°C (84°F) in July and 24°C (75°F) in January, a result of the cooling trade winds from the east and northeast. Rainfall averages 117 centimeters (46 inches) per year, with September through November being the wettest months. The islands are subject

to both the occasional summer drought and autumn hurricanes, although the low humidity gives them one of the most temperate climates in the world.

SEASON	MONTHS	AVERAGE TEMPERATURE: °C (°F)
Summer	April to October	24–30°C (75–86°F)
Winter	November to March	22–27°C (72–81°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Antigua, the largest of the British Leeward Islands, is partly volcanic and partly coral in makeup. Many islets line its northeastern coast, and its central area is a fertile plain. Barbuda is a coral island. Redonda is a rocky, low-lying islet.

## 5 🌐 OCEANS AND SEAS

Antigua and Barbuda is located in the eastern Caribbean Sea. The open Atlantic Ocean lies to the north and east. The island of Guadeloupe lies to the south, on the far side of the Guadeloupe Passage from Antigua.

# ANTIGUA AND BARBUDA



## Seacoast and Undersea Features

There are many coral reefs near Antigua and Barbuda. Antigua is surrounded by an almost continuous band of coral. Devil's Bridge, an unusual formation on Antigua's northeastern shore, is a natural arch created by the erosion of limestone over time.

## Sea Inlets and Straits

The coastline of Antigua features many small bays.

## Islands and Archipelagos

Redonda, a rocky outcropping less than two square kilometers (less than one square mile) in area, lies 40 kilometers (25 miles) southwest of Antigua. Redonda is uninhabited. Guiana Island, a tiny island off the northeast coast of Antigua, provides a forest habitat for a number of nesting bird species.

## Coastal Features

Antigua and Barbuda is famous for its beaches, particularly those on Antigua itself. When advertising to attract vacationers, the country claims it has 365 beaches.

Antigua has deeply indented shores lined by shoals and reefs, with many natural harbors. Barbuda has large stretches of both white and pink sand beaches. Codrington Lagoon, enclosed by a narrow finger of land that stretches northward, lies in northwest Barbuda.

## 6 🌐 INLAND LAKES

Antigua and Barbuda lacks any lakes of significant size.

## 7 🌐 RIVERS AND WATERFALLS

Antigua and Barbuda lacks any large rivers.

## 8 🌐 DESERTS

There are no deserts on Antigua and Barbuda.

## 9 🌐 FLAT AND ROLLING TERRAIN

Antigua has a central plain that is relatively fertile due to the volcanic ash in the soil. Like other parts of the island with the same soil composition, it supports some agriculture, as well as tropical vegetation.

## 10 🌐 MOUNTAINS AND VOLCANOES

Antigua is a partly volcanic island, but there have been no eruptions in recent history. Its highest elevations are in the southwestern part of the island. This is where Boggy Peak (402 meters/1,319 feet), the tallest mountain on the island, is located. There are no significant elevations on either Barbuda or Redonda.

## 11 🌐 CANYONS AND CAVES

There are a number of large caves, both above and under ground, on Barbuda, including an underground cave that extends for 1.6 kilometers (1 mile) at Two Foot Bay.

# ANTIGUA AND BARBUDA



EPD Photos

*The beach at Galley Bay is one of the hundreds of beaches lining the islands of Antigua and Barbuda.*

## 12 PLATEAUS AND MONOLITHS

There are no plateaus or monoliths on Antigua and Barbuda.

## 13 MAN-MADE FEATURES

There are no significant man-made features affecting the geography of Antigua and Barbuda.

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## DID YOU KNOW?

The Frigate Bird Sanctuary, in Barbuda's Codrington Lagoon, is home to more than 170 bird species, including its namesake, the frigate bird (*fregata magnificens*).

# Argentina

- **Official name:** Argentine Republic
- **Area:** 2,766,890 square kilometers (1,068,302 square miles)
- **Highest point on mainland:** Cerro Aconcagua (6,960 meters/22,835 feet)
- **Lowest point on land:** Salinas Chicas (40 meters/131 feet below sea level)
- **Hemispheres:** Southern and Western
- **Time zone:** 9 A.M. = noon GMT
- **Longest distances:** 3,650 kilometers (2,268 miles) from north to south; 1,430 kilometers (889 miles) from east to west
- **Land boundaries:** Total boundary length 9,665 kilometers (6,006 miles); Bolivia, 832 kilometers (517 miles); Brazil, 1,224 kilometers (761 miles); Chile, 5,150 kilometers (3,200 miles); Paraguay, 1,880 kilometers (1,168 miles); Uruguay, 579 kilometers (360 miles)
- **Coastline:** 4,989 kilometers (3,100 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Argentina is the second-largest country in South America, covering most of the southern peninsula of the continent. It is bordered by Bolivia and Paraguay to the north; Brazil, Uruguay, and the South Atlantic Ocean to the east; and Chile to the west and south. With an area of 2,766,890 square kilometers (1,068,302 square miles), the nation is a little less than one-third the size of the United States. Argentina is divided into twenty-three provinces and one autonomous city.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Argentina has a territorial claim in Antarctica. As of 2002, it was involved in a long-standing dispute with the United Kingdom over which nation controls the Falkland Islands, South Georgia, and the South Sandwich Islands. All of these territories lie off the coast of Argentina but are governed by the United Kingdom.

## 3 🌐 CLIMATE

Argentina's climate ranges from subtropical in the north, to humid in the central regions, to subantarctic in the south. Winter is the driest period of the year. The coldest months are June and July; the warmest month is January. Climate variations are due to the country's range of altitude as well as of latitude.

Average rainfall declines from east to west. Buenos Aires receives an average of 94 centimeters (37 inches) of rain annually and experiences light snow during the winter months. Areas north of Río Negro experience little precipitation during winter. The Pampas receives enough rainfall to support its crops, but it is also subject to flooding. The northeastern region bordering Brazil and Uruguay also receives sufficient rainfall. The Gran Chaco region north of the Pampas receives an average of 76 centimeters (30 inches) of rainfall per year. The Andes region is subject to intense

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changes in weather, including flash floods during the summer months.

Some areas of Argentina are prone to natural geological disturbances such as earthquakes, violent windstorms known as pamperos, and volcanic activity.

SEASON	MONTHS	AVERAGE TEMPERATURE RANGE (CELSIUS/FARENHEIT)
Summer	January to March	16° to 35°C (60° to 95°F)
Winter	May to August	8° to 18°C (47° to 65°F)

## 4 TOPOGRAPHIC REGIONS

The terrain of Argentina varies dramatically across the country's different regions, since both elevation and latitude play a major role in Argentina's geography. The country's four major geographic regions are the Andes Mountains, the lowland north, the central Pampas, and the Patagonia region in the south. Patagonia includes Tierra del Fuego, the southernmost point of the South American continent, which is shared by Argentina and Chile.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Argentina has an eastern coast on the Atlantic Ocean.

### Sea Inlets and Straits

The Atlantic coast of Argentina, curving from northeast to southwest, features a number of gulfs, bays, and inlets. Starting in the north, the bay on which Buenos Aires sits is Samborombón Bay. At the city of Bahía Blanca the coast abruptly turns southward, forming Blanca Bay. To the south are the San Matías Gulf and the San Jorge Gulf. The Strait of Magellan separates the mainland from Tierra del Fuego, the southernmost tip of the country.



### Islands and Archipelagos

Argentina shares the offshore island territory of Tierra del Fuego with Chile. Eons ago, Tierra del Fuego existed under the sea. The land slowly rose and mountains formed as the South American and Scotia Tectonic Plates pushed together. By the Ice Age, most of what is now the Patagonian continental shelf had become land. About 9,000 years ago, the waters of the Strait of Magellan broke through the tip of the continent.



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EPD/Cynthia Bassett

*The landscape of southern Argentina is dotted with many lakes.*

Argentina also owns the Isla de los Estados, which is separated from the southern point of Tierra del Fuego by the Strait of Le Maire. Both Argentina and the United Kingdom claim the Falkland Islands (Islas Malvinas) as their own.

## Coastal Features

The Valdés Peninsula (Península Valdés), with its miles of beaches and tall cliffs, forms the southern rim of the San Matías Gulf, at about the midpoint of the country's Atlantic coast. This area is home to large colonies of marine mammals, including penguins and the southern elephant seal, which mate in the protected lagoons of the peninsula. The area also hosts one of the world's largest concentrations of the Atlantic Right Whale (*Eubalaena glacialis*). In 1999, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) designated the peninsula as a World Heritage

Site. Salinas Chicas, Argentina's lowest elevation (40 meters/131 feet below sea level), also is found here. Just south of Valdés Peninsula is a tiny bay that is bordered to the south by Point Ninfas.

Cape Horn is the southernmost tip of the continent.

A popular destination for both tourists and Argentines is the Mar del Plata, a city on the Atlantic coast known for its sprawling beaches, which cover about 8 kilometers (5 miles). This area boasts more than 140 bird species, including flamingos.

## 6 INLAND LAKES

The Lake District, straddling the border between Chile and Argentina in the Andes Mountains, contains many glacial lakes that were carved out of the mountains and later

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# ARGENTINA

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filled up with water from the melting glaciers, snow, and rain. The most significant of these is Lago Buenos Aires, also known as General Carrera Lake. It is located in southern Argentina and shared with Chile. It is the largest lake in the country, and the fifth largest in all of South America, with an average surface area of 2,240 square kilometers (860 square miles). South of Lago Buenos Aires are Lago San Martín, Lago Viedma, and finally Lago Argentino. Not far from Lago Buenos Aires, on the Castillo Plain near Comodoro Rivadavia, is Lake Colhué Huapí.

One of the world's largest salt lakes, and the second-largest lake in Argentina, is Lago Mar Chiquita (Little Sea), located in central Argentina. Its surface area varies from year to year and season to season, but during its wettest periods it has spanned 5,770 square kilometers (2,228 square miles).

## **7** **RIVERS AND WATERFALLS**

The Rio Paraná is the longest river in Argentina and the second-longest river in South America (after the Amazon). It flows approximately 4,900 kilometers (3,060 miles), separating Brazil from Paraguay and Paraguay from Argentina. The Rio Paraná is navigable only as far as Rosário. Its upper reaches feature many waterfalls. Once the Rio Paraná enters Argentina in the northeast, the Iguazú River (Río Iguazú) joins it. This area is well known throughout the world for the spectacular Iguazú Falls (Cataratas Iguazú, meaning "great water"). The falls are located on the border between Argentina and Brazil, with two-thirds of them in Argentina. They include approximately 275 smaller falls, with heights ranging between 60 and 80 meters (197 and 262 feet). These falls are higher and wider than Niagara Falls, on the border between Canada and the United States.

Other tributaries of the Rio Paraná that feed in from the west are the Rios Bermejo, Bermejito, Salado, and Carcarañá.

The Uruguay River (1,600 kilometers/1,000 miles) forms part of the borders between Argentina, Brazil, and Uruguay. It is navigable for about 300 kilometers (190 miles), from its mouth to Concordia. The Paraguay River, extending for 2,550 kilometers (1,594 miles), forms part of the border between Paraguay and Argentina, and it flows into the Rio Paraná north of Corrientes and Alto Paraná. These waterways all join to flow into the Río de la Plata, and eventually into the Atlantic Ocean in northern Argentina. Where these rivers meet, a wide estuary is formed, which can reach a maximum width of 222 kilometers (138 miles).

In north-central Argentina, several rivers flow into Lago Mar Chiquita. Rio Dulce originates near San Miguel de Tucumán and flows southwest into the lake. Rios Primero and Segundo also feed into Lago Mar Chiquita from the southwest.

In the northern Patagonia region, the major rivers are the Río Colorado and Río Negro, both of which rise in the Andes and flow to the Atlantic Ocean. The Colorado is fed by the Rio Salado, which flows from Pico Ojos del Salado in a southeasterly direction to the Colorado. Tributaries of the Rio Salado include the Rios Atuel, Diamante, Tunuyán, Desaguadero, and the San Juan, all of which originate in the northwest Andes. The Río Negro also has two main tributaries of its own, the Rio Neuquén and the Rio Limay. In the central Patagonia region, the Rio Chubut rises in the Andes and flows east to form a sizable lake before making its way to the ocean. The Lake District also contains its share of rivers, all originating in the mountains and flowing to the Atlantic.

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EPD/Cynthia Bassett

*The western Pampas leading up to the Andes mountains, is home to horse, cattle, and sheep ranches.*

These include the Rios Deseado, Chico, Santa Cruz, and Gallegos.

## **8** 🌐 **DESERTS**

Narrow strips of desert area extend eastward from the mountains down into the Patagonian plains of Argentina. The land is dry, wind-eroded, and marked by sparse scrub vegetation and remnants of a petrified forest.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The Pampas comprises fertile grasslands that cover much of central Argentina. This area is oval-shaped and extends more than 800 kilometers (500 miles) both north and south and east to west. The eastern half of the Pampas is humid, with fertile agricultural lands well suited to the cultivation of wheat. The western Pampas approaching the Andes mountain range is dry, open land, providing

grazing for Argentina's famous horse, cattle, and sheep ranches. This region, along with the northeastern Gran Chaco region, is subject to violent windstorms known as pamperos (pahm-PARE-ohss).

Patagonia, the southern region of Argentina, is a combination of pastoral steppes (flat grasslands) and glacial regions. Near the Chilean border is Glacier National Park (Parc Nacional Los Glaciares), where some three hundred glaciers make up part of the Patagonian Ice Cap (21,760 square kilometers/8,400 square miles). The ice cap, flowing into the Pacific Ocean from the Andes, is the largest in the southern hemisphere outside of Antarctica. Thirteen of these glaciers feed lakes in the region. The Upsala Glacier, at 60 kilometers (37 miles) long and 10 kilometers (6 miles) wide, is the largest in South America. It can only be

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reached by boat, since it floats in Lago Argentino. The next largest glacier is Perito Moreno, 4.8 kilometers (3 miles) wide and stretching about 35 kilometers (22 miles) long to Lago Argentino, where it forms a natural dam.

The lowland north, including the Gran Chaco and Mesopotamia regions, consists of tropical and subtropical lowlands. The landscape ranges from dry savannas (flat grasslands) to swamps (lands partially submerged under standing water).

Iberá, in the northeast of Argentina, is a biologically rich region, with more than sixty ponds joined to marshes and swampland. The area is extremely humid, and is home to hundreds of bird species and thousands of insects, including a wide variety of butterflies. The area hosts a diverse array of flora and fauna, notably the royal water lily, silk-cotton tree, alliga-

tors, and capybara, the largest rodent species in the world.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Andean region makes up 30 percent of Argentina. Stretching more than 7,000 kilometers (4,500 miles), the Andes Mountains form the western border of Argentina, which is nearly parallel to the coast of the Pacific Ocean. First formed by tectonic movement approximately seventy million years ago, the mountain range is the highest in the western hemisphere. Its peaks reach nearly 7,015 meters (23,000 feet) and stretch to form a natural border with Chile for more than 3,219 kilometers (2,000 miles).

The Argentinean Andes contain some of the tallest mountains in South America, including Cerro Aconcagua, which at 6,960 meters (22,834 feet) is the tallest peak on the continent and in the entire Western Hemisphere, and Cerro Mercedario (6,768 meters/22,205 feet). Both of these peaks are located near the Chile border southwest of San Juan. The Andes region is also home to arid basins (low-lying areas that receive almost no rainfall); lush foothills covered with grape vineyards; glacial mountains; and half of the Lake District (the other half is in Chile).

Throughout the Andes there are more than 1,800 volcanoes, 28 of which are considered to be active. These include Tipas, Cerro el Condor, and Antofalla, all of which are over 6,000 meters (19,685 feet) high and are some of the highest volcanoes in the world.

Jagged mountain peaks formed from granite include Cerro Fitz Roy (3,405 meters/11,236 feet), Cerro Torre (3,102 meters/10,346 feet), and Cerro Pináculo (2,160 meters/7,128 feet).

Smaller mountain ranges also exist in central South America. These ranges cut across the center of the country and separate the

## DID YOU KNOW?

**P**atagonia, in the southern region of Argentina, has a geography that ranges from a vast, windy, and treeless plateau to several glacial regions in the southern area of Tierra del Fuego. Patagonia extends more than 2,000 kilometers (1,200 miles) from Rio Colorado in the north to Cape Horn at the southernmost tip of the continent. The region of Patagonia takes its name from the Patagon, the native inhabitants believed by travelers in the 17th and 18th century to be the tallest people in the world.

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## DID YOU KNOW?

The Strait of Magellan was named for Ferdinand Magellan (1480–1521), the Portuguese navigator who traveled the strait in 1520 while trying to find a western route to the Spice Islands. He spent the winter of that year in the area of Patagonia. When he continued his trip, Magellan became the first European traveler to cross the Pacific Ocean, which he named because of the calm, peaceful weather he experienced on his journey. Unfortunately, he was killed in a skirmish between native people that he encountered when he reached the Philippines.

southern Patagonia region from the northeastern Pampas. From west to east, these ranges are the Sierra Lihuel-Calel, the Sierra de la Ventana, and the Sierra del Tandil.

### 11 CANYONS AND CAVES

The Cave of the Hands (Cueva de las Manos) is named for the stenciled, painted outlines of human hands that cover the walls of the cave. These outlines are surrounded by paintings of animals and stick-figured people, as well as by other geometric shapes.

Archaeologists believe that ancient inhabitants of the land painted the caves approximately 9,500 to 13,000 years ago. Cueva de las Manos has been designated a World Heritage Site by UNESCO (United Nations Educational, Scientific, and Cultural Organization).

### 12 PLATEAUS AND MONOLITHS

The Somuncurá Plateau is a basalt plateau with alternating hills and depressions. It stretches across the area from the Rio Chubut to the Rio Negro. The region undergoes severe climate changes between the winter and summer months. The area has lava (molten rock) formations and contains many fruit and alfalfa plantations. Cattle ranchers find this area to be ideal for raising their livestock. A smaller plateau, the Atacama Plateau, occupies the region just east of the Andes Mountains in northern Argentina and extends east to the city of San Miguel de Tucumán.

### 13 MAN-MADE FEATURES

The reservoir created by the Chocón dam, located on the Río Negro, is one of the country's largest man-made lakes. The Chapetón and Pati Dams, both on the Rio Paraná, are the second- and third-largest dams in the world.

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# Armenia

- **Official name:** Republic of Armenia
- **Area:** 29,800 square kilometers (11,500 square miles)
- **Highest point on mainland:** Mt. Aragats (4,095 meters/13,425 feet)
- **Lowest point on land:** Debed River Valley (400 meters/1,320 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 4 P.M. = noon GMT
- **Longest distances:** 400 kilometers (240 miles) from northwest to southeast; 200 kilometers (120 miles) from west to east
- **Land boundaries:** 1,254 kilometers (778 miles) total boundary length; Azerbaijan, 789 kilometers (488 miles), 221 kilometers/137 miles of which is in the Naxçivan enclave; Georgia, 164 kilometers (102 miles); Iran, 35 kilometers (22 miles); Turkey, 268 kilometers (166 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Armenia is a small, landlocked nation located in the mountainous region southwest of Russia between the Black Sea and the Caspian Sea. With a total area of 29,800 square kilometers (11,500 square miles), it is somewhat larger than the state of Maryland. Armenia is divided into eleven provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Armenia has no territories or dependencies.

## 3 🌐 CLIMATE

Although Armenia lies not far from several seas, its high mountains block their effects and give it a continental highland climate. It has cold, dry winters and hot, dusty summers. Temperature and precipitation depend greatly on elevation, with colder and wetter seasons in the high north and northeast.

The widest variation in temperature between winter and summer occurs in the cen-

tral Armenian Plateau, where in midwinter the mean temperature is 0°C (32°F); in midsummer the mean temperature is over 25°C (77°F). Overall, Armenia is a sunny country. Precipitation rates depend on altitude and location, but are heaviest during autumn. In the lower Aras River Valley, the average annual precipitation is 25 centimeters (10 inches). It can reach 80 centimeters (32 inches) in the mountains.

## 4 🌐 TOPOGRAPHIC REGIONS

Armenia's terrain is composed largely of plateaus and rugged mountain ranges, with the exception of a few fertile river valleys and the area around Lake Sevan, in the east-central part of the country. The geological formation known as the Armenia Plateau occupies the western part of the country.

## 5 🌐 OCEANS AND SEAS

Armenia is landlocked and has no coast.

# ARMENIA



## 6 INLAND LAKES

Lake Sevan lies 2,070 meters (6,200 feet) above sea level on the Armenian Plateau. With an area of 1,244 square kilometers (480 square miles), it is the country's largest lake—and one of the largest high-elevation lakes in the world. At its widest point, Lake Sevan measures 72.5 kilometers (58 miles) across; it is 376 kilome-

ters (301 miles) long. The lake's greatest depth is about 83 meters (272 feet). Many tributaries flow into the lake from the south and south-east, but the Hrazdan River is its only outlet.

## 7 RIVERS AND WATERFALLS

The Aras River, which is 914 kilometers (568 miles) long, is Armenia's largest and longest river. Its chief tributary in Armenia is the

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# ARMENIA

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*Mount Aragats (Aragats Lerr) as seen from the village of Garni, which lies to the north.*

Hrazdan. The Debed River in the north of the country flows northeast into Georgia. The Bargushat River drains the southeastern part of Armenia.

## **8** 🌐 **DESERTS**

Armenia has no deserts.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The Aras River and the Debed River valleys in the far north are the lowest points in Armenia, with elevations of 380 meters (1,158 feet) and 400 meters (1,320 feet), respectively. The rich soils of the arable river valleys contain vineyards and orchards.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Lesser Caucasus Mountains enter into Armenia in the north and extend across the entire country along the border with Azerbaijan and into Iran. The Lesser Caucasus system in-

cludes the P'ambaki, Geghama, Vardenis, and Zangezur ranges. Composed largely of granite and crystalline rock, the mountains are high, rugged, and include some extinct volcanoes and many glaciers.

The terrain is particularly rugged in the extreme southeast. Some smaller mountain ranges and extinct volcanoes are located on the Armenia Plateau; included in one of these ranges is Mount Aragats (Aragats Lerr), which at 4,095 meters (13,425 feet) is the highest point in Armenia.

## **11** 🌐 **CANYONS AND CAVES**

There are many caves throughout Armenia, and several steep canyons. The longest cave is the Arjeri Cave in the Vayots Dzor region to the south. The Debed Canyon drops to the lowest elevation in the country (400 meters/1,320 feet).



# ARMENIA



EPD Photos/©2003 Robert Kurkjian

*Wheat is grown in the southwestern region of Armenia.*

## 12 PLATEAUS AND MONOLITHS

Half of Armenia is above 2,000 meters (6,090 feet) in elevation. The Armenian Plateau, which occupies the western part of the country, was formed in a geological upheaval of the earth's crust twenty-five million years ago. It slopes down from the Lesser Caucasus Mountains toward the Aras River Valley.

## 13 MAN-MADE FEATURES

The 1.8-kilometer-long (1-mile-long) tunnel through the Pushkin Pass in northern Armenia, built in 1970 and reopened after reconstruction in 2000, is a major route linking Armenia and Georgia.

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# Australia

- **Official name:** Commonwealth of Australia
- **Area:** 7,686,300 square kilometers (2,966,200 square miles)
- **Highest point on mainland:** Mount Kosciusko (2,229 meters/7,314 feet)
- **Highest point in Australian territory:** Mawson Peak (2,745 meters/9,000 feet), an active volcano on Heard Island near Antarctica
- **Lowest point on land:** Lake Eyre (16 meters/52 feet below sea level)
- **Hemispheres:** Southern and Eastern
- **Time zone:** 10:00 P.M. in New South Wales, Australian Capital Territory, Victoria, Tasmania and Queensland = noon GMT; 9:00 P.M. in South Australia and Northern Territory = noon GMT; 8:00 P.M. in Western Australia = noon GMT
- **Longest distances:** 4,000 kilometers (2,485 miles) from east to west; 3,837 kilometers (2,374 miles) from north to south
- **Land boundaries:** None
- **Coastline:** 36,735 kilometers (22,831 miles)
- **Territorial sea limits:** 4.8 kilometers (3 miles)

## 1 🌐 LOCATION AND SIZE

The nation of Australia, which also happens to be the world's smallest continent, is situated in the Southern Hemisphere southeast of Asia, between the Pacific and Indian Oceans. Australia covers an area of 7,686,300 square kilometers (2,966,200 square miles). It is slightly smaller than the contiguous United States (not including Alaska and Hawaii). Australia is divided into six states and two territories.

Many Australian place-names reflect the country's history as a British colony, as well as the influence of Dutch and French explorers who visited the region during the seventeenth, eighteenth, and nineteenth centuries. In the late twentieth century, some Aboriginal place-names replaced the British colonial names.

The following table lists the area of each of the six Australian states in both metric and English units:

STATE	AREA IN SQUARE KILOMETERS	AREA IN SQUARE MILES
New South Wales	801,600	309,500
Queensland	1,727,200	666,900
South Australia	985,000	379,900
Tasmania (Island)	67,800	26,200
Victoria	227,600	87,900
Western Australia	2,525,500	975,100

## 2 🌐 TERRITORIES AND DEPENDENCIES

Mainland Australia has two territories: Northern Territory and Australian Capital Territory. The following table lists the area of each region in metric and English units:

# AUSTRALIA



TERRITORY	AREA IN SQUARE KILOMETERS	AREA IN SQUARE MILES
Northern Territory	1,346,200	519,800
Australian Capital Territory	2,400	900

Since 1936, Australia has claimed an additional 6.1 million square kilometers (2.4 million square miles) on the continent of Antarctica as Australian Antarctic Territory—about 40 percent of the total land area. Three

scientific bases are in operation there: Mawson (established in February of 1954), Davis (established in January of 1957), and Casey (established in February of 1969).

Furthermore, Australia claims authority over several nearby inhabited islands including Christmas Island, which is located in the Indian Ocean 2,623 kilometers (1,630 miles) northwest of Perth. Christmas Island covers an area of about 135 square kilometers (52 square

# AUSTRALIA

miles), and in 1996 it had an estimated population of 813; 61 percent of the island's residents were Chinese and 25 percent were Malay. Not far from Christmas Island, the Cocos (Keeling) Islands consist of twenty-seven islets with a total land area of 14 square kilometers (5 square miles), two of which are inhabited. In 1996, the estimated population of these two islands was 609. Another possession, Norfolk Island, is northeast of Sydney and covers an area of 36 square kilometers (14 square miles). British explorer James Cook discovered Norfolk Island in 1774; the British government later sent prisoners here during the late eighteenth and early nineteenth centuries. In 1856, descendants of the British sailors who had carried out a mutiny on the ship, *HMS Bounty*, in 1789, joined the prisoners and settled on Norfolk Island. As of 1996, the estimated permanent population was 2,209.

Australia also claims authority over a number of uninhabited islands. The Coral Sea Islands were declared a territory of Australia in 1969; they have no permanent inhabitants, but researchers temporarily take up residence at a meteorology station on one of the islands. The mountainous Heard Island, which is about 4,000 kilometers (2,500 miles) southwest of Perth, covers an area of 910 square kilometers (350 square miles) and has a dormant volcano known as Big Ben (at an elevation of 2,740 meters/8,990 feet). Shag Island is just north of Heard Island; only 42 kilometers (26 miles) to the west are the small McDonald Islands. About 1,600 kilometers (1,000 miles) southeast of Tasmania, the rocky Macquarie Island measures 34 kilometers (21 miles) in length and about 3 to 5 kilometers (2 to 3 miles) in width. Macquarie Island is uninhabited except for a base maintained at its northern end since February 1948; at its southern end, it houses the biggest penguin rookery (a breeding ground) in the world.

## 3 🌐 CLIMATE

The climate of Australia is warm and dry. The following table summarizes seasonal temperatures and precipitation levels in the capital city of Sydney:

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)	RAINFALL IN SYDNEY MILLIMETERS (INCHES)
Summer	December to February	22°C (71°F)	89 mm (3.5 in.)
Fall	March to May	18°C (65°F)	1345 mm (5.3 in.)
Winter	June to August	12°C (54°F)	76 mm (3.0 in.)
Spring	September to November	19°C (67°F)	74 mm (2.9 in.)

## 4 🌐 TOPOGRAPHIC REGIONS

Australia has one of the flattest terrains of any country in the world. Erosion over thousands of years has rounded and flattened the mountains of Australia, so that only 6 percent of the land is over 610 meters (2,000 feet) above sea level. The country may be divided into regions according to topography (description of the surface of the land).

The Eastern Highlands (also called the Eastern Uplands) encompass the eastern portion of the country, stretching from the Cape York Peninsula in northern Queensland south through New South Wales and Victoria. Average elevation in this region is about 152 meters (500 feet). The country's highest peak, Mount Kosciuszko—at 2,229 meters (7,314 feet)—is found in the southeast corner of the mainland between Melbourne and Canberra.

The Western Plateau is a large desert region, covering approximately the western two-thirds of the country. The Western Plateau rests on an ancient rock shield or foundation, and the average elevation throughout is 305 meters

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# AUSTRALIA

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(1,000 feet) above sea level. The Western Plateau has one mountain range (Hamersley) at its western edge, and three mountain ranges (Macdonnell, Musgrave, and Petermann) that stretch to its eastern edge. From these ranges southward, the Western Plateau is generally a flat tableland, with dramatic outcroppings of granite or sandstone. Four deserts are situated on the Western Plateau. The dry central part of the Western Plateau is popularly referred to as the “Outback.” The Darling Range, also known as the Darling Scarp, is found along the plateau’s southwest coast.

## **5** OCEANS AND SEAS

Several bodies of water surround Australia. Along the northern coast lie the Timor Sea (northwest of Darwin) and the Arafura Sea (directly north of Darwin between Australia and the neighboring nations of Indonesia and Papua New Guinea). The Coral Sea lies east of the Cape York Peninsula along the northeast coast. Stretching directly east is the Pacific Ocean. The Tasman Sea lies along the southeast shore of mainland Australia northeast of Tasmania Island. (Tasmania and the Tasman Sea are both named for the Dutch explorer Abel Tasman, who arrived in Tasmania in 1642.) Finally, the Indian Ocean surrounds the southern and western coasts of mainland Australia.

## **Seacoast and Undersea Features**

The Great Barrier Reef, the world’s longest coral reef, extends for 2,010 kilometers (1,250 miles) just off the northeast coast of Queensland. It encompasses 207,000 square kilometers (79,902 square miles), and it supports a marine ecosystem that includes islands as well as coral reefs. Lake Alexandrina, a coastal inlet that is sometimes referred to as a coastal lake, is situated near Meningie to the southeast of Adelaide and to the east of the Great Australian Bight.

## **Sea Inlets and Straits**

The coastline of Australia features a number of gulfs where the land curves around the sea. The Gulf of Carpentaria forms a deep U-shape on the northeast coast between Arnhem Land and Cape York Peninsula. In 1623 Djan Carstensz, a Dutch explorer, named the gulf in honor of Pieter de Carpentier, who was then the governor-general of the Dutch East Indies (present-day Indonesia). Another Dutch East Indies governor-general, Anthony van Diemen, gave his name in 1644 to Van Diemen Gulf, which lies just west of the Gulf of Carpentaria between Darwin and Melville Island. To the south of Van Diemen Gulf is Joseph Bonaparte Gulf, named in honor of eighteenth-century French emperor Napoleon Bonaparte’s older brother by a French explorer in 1803.

To the south, the Great Australian Bight is formed by a large semicircular curve in the southern coast. (“Bight” describes a bend in a coastline or the bay that is formed by a curving coastline.) Along its eastern edge near Port Lincoln is Spencer Gulf, a finger-shaped gulf which points northward about 320 kilometers (198 miles) into South Australia. Bass Strait lies between Tasmania and the mainland. In 1798, explorers George Bass and Matthew Flinders sailed through the strait, demonstrating for the first time that Tasmania was an island.

## **Islands and Archipelagos**

The state of Tasmania (sometimes called Tasmania Island) is a large island located 241 kilometers (150 miles) off the southeastern coast of the mainland. Tasmania has the same geology as the Eastern Highlands, with rugged terrain and a large central plateau. Elevations reach 1,524 meters (5,000 feet) on Tasmania. Between Tasmania and the mainland in the Bass Strait lie King Island and Flinders Island.

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# AUSTRALIA

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EPD/Cynthia Bassett

*This rugged terrain lies on the east coast of Tasmania.*

Two of Australia's largest islands lie off the northern coast of Northern Territory. To the west of Darwin is the largest, Melville Island, measuring 5,786 square kilometers (2,333 square miles). To the east in the Gulf of Carpentaria is Groote Eylandt (Dutch for "Great Island"), which covers 2,285 square kilometers (882 square miles), and Mornington Island. North of Broome in Western Australia lie the three uninhabited Ashmore Islands, as well as Cartier Island, which was annexed as part of the Northern Territory in 1938. Kangaroo Island, off the southern coast near Adelaide in South Australia, measures 4,416 square kilometers (1,718 square miles). Fraser Island, a part of Queensland that covers 1,643 square kilometers (634 square miles), is the largest all-sand island in the world.

To the northwest, the Bonaparte Archipelago features numerous small, rocky islands and a deeply indented coastline.

## **Coastal Features**

Many peninsulas extend along the coast. In the northeast, the Cape York Peninsula points north toward Papua New Guinea. Across the Gulf of Carpentaria, Arnhem Land represents the edge of the Western Plateau and features rugged highlands and broad valleys. To the northwest, the Eighty Mile Beach, a stretch of sandy beachfront, marks the coastal edge of the Great Sandy Desert. Just off the high cliffs that mark the shore southwest of Melbourne, limestone pillars known as the Twelve Apostles emerge from the sea.

# AUSTRALIA

## DID YOU KNOW?

A river system is made up of a principal river and its tributaries (the rivers that flow into it). A river system begins with the drainage of rainfall and ends in a large body of water, usually an ocean. After a rainstorm, rainwater—called runoff—drains downhill until it eventually accumulates at a low point and begins to flow. As the water flows from higher to lower elevations, two or more small rivers join together to form a larger river. This larger river—usually the one that gives its name to the river system—continues to flow. Sometimes several other smaller rivers, called tributaries, join with the main river as it flows toward a larger body of water such as a lake or ocean.

The point at which a river flows into the ocean is called its mouth. A river system begins at a place called the source or headwaters. The source is the point farthest away from the mouth where water begins to flow. Ports—cities that support shipping activity—often develop at a river's mouth. Ports have docks and roads to allow goods to be transported by ships and other vehicles into and out of the country.

## 6 🌐 INLAND LAKES

There are no notable lakes in Australia.

## 7 🌐 RIVERS AND WATERFALLS

The most important and longest continuous river system in Australia, referred to as the Murray-Darling River System, flows through parts of four states: Queensland, New South Wales, Victoria, and South Australia. This river system provides the water for 80 percent of the irrigated land in the country. With an annual runoff volume of 22.7 billion cubic meters (801.6 billion cubic feet) of water, the Murray-Darling River System is Australia's largest. Compared to the world's largest river system, the Amazon River in South America, however, the Murray-Darling River system carries less than one percent of the water volume that is transported by the Amazon.

The Murray-Darling River System drains an area of 1.1 million square kilometers (410,318 square miles), or about 14 percent of the total land area of the country. Measured from its source in Queensland to its mouth at Lake Alexandrina south of Adelaide, Murray-Darling measures 3,370 kilometers (2,022 miles), or about one-half the length of the world's longest river, the Nile in Egypt. The Murray River, the Darling River, and their tributaries are among the few river systems in Australia that have year-round water flow.

The Murray River measures 2,520 kilometers (1,512 miles), flowing west and southwest, eventually emptying into Lake Alexandrina, a coastal lake south of Adelaide that opens into the Indian Ocean. The Murrumbidgee River, one of the Murray's tributaries, measures 1,575 kilometers (950 miles). Other tributaries include the Lacklan and Goulburn Rivers.

The Darling River, flowing from the junction of the Culgoa and Barwon Rivers in New South Wales, measures 1,390 kilometers (834 miles).

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# AUSTRALIA

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EPD/Cynthia Bassett

*The interior of Australia is made up of rocky desert. It is often called “the red center” because of its red sandstone rocks.*

The headwaters of the Darling River originate in the MacIntyre River, which forms part of the border between Queensland and New South Wales. The MacIntyre River eventually flows into the Barwon River, generally agreed to be the main source of the Darling River. The Barwon-MacIntyre section, sometimes called the Upper Darling River, measures 1,140 kilometers (700 miles).

## **8** 🌐 **DESERTS**

About 35 percent of the land area of Australia is categorized as desert because it receives so little rainfall. The Great Victoria Desert (Western Australia and South Australia) is the largest individual desert, covering about 4.5 percent of Australia’s total land area at approximately 348,750 square kilometers (134,618 square miles).

Other deserts, in descending order from largest to smallest, are: the Great Sandy Desert (Western Australia), representing 3.5 percent of Australia’s total land area, covering 267,250 square kilometers (130,160 square miles); the Tanami (or Tanamy) Desert (Western Australia and Northern Territory), representing 2.4 percent of Australia’s total land area, covering 184,500 square kilometers (71,220 square miles) just north of the MacDonnell Ranges; the Simpson Desert (Northern Territory, Queensland, and South Australia), representing 2.3 percent of Australia’s total land area, covering 176,500 square kilometers (68,130 square miles); the Gibson Desert (Western Australia), representing about 2 percent of Australia’s total land area, covering approximately 156,000 square kilometers (60,200



# AUSTRALIA

STATE/TERRITORY	DAM NAME	RESERVOIR NAME	CAPACITY (IN MILLIONS OF CUBIC METERS)	CAPACITY (IN MILLIONS OF CUBIC FEET)
Tasmania	Gordon	Lake Gordon	12,450	439,485
Western Australia	Ord River	Lake Argyle	5,797	204,634
New South Wales	Eucumbene	Lake Eucumbene	4,798	169,369
Victoria	Dartmouth	not named	4,000	141,200
Queensland	Burdekin Falls	Lake Dalrymple	1,860	65,658
Northern Territory	Darwin River	not named	259	9,140
Australian Capital Territory	Corin	not named	75.5	2,665
South Australia	Mount Bold	Mount Bold	45.9	1,620

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# AUSTRALIA

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EPD/National Archives of Australia

*Uluru, located in Australia's Western Plateau, is the world's largest monolith.*

The Western Plateau features several mountain ranges. At the far western edge lies the highest of these, the Hamersley Range, which includes a peak that exceeds 1,219 meters (4,000 feet). Extending to the eastern edge of the Western Plateau are the Macdonnell Range, the Musgrave Range, and the Petermann Range.

All three ranges run from east to west and are characterized by deep gorges. The Macdonnell and Musgrave Ranges have peaks that rise to almost 1,500 meters (4,900 feet). The Darling Range, named for Sir Ralph Darling, a former governor of New South Wales, lies in the extreme southwest corner of the country. Its highest peak is Mount Cooke (582 meters/1,920 feet).

## **11** 🌐 **CANYONS AND CAVES**

A network of caves punctuate the Nullarbor Plain. Among the best known are the Abrakurrie Cave and the Koonalda Caves, huge caves which are situated about 76 meters (250 feet) below ground.

Some of the most spectacular caverns are underwater along the coast. These attract scuba divers from around the world.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Forming the northern edge of the large Western Plateau, on the northwestern border of the state of Western Australia, lies the Kimberley Plateau, with elevations reaching over 900 meters (3,000 feet).

The western portion of the Western Plateau is generally a flat tableland, with dramatic

# AUSTRALIA

## DID YOU KNOW?

The Outback is a popular term that refers to the interior of the country, especially the dry center of the Western Plateau and the northern plains. Australians use the term “the bush” to refer to rural areas, especially wilderness.

Life in the Outback may be compared loosely to the rough cowboy lifestyle of the historic American West. “Outback” was first used to describe remote areas far away from civilization. Now, however, “Outback” refers to a broader picture—a place where men and women struggle to live and work in a challenging environment; “the bush” simply describes the geographical places located far from cities and towns.

outcroppings of granite or sandstone. The most well known of these is Uluru, the Aboriginal name for the location formerly known as Ayers Rock. Uluru is the world’s largest monolith—a large cylindrical stone outcropping—and is over 335 meters (1,100 feet) high.

In the southwest near the Darling Range, limestone pillars about the size of a person protrude from the surface of a flat, barren plain.

## 13 MAN-MADE FEATURES

Dams have been built to create water storage reservoirs in every state and territory.

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# Austria

- **Official name:** Republic of Austria
- **Area:** 83,858 square kilometers (32,378 square miles)
- **Highest point on mainland:** Grossglockner (3,798 meters/12,461 feet)
- **Lowest point on land:** Neusiedler See (115 meters/377 feet)
- **Hemispheres:** Eastern and Northern
- **Time zone:** 1 P.M. = noon GMT; has Daylight Savings Time
- **Longest distances:** 573 kilometers (356 miles) from east to west; 294 kilometers (183 miles) from north to south
- **Land boundaries:** 2,562 kilometers (1,592 miles) total boundary length; Czech Republic, 362 kilometers (225 miles); Germany, 784 kilometers (487 miles); Hungary, 366 kilometers (227 miles); Italy, 430 kilometers (267 miles); Liechtenstein, 35 kilometers (22 miles); Slovakia, 91 kilometers (57 miles); Slovenia, 330 kilometers (205 miles); Switzerland, 164 kilometers (102 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Centrally situated at the heart of central Europe and bordering eight different countries, Austria historically has been a political, economic, and cultural crossroads. For hundreds of years, the small, landlocked country (does not have access to the sea) was at the center of a great empire—the Hapsburg regime that ruled much of Europe until World War I (1914-18). Austria has an area of 83,858 square kilometers (32,378 square miles), or slightly less than the state of Maine.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Austria has no territories or dependencies.

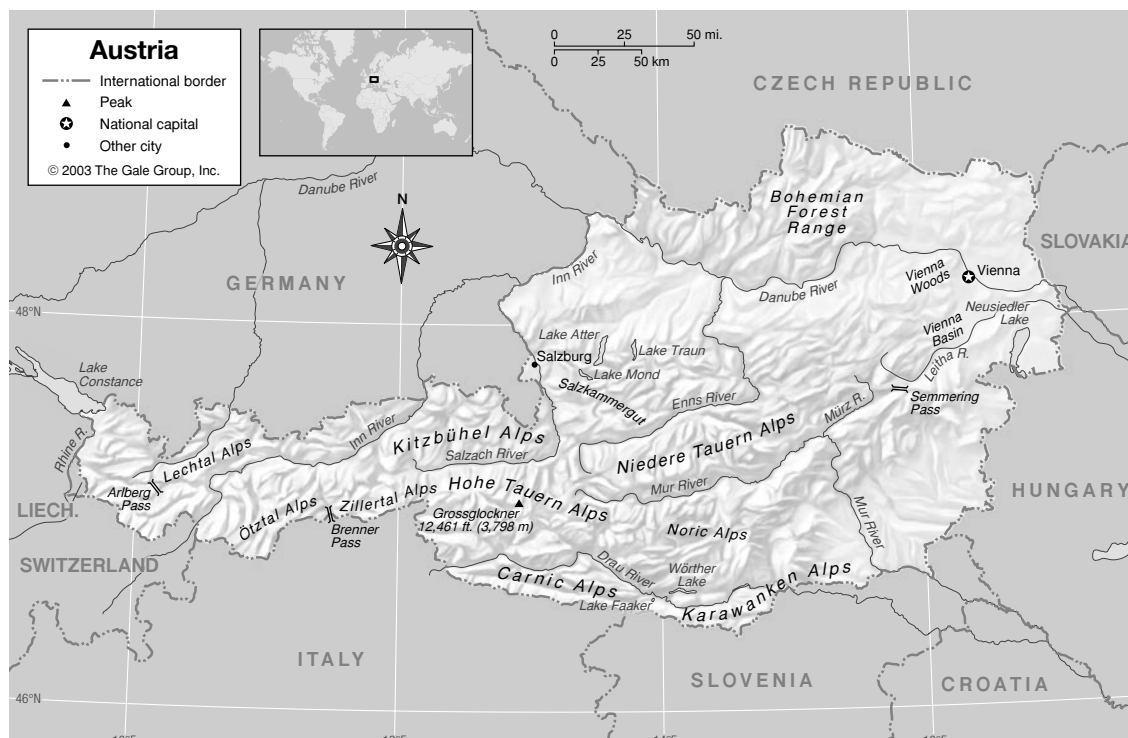
## 3 🌐 CLIMATE

Austria has a transitional climate, with Atlantic maritime (ocean) influences in the north, a continental climate in the east, and an Alpine climate in the south and southwest. The coldest temperatures in Vienna are experienced in

January and the warmest are in July. In the fall and spring, a warm, dry southern wind called the föhn moderates temperatures in the Alpine regions. It can also bring fog, and contributes to avalanches by causing snow to melt suddenly and fall from high elevations. Precipitation is heaviest in the mountains (as high as 102 centimeters or 40 inches annually) and lighter in the eastern plains (under 76 centimeters or 30 inches), especially east of the Neusiedler See. Average annual rainfall is 86 centimeters (34 inches) at Innsbruck in the mountainous Tyrol region, and 66 centimeters (26 inches) in Vienna.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	June to August	15°C to 25°C (59°F to 77°F)
Winter	November to March	4°C to 1°C (25°F to 34°F)

# AUSTRIA



## 4 TOPOGRAPHIC REGIONS

Austria's topography is dominated by the Alpine mountains (called the Alps) that extend eastward from Switzerland, covering the western two-thirds of the country. Austria's two other major regions are the Bohemian Highlands bordering the Czech Republic to the north, and the eastern lowlands, which include the Vienna Basin (lowland region), named for the capital city.

## 5 OCEANS AND SEAS

Austria is a landlocked nation.

## 6 INLAND LAKES

The many lakes in Austria's mountain valleys contribute to the country's scenic beauty. The largest lake that Austria does not share with another country is the Neusiedler See. It is over 32 kilometers (20 miles) long and about 8 kilometers (5 miles) wide. At the opposite end

of Austria, at its furthest northwestern tip, is a small part of Lake Constance (also known as the Bodensee), which lies along the course of the Rhine River, where Austria, Switzerland, and Germany meet. It is one of the largest lakes in Western Europe. There are well-known lake regions in the provinces of Salzburg, Upper Austria, and Styria. The Salzkammergut region near Salzburg includes a district that has about seventy lakes, of which the largest include the Attersee, the Mondsee, and the Traunsee. The southern province of Carinthia, which alone boasts a total of over twelve hundred lakes, is home to five of the most famous, known as the Five Sister Lakes (Fünf Schwesternseen). The Drava (Drau) River Valley, where Carinthia is located, is known for other picturesque lakes, including the Faakersee.

## 7 RIVERS AND WATERFALLS

Austria's principal river is the Danube (Donau), the second-longest river in Europe,

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# AUSTRIA

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EPD/Saxifraga/Jan Van der Straaten

*The landscape of Austria is mountainous.*

which originates in Germany and flows south-eastward to the Black Sea. The Danube flows eastward for 350 kilometers (217 miles) within Austria's borders, through the northern part of the country; Vienna, the Austrian capital, is situated on its banks. Three of Austria's other major rivers—the Inn, Salzach, and Enns—are tributaries of the Danube that flow eastward through the central part of the country. The major rivers in the southeast are the Mur and Mürz, in the industrial province of Styria. The Leitha flows northeast, draining the area from the Semmering Pass to the Hungarian border.

## **8** 🌐 **DESERTS**

Austria has no desert regions.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

East of the Alpine mountains is a region of low hills and level plains that forms part of the Hungarian Plain and constitutes Austria's lowland region. Even here, however, the land

is often hilly, with elevations averaging 150 to 400 meters (500 to 1,300 feet). The Vienna Basin in the north contains the most productive agricultural land in the country.

The Northern Alpine Forelands is a region of foothills and valleys that lies between Austria's northern Alpine ranges and the Danube River valley. There are also foothills at the southeastern edge of the Alpine system, leading to the plains region bordering Hungary. Other hilly regions include the Waldviertel (wooded quarter) and Mühlviertel (mill district), rugged forested areas near the borders with Germany and the Czech Republic.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

More than three-fourths of Austria is mountainous. The Alps spread across the western and southern parts of the country, dividing into three major groups as they fan out across the land. The northern Alps section extends

# AUSTRIA

across the northern portion of the provinces of Vorarlberg and Tyrol in the west. This range continues through central and southern Salzburg and Upper Austria provinces, reaching as far as the Vienna Woods in the east. Many of its peaks rise above 2,400 meters (8,000 feet). The central group of mountains is the largest and has the highest elevations. Many of its peaks—including the Grossglockner, the highest point in Austria—exceed 3,000 meters (10,000 feet). The major ranges of the central Alps include the Hohe Tauern and Niedere Tauern, and the Otztaler, Zillertaler, Lechtaler, and Kitzbühel Alps. Austria's southern Alps belong to a group of ranges that lies mostly in northern Italy. Within Austria, they occupy a relatively narrow strip in the southeast, along Austria's borders with Italy and Slovenia, within the province of Carinthia. They include the Karawanken mountain range.

## 11 CANYONS AND CAVES

Austria has several deep caves, including a cave near Salzburg that is 1,600 meters (5,100 feet) deep. The caves are not open to tourists.

## 12 PLATEAUS AND MONOLITHS

North of the Danube River and northwest of Vienna lie the granite and gneiss (granite-like) highlands of the Bohemian Massif, a plateau region that extends northward into the Czech Republic at elevations of up to 1,200 meters (4,000 feet). These highlands account for roughly one-tenth of Austria's total area.

## DID YOU KNOW?

**A**lthough the composer Johann Strauss Jr. immortalized the Danube River in his famous waltz entitled "On the Beautiful Blue Danube," the Danube River is not blue—its waters appear either greenish or brown.

## 13 MAN-MADE FEATURES

A bridge in Austria has the highest columns (184 meters / 607 feet) of any bridge in the world. The roads through the mountainous terrain of Austria travel through numerous long tunnels, some as long as 8 kilometers (5 miles).

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### Web Sites

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<http://www.Austria.org/> (accessed February 17, 2003).

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<http://www.lonelyplanet.com/destinations/europe/austria/> (accessed June 22, 2003).

# Azerbaijan

- **Official name:** Republic of Azerbaijan
- **Area:** 86,600 square kilometers (33,400 square miles)
- **Highest point on mainland:** Mount Bazardyuze (Bazarduzu Dagi) (4,485 meters /14,800 feet)
- **Lowest point on land:** The shore of the Caspian Sea (28 meters/92 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 4 P.M. = noon GMT
- **Longest distances:** Approximately 510 kilometers (320 miles) from east to west; 380 kilometers (240 miles) from north to south
- **Land boundaries:** 2,013 kilometers (1,251 miles) total boundary length; Armenia (with Azerbaijan proper) 566 kilometers (353 miles); Armenia (with Azerbaijan-Naxcivan exclave), 221 kilometers (137 miles); Georgia, 322 kilometers (200 miles); Iran (with Azerbaijan proper), 432 kilometers (268 miles); Iran (with Azerbaijan-Naxcivan exclave), 179 kilometers (111 miles); Russia, 284 kilometers (176 miles); Turkey (with Azerbaijan-Naxcivan exclave), 9 kilometers (6 miles)
- **Coastline:** 800 kilometers (500 miles) along the Caspian Sea
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Azerbaijan is located in southwestern Asia between Iran to the south and Russia to the north, with its eastern border along the Caspian Sea. With a total land area of 86,600 square kilometers (33,400 square miles), Azerbaijan is slightly smaller than the state of Maine. It is divided into fifty-nine rayons, eleven cities (administrative districts), and one autonomous republic.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Both Armenia and Azerbaijan claim the land in the Azerbaijan-Naxcivan exclave (territory not connected to the main land area of a country), surrounded by Iran on the southwest and Armenia on the northeast. Most of the exclave's residents are exclave Armenian, but the area is generally considered to be part

of Azerbaijan. The country also claims several small islands that lie in the Caspian Sea. As of 2002, the countries surrounding the Caspian Sea—Azerbaijan, Iran, Kazakhstan, Russia, and Turkmenistan—had not agreed on territorial limits and boundaries.

## 3 🌐 CLIMATE

In the central and eastern regions, the climate is generally dry and semiarid (little annual rainfall). In the southeast, it is humid and subtropical. Along the shores of the Caspian Sea it is temperate (moderate), while the higher mountain elevations are generally cold.

SEASON	MONTHS	AVERAGE TEMPERATURE IN THE CAPITAL, BAKU
Summer	June to August	25° C (77° F)
Winter	November to March	4° C (39° F)



# AZERBAIJAN



Most of Azerbaijan receives little rainfall—only 15 to 25 centimeters (6 to 10 inches) annually. The greatest precipitation falls in the highest elevations of the Caucasus Mountains, but significant rainfall also occurs in the Lankaran Lowlands of the extreme southeast. The yearly average in these areas can exceed 100 centimeters (39 inches). Drought (lack of rainfall) is a natural and frequent hazard, as is flooding in some lowland areas by rising levels of the Caspian Sea.

## 4 TOPOGRAPHIC REGIONS

Azerbaijan is the easternmost country of Transcaucasia (the southern portion of the Caucasus region between the Black and Caspian Seas). It lies within the southern part of the isthmus between the Black and Caspian Seas. About half of Azerbaijan is covered by mountain ranges, primarily the Great Caucasus Mountains. These mountains surround the central Kura-Aras Lowlands on three sides. The shoreline along the Caspian Sea is essentially flat. The rise in elevation, from lowlands

to highlands, occurs over a relatively small area. The Karabakh Uplands are in the west.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Azerbaijan has an 800-kilometer-long (500-mile-long) shoreline along the Caspian Sea. The Caspian Sea is a saltwater lake and the largest inland body of water in the world. The sea extends approximately 1,210 kilometers (750 miles) from north to south and between 210 and 436 kilometers (130 and 271 miles) from east to west. Its total area is 371,000 square kilometers (143,000 square miles). Its mean (average) depth is about 170 meters (550 feet).

Although connected to the Baltic Sea, the White Sea, and the Black Sea by extensive inland waterways (primarily the Volga River), the Caspian Sea has no natural outlet. Pollution from agricultural chemicals (especially pesticides), industry, and oil drilling has had a serious adverse impact on the Caspian Sea shoreline environment.

### Sea Inlets and Straits

The Bay of Baku is a natural harbor located in the wide curve on the southern side of the Apsheron Peninsula. The port city of Baku is the nation's capital.

### Islands and Archipelagos

The islands of the Baku archipelago are located just off of the southern shore of the Apsheron Peninsula and form the partial boundary of Baku Bay. The islands include Nargin, Zhiloy, Bulla, Svinoy, and Glinyany, all of which were formed by underwater mud volcanoes.

### Coastal Features

The Apsheron Peninsula juts out into the Caspian Sea. The northern shore of the peninsula boasts beautiful orchards and vineyards, with

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# AZERBAIJAN

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ARAMCO/Brynn Bruijn

*The natural harbor of the Port of Baku is part of Azerbaijan's capital city.*

land particularly suited for agriculture and cattle breeding. The oil and gas fields of this peninsula region are the most important natural resources of Azerbaijan.

## **6** 🌐 **INLAND LAKES**

There are more than 250 lakes in Azerbaijan; however, most of them are very small. Many of them were formed as a result of runoff water used in industry or agriculture. This is particularly true of those located along the Apsheron Peninsula. The Mingchevir Reservoir is the largest inland body of water totally within the borders of Azerbaijan. It is a man-made lake, formed by a dam built on the Kura River, and covers an area of 605 square kilometers (234 square miles). The largest natural lake is Lake Gadzhikabul, which only covers 16 square kilometers (6 square miles). Lake Goygol is another natural lake located on the northeastern slope of the Murovdag Range in the Caucasus Mountains.

## **7** 🌐 **RIVERS AND WATERFALLS**

There are more than 8,350 rivers in Azerbaijan's river system, but most of them are very small. Most of the country's rivers flow down from the Caucasus ranges into the central Kura-Aras Lowlands. The Kura River (1,500 kilometers / 940 miles) flows through Turkey, Georgia, and Azerbaijan and enters the Caspian Sea south of Baku. It is the longest river of the Transcaucasia Region. The Aras River, which is 914 kilometers (568 miles) long, flows from the east through Armenia and Azerbaijan until it joins the Kura River. Several canals connect the Kura to the Aras River.

## **8** 🌐 **DESERTS**

There are no desert regions in Azerbaijan.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The country's only flatlands can be found along the shore.

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# AZERBAIJAN

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The Kura-Aras Valley (lowlands) lies in the center of the country, between the mountain ranges and the Caspian Sea. It is primarily an area of wetlands that includes alluvial flatlands (flatlands containing deposits of clay, silt, sand, or gravel deposited by running water, such as a stream or river) and low seacoast deltas. Since the area is naturally arid, water is often supplied through irrigation. Mineral springs in the valleys are particularly high in iodine.

## 10 🌐 MOUNTAINS AND VOLCANOES

Azerbaijan is nearly surrounded by mountains. The Greater Caucasus range, with the country's highest elevations, lies to the northeast along the border with Russia. The country's highest peak, Mount Bazardyuze (Bazarduzu Dagi), rises 4,485 meters (14,800 feet) above sea level. The Greater Caucasus mountains extend into northeastern Azerbaijan and run southeast to the Apsheron Peninsula on the Caspian Sea. The Lesser Caucasus range, with elevations up to 3,500 meters (11,500 feet), lies to the west along the border with Armenia. The Talysh Mountains form part of the border with Iran at the southeast tip of the country. There are several hot and cold mineral springs located in these mountains. Kobustan Mountain, located near Baku, contains deep ravines, from which bubble mineral springs and very active mud volcanoes.

## 11 🌐 CANYONS AND CAVES

There are many small caves in the mountainous regions of the Caucasus. The most notable one in Azerbaijan is Azykh, located in the southern part of the Karabakh region, where archeologists have found a number of stone tools left by the ancient cave dwellers. Ancient artifacts also have been found in the Taglar, Damjly, and the Dashsalakhly Caves of the

western Kazakh region. The Gobustan Cave, located near Baku, and other caves located on the Apsheron Peninsula contain numerous petroglyphs (rock drawings) that have helped scientists learn about the customs and culture of the area's earliest inhabitants.

## 12 🌐 PLATEAUS AND MONOLITHS

A number of plateaus exist in Azerbaijan near the country's mountain regions. The major ones include the Baku and Guzdek. Several lava plateaus also form part of the Karabakh Uplands.

## 13 🌐 MAN-MADE FEATURES

A dam built in 1953 on the Kura River created the Mingchevir Reservoir. The Upper Karabakh Canal channels water from this reservoir to the Kura and Aras Lowlands to irrigate farmlands during the dry summer months. More than fifty additional water reservoirs in Azerbaijan have been designed for irrigation.

## 14 🌐 FURTHER READING

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# The Bahamas

- **Official name:** Commonwealth of the Bahamas
- **Area:** 13,940 square kilometers (5,382 square miles)
- **Highest point on mainland:** Mount Alvernia, Cat Island (63 meters/206 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 7 A.M. = noon GMT
- **Longest distances:** 950 kilometers (590 miles) from southeast to northwest; 298 kilometers (185 miles) from northeast to southwest
- **Land boundaries:** Bahamas is made up of islands.
- **Coastline:** 3,542 kilometers (2,201 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The Commonwealth of the Bahamas occupies an archipelago that straddles the Tropic of Cancer at the northwestern end of the West Indies (islands lying between southeastern North America and northern South America), about 80 kilometers (50 miles) off the southeast coast of Florida. The Bahamas have a land area of 13,940 square kilometers (5,382 square miles), spread out over approximately 233,000 square kilometers (90,000 square miles) of water in the southwestern portion of the North Atlantic Ocean.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The Bahamas claims no territories or dependencies.

## 3 🌐 CLIMATE

The Bahamas have a subtropical marine climate moderated by warm breezes from the Gulf Stream (a warm current flowing north from the Gulf of Mexico along eastern North America) and the Atlantic Ocean. Rainfall averages 127 centimeters (50 inches) annually, with some variation among the different

islands. Occasional hurricanes occur between mid-July and mid-November. Hurricanes can cause major damage from winds and flooding.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	May–November	27°C (81°F)
Winter	December–April	23°C (73°F)

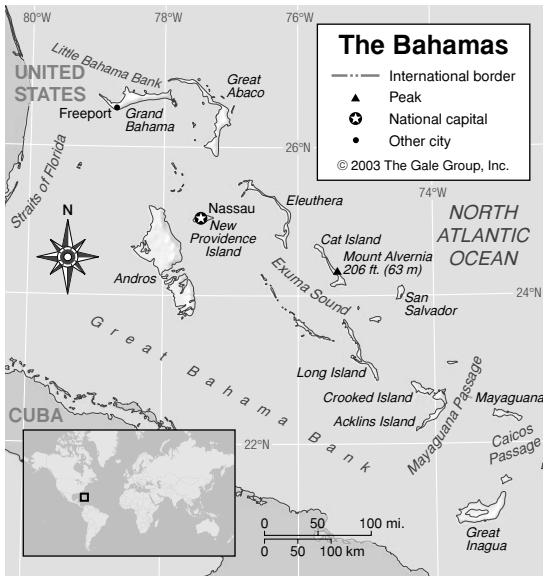
## 4 🌐 TOPOGRAPHIC REGIONS

The Bahamas encompass roughly seven hundred islands, as well as some two thousand rock formations, islets, and cays (pronounced keys, or low-lying islands). Nassau, the capital of the Bahamas, is located on New Providence Island, which occupies a central position in the archipelago (island chain) and is the most densely populated. Collectively, the rest of the inhabited Bahamas islands are known as the Family Islands. Most of these land masses are long, narrow, and fringed by coral reefs.

## 5 🌐 OCEANS AND SEAS

The Bahamas are spread over approximately 233,000 square kilometers (90,000 square

# THE BAHAMAS



miles ) of water in the southwestern portion of the North Atlantic Ocean, between the Atlantic and the Caribbean Sea.

## Seacoast and Undersea Features

The numerous coral reefs on the shorelines of the Bahamas combine with iron compounds to produce rare and beautiful colors in the shallow seas surrounding the islands. The Pelican Cay National Park, an underwater nature preserve, is found on Abaco Island.

## Sea Inlets and Straits

Numerous inlets and straits separate the islands of the Bahamas from each other and from neighboring islands and archipelagos. Sea passages that lie between islands of the Bahamas include the Northeast and Northwest Providence Channels, Exuma Sound (which lies roughly at the center of the Bahamas), Crooked Island Passage, and Mayaguana Passage. The Caicos Passage separates the Bahamas from the Turks and Caicos islands to the southeast, and the Old Bahama Channel separates Great Bahama Bank from Cuba to

the south. To the west, the Straits of Florida lie between the Bahamas and Florida.

## Islands and Archipelagos

The most important island is New Providence, home to the capital city of Nassau. It has an area of 13,939 square kilometers (5,382 square miles). Andros, at 10,688 square kilometers (4,160 square miles) is the largest island; other inhabited islands include Great Abaco, Eleuthera, Grand Bahama, Cat Island, San Salvador, Long Island, Great Exuma, Crooked Island, Acklin Island, Mayaguana, Bimini (just 77 kilometers/48 miles from Florida), and Great Inagua. On Great Inagua, reptiles, wild boar, and other wildlife roam freely.

## Coastal Features

The eastern shore is generally the lowest point on the islands. Some of the islands (especially the long narrow ones in the middle section of the archipelago) have smooth coastlines, while others have numerous indentations, including peninsulas and lagoons. Coastal wetlands and mangrove swamps are common throughout the archipelago.

## 6 🌐 INLAND LAKES

There are a few small lakes and ponds on the islands of the Bahamas.

## 7 🌐 RIVERS AND WATERFALLS

None of the islands of the Bahamas is large enough to support significant rivers or lakes, although there are many small streams.

## 8 🌐 DESERTS

The Bahamas has no desert areas.

## 9 🌐 FLAT AND ROLLING TERRAIN

The terrain of the Bahamas is mostly flat and low, rising only a few feet above sea level in most places.

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# THE BAHAMAS

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EPD/Cory Langley

*The waters surrounding The Bahamas are generally calm and clear.*

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no true mountains in the archipelago, and only a few hills. The tallest point is the limestone-cliff-sided Mount Alvernia on Cat Island (63 meters /206 feet), which once hosted a monastery on its summit.

## 11 🌐 CANYONS AND CAVES

There are a number of caves on the islands, some of which were used as refuges for earlier settlers. On Eleuthera, there is a cave that extends for more than 1.6 kilometers (1 mile) and contains impressive stalagmites and stalactites.

## 12 🌐 PLATEAUS AND MONOLITHS

The Bahamas has no plateaus.

## 13 🌐 MAN-MADE FEATURES

There are a number of bridges connecting the islands of the Bahamas. Paradise Island Bridge connects New Providence Island (Nassau) to

Paradise Island. A bridge joins the Eleuthera mainland to Windemere Island. The Dam Bridge connects Alexander, Exuma, Brigantine Cay, and Barreterra.

## 14 🌐 FURTHER READING

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# Bahrain

- **Official name:** State of Bahrain
- **Area:** 620 square kilometers (239 square miles)
- **Highest point on mainland:** Ad-Dukhān Hill (134 meters /440 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** Archipelago extends 19 kilometers (12 miles) from east to west; 48 kilometers (30 miles) from north to south.
- **Land boundaries:** No international boundaries
- **Coastline:** 126 kilometers (78 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Bahrain is a Middle Eastern (southwestern Asia and northern Africa) country consisting of thirty-three islands, six of which are inhabited. The country's position in an inlet of the Persian Gulf has given it a regional importance as a trade and transportation center. With an area of 620 square kilometers (239 square miles), Bahrain is more than three times as large as Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Bahrain claims no territories or dependencies.

## 3 🌐 CLIMATE

Summers are very hot and humid with southwest winds raising dust storms and drought conditions. Winters are mild, cool, and pleasant. Prevailing southwest winds contribute to dust storms and occasional drought. Rainfall averages less than 10 centimeters (4 inches) annually and occurs primarily from December to March.

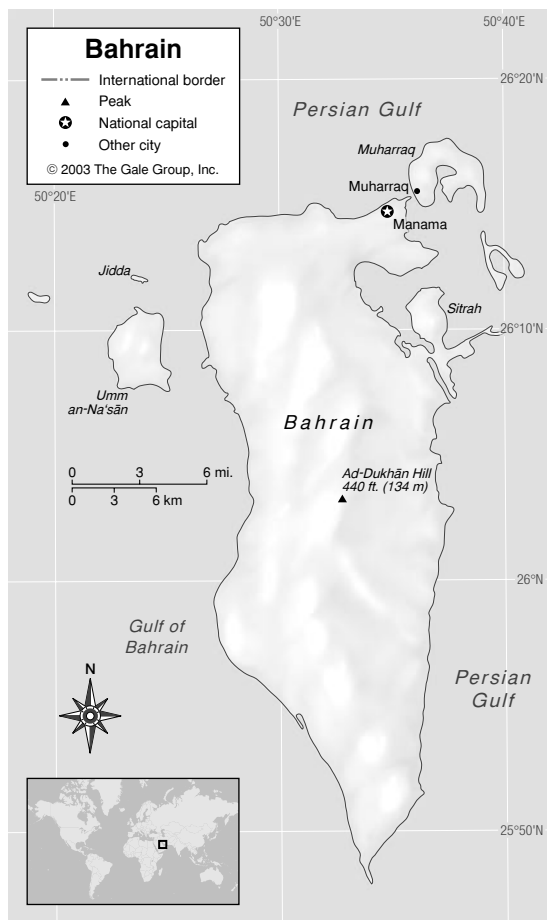
SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	May to September	29 to 37°C (84 to 99° F)
Winter	December to March	14 to 20°C (57 to 68°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Low rolling hills, rocky cliffs, and wadis (dry river or stream beds) comprise the majority of this barren land, although a narrow strip of land along the north coast of the island of Bahrain is irrigated by natural springs and artesian wells (water that flows to the surface without pumping). As of 2002, increasing demands on the natural water resources had begun to deplete them, and some of the lush date palms and other vegetation had begun to decline.

Most of the lesser islands are flat and sandy, although date groves cover the island of Nabih Salih. Bahrain also encompasses the Hawār Islands, off the coast of Qatar.

# BAHRAIN



## 5 🌐 OCEANS AND SEAS

Bahrain is located in the Persian Gulf, which is connected to the Arabian Sea by the Strait of Hormuz and the Gulf of Oman.

## Seacoast and Undersea Features

Oil spills and other environmental hazards have damaged Bahrain's coastline and beaches.

## Sea Inlets and Straits

Within the Persian Gulf, Bahrain occupies an inlet called the Gulf of Bahrain.

## Islands and Archipelagos

The six major islands in the archipelago are Bahrain (the largest); Al Muharraq; Sitrah;

Umm an-Na'sān; Nabih Salih; and Jidda. At low tide, extensive mud flats along the east coast of Al Muharraq attract wading birds.

In 2001, the International Court of Justice awarded the Hawār Islands, long disputed with Qatar, to Bahrain. The remaining islands are little more than exposed rock and sandbar.

## Coastal Features

Damage to coral reefs and sea vegetation from oil spills and other petroleum-related discharges has adversely affected Bahrain's coastline and beaches.

## 6 🌐 INLAND LAKES

Bahrain has no notable lakes.

## 7 🌐 RIVERS AND WATERFALLS

Comprised of mostly barren land, Bahrain has little fresh water, and no rivers. There are 10 square kilometers (about 6.2 square miles) of land on the main island of Bahrain that are irrigated by natural springs and artesian wells.

## 8 🌐 DESERTS

Bahrain is primarily desert. Only desert vegetation can survive on the sand-covered limestone rock that makes up most of the country's terrain.

## 9 🌐 FLAT AND ROLLING TERRAIN

On the main island of Bahrain, the land gradually rises from the shoreline to the center, where rocky cliffs surround a basin. Near the center of this basin is the country's highest elevation, Ad-Dukhān Hill, which rises only 134 meters (440 feet) above sea level.

## 10 🌐 MOUNTAINS AND VOLCANOES

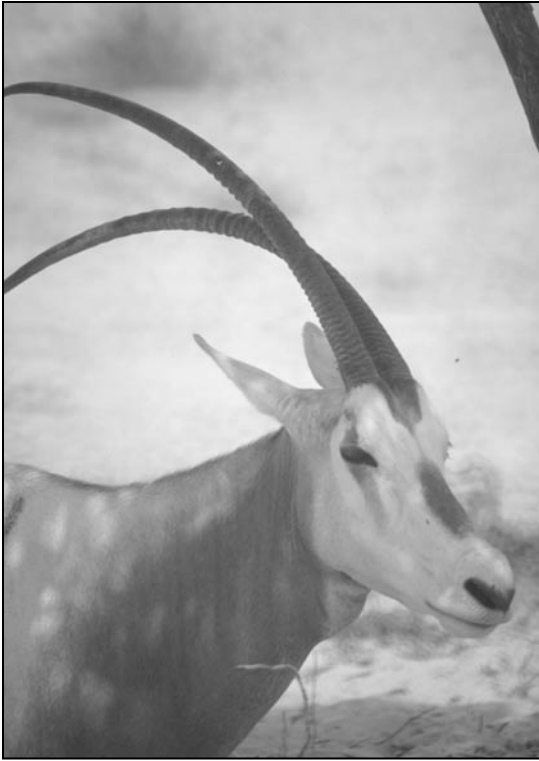
Bahrain has no mountains or volcanoes.



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# BAHRAIN

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ARAMCO/Burnett H. Moody

*The scimitar-horned oryx once faced extinction, but now thrives in the protected environment of Bahrain's Al Areen wildlife park.*

## **11** 🌐 **CANYONS AND CAVES**

Bahrain has no canyons or caves.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Bahrain has no plateaus.

## **13** 🌐 **MAN-MADE FEATURES**

Several bridges connect the island of Bahrain to the other major islands in the archipelago; the King Fahd Causeway links the island to Saudi Arabia. In 2002, plans were underway to construct a 45-kilometer (28-mile) bridge connecting Qatar to Bahrain.

## **14** 🌐 **FURTHER READING**

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Bahrain Tourism website. <http://www.bahraintourism.com/subpage1.htm> (accessed July 19, 2003).

# Bangladesh

- **Official name:** People's Republic of Bangladesh
- **Area:** 143,998 square kilometers (55,598 square miles)
- **Highest point on mainland:** Reng Mountain (Keokradong) (1230 meters / 4,034 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 6 P.M. = noon GMT
- **Longest distances:** 767 kilometers (477 miles) from south-southeast to north-northwest; 429 kilometers (267 miles) from east-northeast to west-southwest
- **Land boundaries:** 4,246 kilometers (2,638 miles) total boundary length; India, 4,053 kilometers (2,518 miles); Myanmar, 193 kilometers (120 miles)
- **Coastline:** 574 kilometers (357 miles) on the Bay of Bengal of the Indian Ocean
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Bangladesh is located in southern Asia between Myanmar and India, along the Bay of Bengal. With a total area of 143,998 square kilometers (55,598 square miles), the country is slightly smaller than the state of Wisconsin.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Bangladesh has no territories or dependencies.

## 3 🌐 CLIMATE

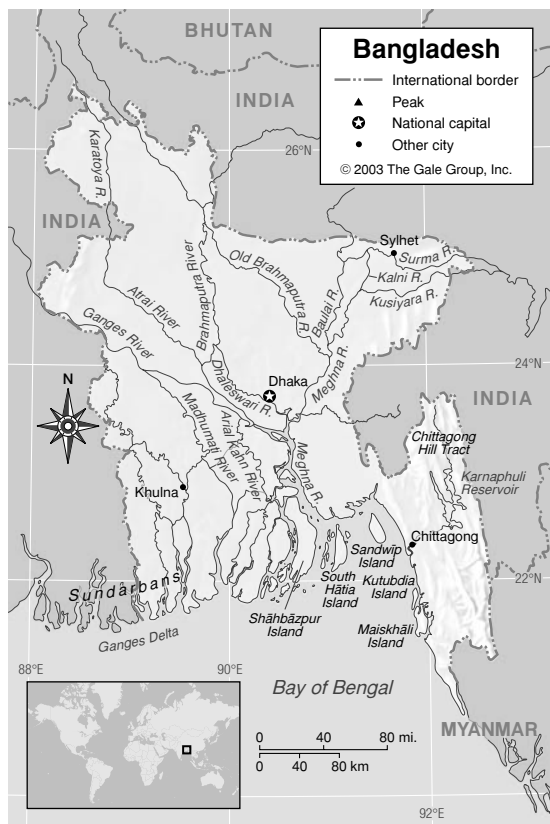
The climate of Bangladesh is generally tropical with three seasons. The humidity ranges from 90 percent to almost 100 percent during the monsoon season. Bangladesh receives a heavy average annual rainfall of approximately 119 to 145 centimeters (47 to 57 inches). About 80 percent of Bangladesh's rain falls during the monsoon season. Parts of Bangladesh are also subject to severe seasonal flooding, cyclones, tidal bores, tornadoes, hailstorms, and moderate earthquakes.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	March to May	29 to 37°C (84 to 99° F)
Monsoon	June to October	31°C (88°F)
Winter	October to March	5°C to 22°C (41°F to 72°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Most of Bangladesh is situated on river deltas. The Chittagong coastal region to the southeast has a narrow attachment to the bulk of the country. Small hill regions in the northeast and southeast are the only variations of the land's flat alluvial plains (flatlands containing deposits of clay, silt, sand, or gravel deposited by running water, such as a stream or river). Since 90 percent of Bangladesh is only about 10 meters (33 feet) above sea level, there is concern that permanent flooding will occur if the Indian Ocean rises as predicted due to global warming.

# BANGLADESH



## DID YOU KNOW?

A tidal bore is a unique wave that sweeps up a shallow river or estuary (place where a river joins a larger body of water) on the incoming tide but against the river's current. Conditions are right for tidal bores to occur only in a few places in the world — and one of these is Bangladesh.

south lie Kutubdia and Maikhail islands. In the Padma-Meghna estuary triangle there are a number of permanent islands, including many that surface only at low tide. There are also temporary “chars,” land forms built up by silting that may either become permanent or erode.

### Coastal Features

Rivers and streams fragment Bangladesh's coastline in the delta region (an area, usually triangular in shape, where rivers deposit soil). In contrast, in the southeast Chittagong region, the coastline includes an uninterrupted stretch of sand at Cox's Bazar that is about 120 kilometers (75 miles) long.

The section of the Kulna delta that covers the coastline area from the western border to the Padma-Meghna estuary is called the Sundarbans. This is a forested, tidal-flushed, salt marsh region; so much of it is shifting, low, and swampy that humans cannot live there.

### 6 🌐 INLAND LAKES

The largest lake, Kaptai Lake, is artificial. (Kaptai Lake is also known as the Karnaphuli Reservoir.) It covers an area of 253 square miles (655 square kilometers) in the Chittagong Hill Tracts. Much smaller lakes, called “mils” or “haors,” are formed within the network of rivers that wind across Bangladesh's plains. The

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Bangladesh coastline lies at the apex (top) of the Bay of Bengal, an inlet of the Indian Ocean. Sri Lanka and India border the bay on the west, Bangladesh forms its north shore, and Myanmar and Thailand surround it on the east. The bay covers an area that is about 2,090 kilometers (1,300 miles) long and 1,610 kilometers (1,000 miles) wide. The ocean often threatens catastrophe for Bangladesh in the form of cyclones and tidal bores.

### Islands and Archipelagos

Several flat islands lie just offshore in the Bay of Bengal; many are inhabited by fishing communities. The largest of the permanent islands are Shāhbāzpur, North Hātia, South Hātia, and Sandwīp. Along the Chittagong coast in the

# BANGLADESH

## DID YOU KNOW?

Most people travel from place to place in Bangladesh by river boat. Ferries are available for tourists and others who wish to travel longer distances. One of the best-known ferries is a paddlewheel steamboat, called the "Rocket," that runs between the capital, Dhaka, and Kulna in the west.

large number of these lakes in the Meghna and Surma river plains causes frequent flooding in this area.

## 7 RIVERS AND WATERFALLS

The longest river in Bangladesh is the Brahmaputra River, also commonly known as the Jamuna River once it enters Bangladesh. It starts in the Himalaya Mountains and flows through Tibet in China and India before reaching the northern border of Bangladesh. It has a total length of 2,900 kilometers (1,700 miles). The section that runs through Bangladesh, however, is only 337 kilometers (209 miles) long. The Ganges River, called the Padma River in Bangladesh, enters from the northwest border with India. Branches of the Barak River—the Surma and the Kusiara—enter the country from the northeast border. They meet to form the Kalni River, which soon widens into the Meghna River. The Brahmaputra-Jamuna, the Ganges-Padma, and the Meghna all intersect with one another before heading toward the Bay of Bengal.

The rivers deposit rich soil through the country and provide fish and transportation for the people of Bangladesh. The rivers also cause hardship due to seasonal flooding and erosion.

The rivers often silt up (become filled with soil) to form marshlands (soft, wet areas). Two-thirds of the Kulna Division in the west is marsh and mangrove forest (a tidal wetland with low-growing trees and a salt bog).

The Rajshahi Division, a triangle of land between the Padma and Jamuna Rivers, is a wetland region, also called the "paradelta" by geographers. It is cut by many old river courses as well as by newer, active rivers. Similar to the rest of the country, this area is subject to disastrous flooding.

## 8 DESERTS

There are no deserts in Bangladesh.

## 9 FLAT AND ROLLING TERRAIN

Only 5 percent of the land in Bangladesh is considered to be permanent pasture. Seventy-three percent of the land is arable (land that is naturally suitable for cultivation by plowing and is used for growing crops).

Clearing land for agricultural uses, logging, and firewood has caused large-scale deforestation. Less than 8 percent of Bangladesh is forested. Small pockets of rainforest still exist in the eastern regions, however.

Bangladesh's significant hill regions are the Chittagong and Bandarban Hill Tracts, which are a series of ridges along the Myanmar frontier. The countryside north and east of the town of Sylhet features sedimentary hills, some of which exceed 90 meters (300 feet) in elevation. Also in the Sylhet District are six hill ranges connecting to the Tripura Hills of India. In these ranges, the maximum elevation is about 335 meters (1,100 feet).

## 10 MOUNTAINS AND VOLCANOES

The country's highest peak is Reng Mountain, also known as Keokradong. It has an elevation of 1,230 meters (4,034 feet) and is located near the intersection of Myanmar, India, and Bangladesh.

# BANGLADESH



ARAMCO/Kevin Bubriski

*Rivers in Bangladesh often become marshy as their waters carry large quantities of soil.*

## 11 🌐 CANYONS AND CAVES

There are no significant canyons or caves in Bangladesh.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no significant plateaus or monoliths in Bangladesh.

## 13 🌐 MAN-MADE FEATURES

The Karnaphuli Reservoir, also known as Kapti Lake, is located in the Chittagong Hill Tracts. A dam built along the Karnaphuli River in 1963 to generate hydroelectric power formed this man-made lake.

## 14 🌐 FURTHER READING

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Lauré, J. *Bangladesh*. Chicago: Children's Press, 1992.

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### Periodicals

Cobb, Charles E. Jr. "Bangladesh: When the Water Comes." *National Geographic*, June 1993, 118-34.

### Web Sites

USAID Bangladesh. USAID Bangladesh, Making a Difference. <http://www.usaid.gov/bd> (accessed February 22, 2003).

Virtual Bangladesh. Welcome to Bangladesh. <http://www.virtualbangladesh.com> (accessed February 22, 2003).

# Barbados

- **Official name:** Barbados
- **Area:** 430 square kilometers (166 square miles)
- **Highest point on mainland:** Mount Hillaby (336 meters / 1,102 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 23 kilometers (14 miles) from east to west; 34 kilometers (21 miles) from north to south
- **Land boundaries:** None
- **Coastline:** 97 kilometers (60 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The second-smallest independent country in the Western Hemisphere and the easternmost Caribbean island, Barbados lies between the Caribbean Sea and the North Atlantic Ocean. It is located roughly 320 kilometers (200 miles) north-northeast of Trinidad and Tobago. It has an area of 430 square kilometers (166 square miles), or nearly two-and-one-half times the size of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Barbados claims no territories or dependencies.

## 3 🌐 CLIMATE

The northeasterly trade winds that blow across Barbados's Atlantic coast moderate the island's tropical maritime climate. The weather is cool and dry in winter, and hotter and humid during the rainy season. Rainfall is heaviest between June and December but occurs throughout the year. Average annual precipitation varies from about 100 centimeters (40 inches) in coastal areas to 230 centimeters (90 inches) at higher elevations.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Rainy	June to December	23 to 30°C (73 to 86°F)
Winter	December to May	21 to 28°C (70 to 82°F)

## 4 🌐 TOPOGRAPHIC REGIONS

A series of terraces rises from the western coast to a central ridge, culminating in Mount Hillaby in the north-central part of the island. Hackleton's Cliff, at the eastern edge of the island's central plateau, extends over several miles. South and east of this elevated area is the smaller Christ Church Ridge. The St. George Valley separates Hackleton's Cliff from Christ Church Ridge.

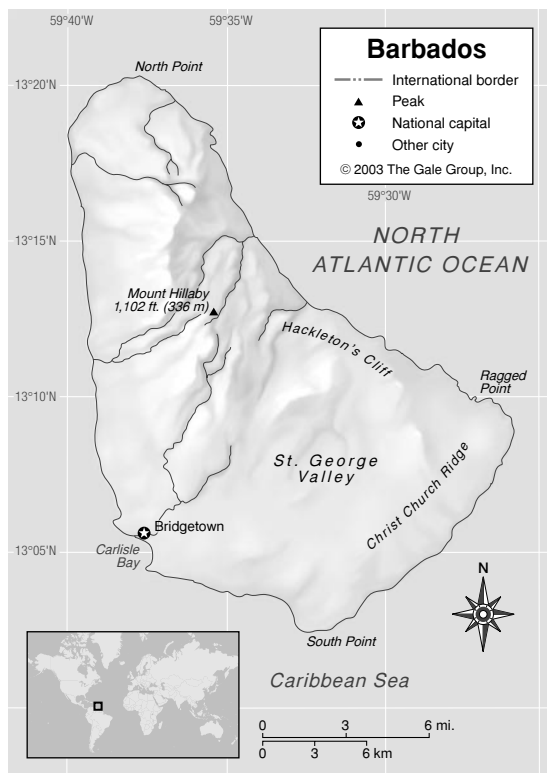
## 5 🌐 OCEANS AND SEAS

The western coast of Barbados borders the Caribbean Sea, and its eastern coast borders the North Atlantic Ocean.

### Seacoast and Undersea Features

The low-lying island is almost totally ringed with undersea coral reefs.

# BARBADOS



## Sea Inlets and Straits

Barbados has no notable sea inlets or straits.

## Islands and Archipelagos

Barbados consists of one island.

## Coastal Features

Flat land and wide strips of sandy beach ring the coast. At the eastern end of the island, flat rocks at Ragged Point form a low, jagged rim to the ocean. The port city of Bridgetown is located on Barbados's only natural harbor, Carlisle Bay, at the southwestern end of the island. The southern and northern ends of the island are known as South Point and North Point, respectively.

## 6 🌐 INLAND LAKES

Barbados has no inland lakes.

## 7 🌐 RIVERS AND WATERFALLS

Barbados has no rivers and little surface water of any kind. A few springs are fed by underground water stored in limestone beds, and some ravines may become temporarily filled by heavy rains. The best known of Barbados's underground water channels is Cole's Cave in the middle of the island. Two dry streams known as Indian River and Joes River are of no use for either fishing or navigation.

## 8 🌐 DESERTS

Barbados has no deserts.

## 9 🌐 FLAT AND ROLLING TERRAIN

Other than the terraces that rise from the western coast to the center of the island, Barbados is mostly flat.

## 10 🌐 MOUNTAINS AND VOLCANOES

The highest point, Mount Hillaby (336 meters / 1,102 feet), rises in the north-central part of the island. At 305 meters (1,000 feet), Hackleton's Cliff is the next-highest point. Numerous inland cliffs were created by past seismic activity.

## 11 🌐 CANYONS AND CAVES

Harrison's Cave, near the center of the island, is a large underground cave with stalactites and stalagmites. Streams flow through the cave, spilling over rock formations to form

## DID YOU KNOW?

**B**arbados was once two separate islands. A shallow sea, at the site of the present-day St. George Valley, divided the large ridge of Mount Hillaby from the smaller Christ Church Ridge to the south.

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# BARBADOS

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EPD/©Stephen Mendes

*Along the northeast coast of Barbados, the sea has carved the sandstone into interesting formations.*

waterfalls which feed into deep pools of emerald-green water.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

There are no notable plateaus on Barbados.

## **13** 🌐 **MAN-MADE FEATURES**

As of 2002, the port of Bridgetown was being dredged to allow large cruise ships to dock. As part of this process, the Barbados Marine Trust was transplanting coral from the harbor to other coastline areas. Another aspect of their coral reef preservation activity was the installation of concrete balls, called reef balls, to support and sustain the growth of the coral.

## **14** 🌐 **FURTHER READING**

### **Books**

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Spark, Debra. *The Ghost of Bridgetown*. Saint Paul, MN: Graywolf Press, 2001.

Stow, Lee Karen. *Essential Barbados*. Lincolnwood, IL: Passport Books, 2001.

### **Web Sites**

*Barbados Daily Nation*. <http://www.nationnews.com> (accessed February 18, 2003).

Barbados Marine Trust. <http://www.barbadosmarinetrust.com/index.htm> (accessed June 17, 2003).



# Belarus

- **Official name:** Republic of Belarus
- **Area:** 207,600 square kilometers (80,154 square miles)
- **Highest point on mainland:** Dzerzhinskaya Mountain (346 meters / 1,135 feet)
- **Lowest point on land:** Neman River (90 meters / 295 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 640 kilometers (400 miles) from southwest to northeast; 490 kilometers (310 miles) from north to south
- **Land boundaries:** 3,098 kilometers (1,925 miles) total boundary length; Latvia, 141 kilometers (88 miles); Lithuania, 502 kilometers (312 miles); Poland, 605 kilometers (376 miles); Russia, 959 kilometers (596 miles); Ukraine, 891 kilometers (554 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

The Republic of Belarus is a landlocked country (does not have access to the sea) in east-central Europe, about 260 kilometers (161 miles) southeast of the Baltic Sea coastline. With a total area of 207,600 square kilometers (80,154 square miles), it is slightly smaller than the state of Texas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Belarus claims no territories or dependencies.

## 3 🌐 CLIMATE

The Belarusian climate is considered transitional between continental and maritime. Cool temperatures and high humidity predominate, with a moderating influence from the nearby Baltic Sea. Winter temperatures at times have dropped below  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) in the north. Summer lasts up to 150 days, while winter ranges from 105 to 145 days. Precipitation ranges between 57 and

61 centimeters (22.5 and 26.5 inches) in an average year; the central region generally receives the highest amount. The popular claim in Belarus that it either rains or snows every two days is fairly accurate.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	May to August	19°C (67°F)
Winter	December to March	-5°C (23°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Although its topography is chiefly flat to hilly, Belarus does have five distinct geographic regions. In the north is the Polotsk Lowland, an area of lakes, hills, and forests. The Neman Lowland in the northwest is similar. The Belorussian Ridge and smaller uplands separate these lowlands from each other and from the rest of the country. Plains and grasslands lie in the east and central part of the country.

# BELARUS



The Polesye Marshes dominate the south region, a vast swampy area that extends into Ukraine. Belarus has no natural geographic borders.

## 5 🌐 OCEANS AND SEAS

Belarus is landlocked and has no coast.

## 6 🌐 INLAND LAKES

Belarus has over four thousand lakes. Lakes Drisvyaty and Osveyskoye are near the northern border. The largest is Lake Naroch (Narach), covering 80 square kilometers (50 square miles) in the northwest.

## 7 🌐 RIVERS AND WATERFALLS

At 2,290 kilometers (1,420 miles), the Dnieper is the longest river in Belarus. It is the third-longest river in Europe; only the Volga and Danube Rivers are longer. Its main tributaries are the Berezina in the central region and the Pripyat in the south. The Pripyat and its tributaries are surrounded by the Polesye (or Pripyat) Marshes. The Bug River flows

north along part of the border with Poland. The major rivers in the north of the country are the Western Dvina and the Neman Rivers.

## 8 🌐 DESERTS

Belarus has no desert area.

## 9 🌐 FLAT AND ROLLING TERRAIN

Aside from the highland of the Belorussian Ridge, most of the country is relatively flat (average elevation 162 meters/100 feet) and well watered. About 25 percent of Belarus is covered in peat bogs and marshes. The Polesye Marshes are poorly drained lowlands around the Pripyat River, with low hills that dominate the southern part of Belarus and northern Ukraine. Roughly 485 kilometers (300 miles) across from east to west and 225 kilometers (140 miles) from north to south, they represent the largest wetland in Europe.

Near the border with Poland, the Belavezhskaja Pushcha Nature Reserve protects the largest area of ancient forest in Europe, home to a free-ranging herd of European bison. There are large stands of birch trees across the country.

## 10 🌐 MOUNTAINS AND VOLCANOES

Although its terrain is generally level, the Belorussian Ridge, a region of highlands,

### DID YOU KNOW?

Roughly 23 percent of Belarus's territory was contaminated by radioactivity when a reactor at the Chernobyl nuclear power station in neighboring Ukraine exploded on April 26, 1986. The area affected was home to more than two million people.

# BELARUS



EPD/Saxifraga/Jan van der Straaten

*The Pripjat River in Belarus is bordered by marshland.*

runs across the center of the country from the southwest to the northeast. The highest elevation is Dzerzhinskaya Mountain (Dzyarzhynskaya Hara; 346 meters/1,135 feet).

## 11 CANYONS AND CAVES

Belarus has no notable canyons or caves.

## 12 PLATEAUS AND MONOLITHS

There are no notable plateaus on Belarus.

## 13 MAN-MADE FEATURES

The Dnieper-Bug Canal connects the Bug River to the Pripjat-Dnieper system. Canals also link both the Western Dvina and the Ne-man with the Dnieper, helping to make it one of the main waterways linking the Black and the Baltic Seas.

## 14 FURTHER READING

### Books

Zaprudnik, Jan. *Belarus: At a Crossroads in History*. Boulder, CO: Westview Press, 1993.

### Periodicals

Glover, Jeffrey. "Outlook for Belarus." *Review and Outlook for the Former Soviet Union*. Washington: PlanEcon, August 1995, pp. 89-104.

"In the Slav Shadowlands." *Economist*, 335, no. 7915, May 20, 1995, pp. 47-49.

### Web Sites

Interesting WWW Sites in and around Belarus. <http://www.ac.by/country/> (accessed May 2, 2003).

Virtual Guide to Belarus. <http://www.belarusguide.com/main/index.html> (accessed May 2, 2003).

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### Web Sites

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Virtual Guide to Belarus. <http://www.belarusguide.com/main/index.html> (accessed May 2, 2003).

# Belgium

- **Official name:** Kingdom of Belgium
- **Area:** 30,510 square kilometers (11,780 square miles)
- **Highest point on mainland:** Mount Botrange (694 meters/2,277 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 280 kilometers (174 miles) from southeast to northwest; 222 kilometers (137 miles) from northeast to southwest
- **Land boundaries:** 1,451 kilometers (902 miles) total boundary length; France, 620 kilometers (385 miles); Germany, 167 kilometers (104 miles); Luxembourg, 148 kilometers (92 miles); Netherlands, 450 kilometers (280 miles)
- **Coastline:** 66 kilometers (41 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Belgium is one of Europe's smallest and most densely populated countries. It is located in a part of northwestern Europe that was once called the Low Countries and today is known as the Benelux region (primarily due to Belgium's economic partnership with its neighbors Luxembourg and the Netherlands). Centrally located in Western Europe with few natural frontiers, Belgium has been called the crossroads of Europe. For much of its history, it was a battleground for the major European powers of France, Britain, and Germany. Today, its capital, Brussels, is the seat of both NATO and the European Union.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Belgium has no territories or dependencies.

## 3 🌐 CLIMATE

Belgium has a temperate maritime climate with moderate temperatures in both summer and winter.

The mean temperature in Brussels ranges from 2.2°C (36°F) in January to 18°C (64°F) in July.

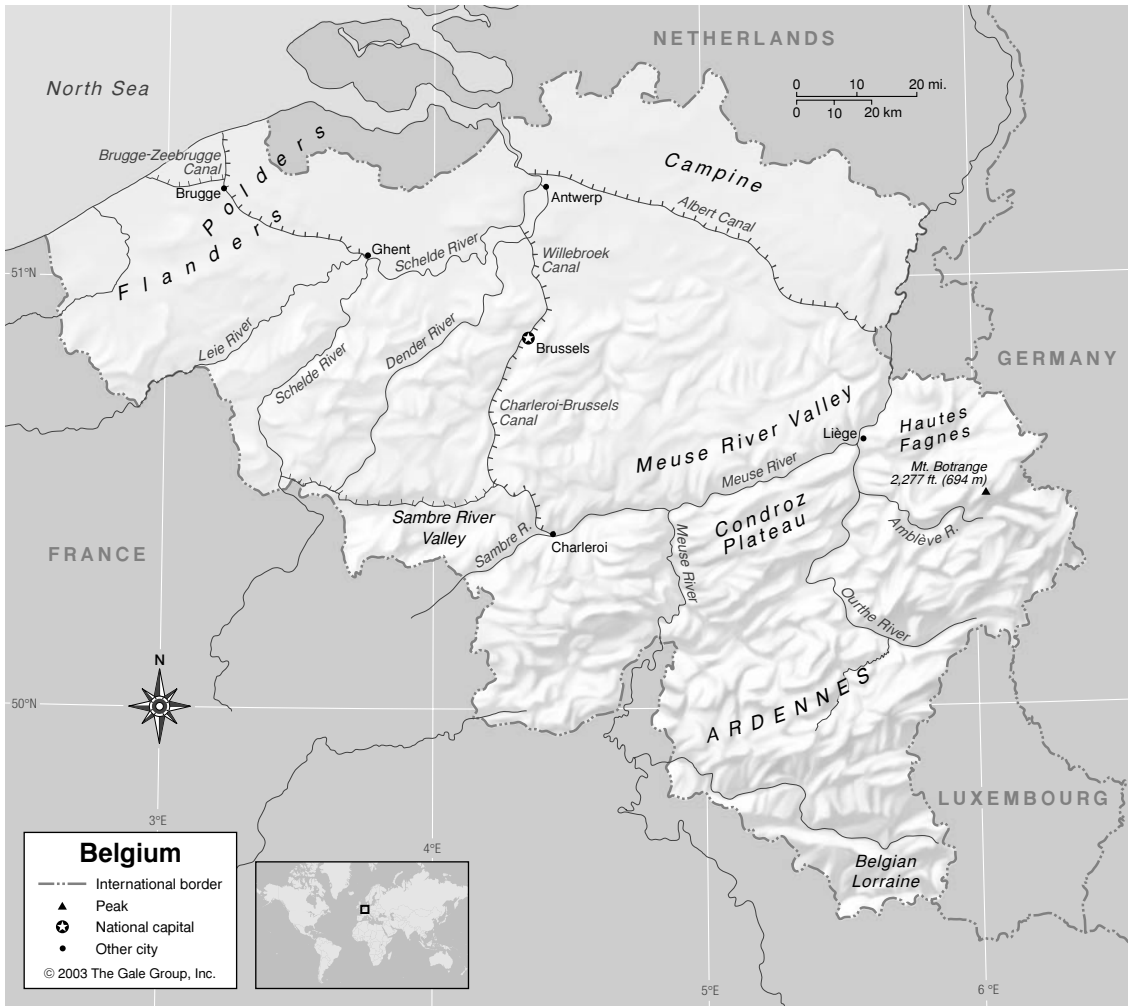
Rainfall averages between 70 and 100 centimeters (28 and 40 inches) per year and is evenly spread out over the twelve months. The elevated Ardennes region can receive as much as 140 centimeters (55 inches) of rain annually.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	June to August	18°C (64°F)
Winter	December to March	3°C (37°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Belgium can be divided into three major geographic regions: the coastal plains to the northwest, a low central plateau region, and the Ardennes highlands to the southeast. The country also has a distinctive ethnic and linguistic division, influenced by its proximity to its Dutch and French neighbors. The Flemish,

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who speak a form of Dutch, live in the northern part of the country, while the French-speaking Walloons live in the southern part. A small German-speaking minority also lives in the east, near the German border.

## 5 OCEANS AND SEAS

Belgium is situated at the southern tip of the North Sea.

## Seacoast and Undersea Features

The coast of Flanders, a flat fringe of land reaching 8 to 16 kilometers (5 to 10 miles) in-

land from the sea, is protected from floods and tides by sand dunes and a network of dikes.

## Coastal Features

Belgium's coastline is nearly straight, with white-sand beaches. Behind the beaches lie dunes, and behind them are polders (wetlands reclaimed for agricultural use during the Middle Ages).

## 6 INLAND LAKES

Belgium has relatively few natural lakes. The largest complex of lakes is located in the southeast in the Ardennes region.

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# BELGIUM

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EPD/Saxifraga/Jan van der Straaten

*The Gueule is typical of the many lowland brooks found in Belgium.  
These brooks feed the Schelde and the Meuse Rivers.*

## 7 🌐 RIVERS AND WATERFALLS

Belgium has two major rivers, the Schelde (Escaut) and the Meuse (Maas), both of which originate in France and flow east across Belgium. They gather numerous tributaries before continuing through the Netherlands and draining into the North Sea. Among the largest tributaries of the Schelde River are the Leie and Dender. In the south, the Sambre, Semois, Ourthe, and Amblève flow into the Meuse.

## 8 🌐 DESERTS

Belgium has no desert regions.

## 9 🌐 FLAT AND ROLLING TERRAIN

Belgium's northern lowlands belong to the Great European Plain. The western part of these lowlands is occupied by Flanders. The region northeast of Antwerp, which belongs

to the delta of the Meuse and Rhine Rivers, is known as Kempenland, or the Campine.

## 10 🌐 MOUNTAINS AND VOLCANOES

The heavily forested Ardennes highlands extend south of the Meuse River valley, continuing into France. They range in elevation from 400 meters (1,300 feet) to between 580 to 700 meters (1,900 and 2,300 feet). The Hautes Fagnes near the German border, which are part of the Ardennes, include Belgium's highest peak, Mount Botrange (Signal de Botrange), at 694 meters (2,277 feet) above sea level.

## 11 🌐 CANYONS AND CAVES

A number of interesting caves may be found in the southeastern corner of the country, especially in the provinces of Namur, Liege, and Luxembourg, between Luxembourg and France.

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# BELGIUM

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## 12 🌐 PLATEAUS AND MONOLITHS

Between the northern lowlands and the Ardennes highlands to the south lies Belgium's central plateau region. It extends across the middle of the country, from the Borinage area in the west to the Brabant region near the southeastern Dutch border. Elevations range from 20 meters (65 feet) to 200 meters (650 feet). The capital city of Brussels is located in this region.

## 13 🌐 MAN-MADE FEATURES

The coastal area of Flanders includes polders (reclaimed land) that were formerly marshland. The salt marshes of the region were transformed into rich farmland behind a barrier of dikes.

An extensive network of canals extends throughout the coastal plains and central plateau region, connecting Belgium's major cities and rivers to the sea. The major arteries are

the Brugge-Zeebrugge, Charleroi-Brussels, Willebroek, and Albert Canals.

## 14 🌐 FURTHER READING

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Belgium: Overview. <http://pespmc1.vub.ac.be/BELGCUL.html> (accessed July 17, 2003).



# Belize

- **Official name:** Belize
- **Area:** 22,806 square kilometers (8,803 square miles)
- **Highest point on mainland:** Victoria Peak (1,122 meters / 3,680 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 6 A.M. = noon GMT
- **Longest distances:** 109 kilometers (68 miles) from east to west; 280 kilometers (174 miles) from north to south.
- **Land boundaries:** 995 kilometers (618 miles) total boundary length; Guatemala, 269 kilometers (167 miles); Mexico, 251 kilometers (156 miles)
- **Coastline:** 475 kilometers (295 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Belize is in Central America. Belize is located on the coast of the Caribbean Sea at the southeastern edge of Mexico's Yucatan Peninsula. Known as British Honduras until 1973, Belize has a land area of 22,806 square kilometers (8,803 square miles), which makes it slightly larger than the state of Massachusetts.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Belize has no outside territories or dependencies.

## 3 🌐 CLIMATE

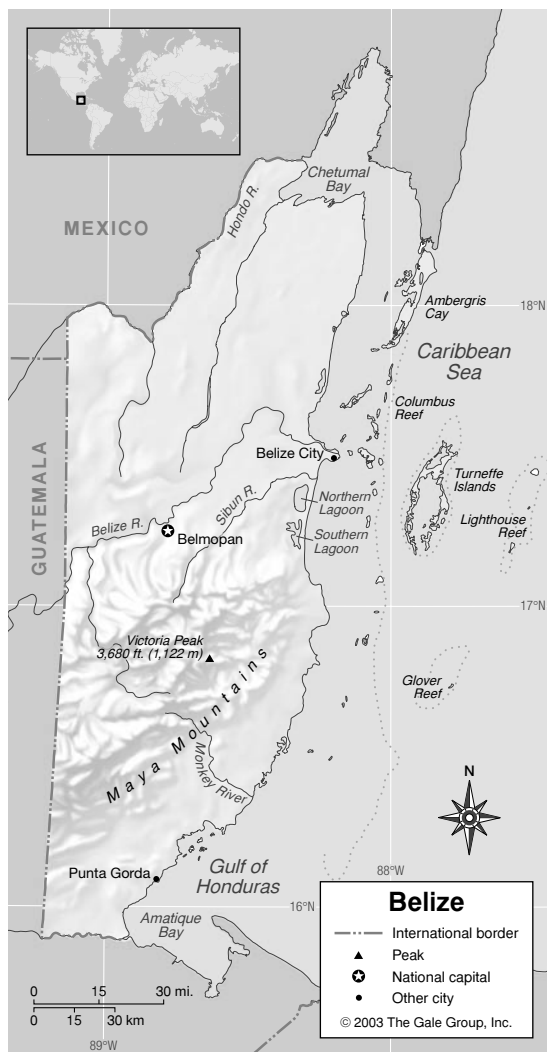
Belize's climate is subtropical and humid, but it is modified by the northeast trade winds that consistently blow toward the equator. Temperatures range between 16°C and 32°C (61°F and 90°F) along the coast and are slightly higher inland. Changes in humidity, rather than temperature fluctuations, mark the changes in seasons. The mean annual humidity is 83 percent, but many days the humidity is masked by cooling sea breezes. November to January are traditionally the coolest months, and

there are dry seasons from February to May and again in August. Some days and nights in the mountains can be very cold, but the mean annual temperature there is a comfortable 22°C (72°F). Annual rainfall averages from 127 centimeters (50 inches) in the northern portion of the country to more than 380 centimeters (150 inches) in the south. The number of rainy days varies considerably from place to place. The hurricane season lasts from July to October. Hurricanes can cause serious damage and flooding along the coast. Belize City, once the capital, has suffered severe damage from hurricanes since the 1930s. After hurricanes destroyed over half the buildings in Belize City in 1931 and again in 1961, the capital was relocated further inland, to Belmopan.

## 4 🌐 TOPOGRAPHIC REGIONS

The country is divided into two main topographic regions. The Maya and Cockscomb Mountains and their associated basins and plateaus dominate the southern half of the country. The northern lowlands, drained by

# BELIZE



numerous rivers and streams, make up the second region. Belize is located on the Caribbean Tectonic Plate.

In the far south lies the Cockscomb Basin Wildlife Sanctuary, where jaguars, pumas, ocelots, margays, agoutis, anteaters, armadillos, boa constrictors, and dozens of bird species thrive.

## 5 OCEANS AND SEAS

Belize's eastern border lies on the Caribbean Sea. The central coast is on the open sea, but the northern shoreline forms one side of Chet-

umal Bay, while the southern coast borders the Gulf of Honduras and Amatique Bay.

## Seacoast and Undersea Features

The coastline of Belize, on the eastern coast of Central America, is full of indented areas, providing for many beaches as well as swamplands and lagoons. Belize's shore is sheltered by the second-longest barrier reef in the world, dotted with a large number of smaller coral reefs and cays. A barrier reef is an underwater formation of coral that lies parallel to the coast. The Lighthouse Reef contains an underwater cavern, known as Blue Hole Cave. Explored by Jacques Cousteau, the famous oceanographer, Blue Hole Cave measures 300 meters (1,000 feet) in diameter and 120 meters (400 feet) in depth.

## Sea Inlets and Straits

Chetumal Bay lies between the northernmost points of Belize and its neighbor to the west, Mexico.

## Islands and Archipelagos

To the north of the barrier reef, numerous islands and cays—including Ambergris Cay, the Turneffe Islands, Columbus Reef, and Glover's Reef—lie off the coast of Belize. More than one thousand small islands dot the coastline of Belize.

## Coastal Features

The Belize coastline is flat and swampy and marked by many swamps and lagoons.

## 6 INLAND LAKES

There are several small lakes in the northern half of the country. Two of the major inland bodies of water are the Northern and Southern Lagoons, which lie south of Belize City and near the coast.



EPD/Saxifraga/Wiel Pohlmans

*Belize's Maya Mountains extend from the northeast to the southwest.*

## **7** 🌐 **RIVERS AND WATERFALLS**

Seventeen rivers, among them the Belize River, crisscross the countryside. The Belize River runs across the center of the country, draining into the Caribbean Sea near Belize City. About 30 kilometers (19 miles) west of Belize City, an area along the Belize River features a nature preserve to provide a protected habitat for the black howler monkey. Dozens of other native bird and animal species thrive there as well.

Just south of the Belize River, the shorter Sibun River flows northeastward from the highlands in the center of the country to empty into the Caribbean Sea south of Belize City. Monkey River is located in the south of the country, emptying into the Caribbean near the Gulf of Honduras. In the north, the Hondo River marks the border with Mexico.

Hidden Valley Falls, aptly known as the Thousand Foot Falls for their 323-meter

(1,000-foot) drop, are located near the Mountain Pine Ridge Forest Preserve in the mountains south of Belmopan. These scenic falls are the highest in Central America.

## **8** 🌐 **DESERTS**

There are no notable desert regions in Belize.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The country north of Belize City is mostly level, interrupted only by the Manatee Hills.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Maya and Cockscomb mountain ranges form the backbone of the country. The Maya Mountains rise to a height of 1,100 meters (3,400 feet), extending northeast to southwest across the central and southern parts of the country. The country's highest elevation, Victoria Peak, is located in the Cockscomb Mountains.

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# BELIZE

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## 11 🌐 CANYONS AND CAVES

Because most caves in Belize contain artifacts from the ancient Mayans, the government requires all explorers to obtain a permit to explore them. There are numerous caverns in the limestone foothills of the Maya range. A region near the Southern Lagoon features limestone cones that rise above the citrus trees that grow in the area. Blue Creek Cave lies just north of Punta Gorda.

In western Belize, southwest of Belmopan, lie Chechem Ha and Barton Creek Caves, where archaeologists have unearthed ceremonial pots and human skulls and bones from the ancient Mayans.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no notable plateaus or monoliths in Belize.

## 13 🌐 MAN-MADE FEATURES

Belize's Mayan ruins include the residential compounds and ritual sites found at El Pilar on the border with Guatemala.

## 14 🌐 FURTHER READING

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# Benin

- **Official name:** Republic of Benin
- **Area:** 112,620 square kilometers (43,483 square miles)
- **Highest point on mainland:** Mount Sokbaro (658 meters/2,159 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 333 kilometers (207 miles) from east to west; 665 kilometers (413 miles) from north to south
- **Land boundaries:** 1,236 kilometers (1,989 miles) total boundary length; Burkina Faso, 306 kilometers (190 miles); Niger, 266 kilometers (165 miles); Nigeria, 773 kilometers (480 miles); Togo, 644 kilometers (400 miles)
- **Coastline:** 121 kilometers (75 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Formerly a French colony known as Dahomey, Benin is a small country on the coast of West Africa, between Togo and Nigeria. It is bounded on the north by the Niger River and on the south by the Bight of Benin, which forms part of the Gulf of Guinea. Benin has an area of 112,620 square kilometers (43,483 square miles), or slightly less land than the state of Pennsylvania.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Benin has no outside territories or dependencies.

## 3 🌐 CLIMATE

Southern Benin, which lies near the equator, has a hot, humid, tropical climate, with average temperatures around 27°C (80°F). The north has a semiarid climate with greater variability, ranging from 13°C (56°F) in June to 40°C (104°F) in January. Southern Benin has two rainy seasons: one from March to July, and another between September and November.

The hot, dry harmattan wind blows during the dry season. Average annual rainfall is highest (135 centimeters/53 inches) in the central part of the country and lower in the north (97 centimeters/38 inches). The driest part of Benin is the southwest, which averages just 82 centimeters (32 inches) of rain per year.

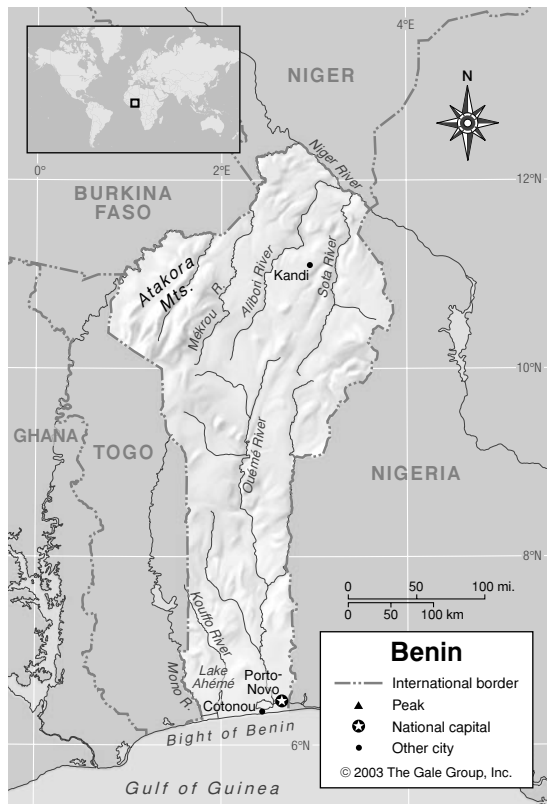
## 4 🌐 TOPOGRAPHIC REGIONS

From south to north, Benin's major regions consist of a coastal belt that includes sandbanks and lagoons; a savannah-covered clay plateau; and, in the northern two-thirds of the country, a higher plateau region that includes the Atakora Mountains and the Niger Plains. A large swampy depression called the Lama Marsh extends across the plateau region.

## 5 🌐 OCEANS AND SEAS

The North Atlantic Ocean lies to the south of Benin.

# BENIN



## Seacoast and Undersea Features

Benin's coastal belt includes four lagoons (Grand Popo, Ouidah, Cotonou, and Porto Novo).

The sandbanks that form part of the country's shoreline impede access to the ocean, however.

## Sea Inlets and Straits

The coast of Benin lies on a wide bay in the Gulf of Guinea called the Bight of Benin.

## Islands and Archipelagos

Benin has no islands.

## Coastal Features

Benin has no natural harbors.

## 6 🌐 INLAND LAKES

Benin's principal lake is Lake Ahémé, in the southern part of the country.

## 7 🌐 RIVERS AND WATERFALLS

Most of Benin's rivers flow in a north-south direction. Benin's longest river is the Niger River, which forms part of its border with Niger in the northeast and is navigable for 89 kilometers (55 miles) in Benin. The longest river located entirely within Benin's borders is the Ouémé, which is 459 kilometers (285 miles) long. It flows southward through about two-thirds of Benin. The rivers in the north, including the Alibori, the Mékrou, and the Sota, drain into the Niger. To the southwest, the Mono River forms part of the border with Togo.

## 8 🌐 DESERTS

Benin has no significant desert regions.

## 9 🌐 FLAT AND ROLLING TERRAIN

The low-lying coastal plain is flat and sandy.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Atakora Mountains extend northeast to southwest across the plateau of Upper Benin in the northwestern part of the country. They rise to elevations of 300 to 600 meters (1,000 to 2,000 feet). Heavily forested, they belong to the same system as the Togo Mountains to the south.

## DID YOU KNOW?

The area of low precipitation in southwest Benin—a dramatic exception to the high rainfall elsewhere in this tropical region—is called the "Benin window." It is thought to have resulted from the destruction of the native rainforest.

# BENIN



UNESCO/Georges Malempré

*Men in fishing boats near Cotonou on the coast of Benin.*

## 11 🌐 CANYONS AND CAVES

There are no notable caves or canyons in Benin.

## 12 🌐 PLATEAUS AND MONOLITHS

North of the coastal region, 90 to 230 meters (300 to 750 feet) above sea level, lies a belt of the fertile, savannah-covered clay plateau called *terre de barre*, composed of lateritic clay (clay made from decayed rock) and bisected by the swampy Lama Marsh. The granite and gneiss tablelands of Upper Benin are farther north; these are traversed northeast to southwest by the Atakora Mountains.

## 13 🌐 MAN-MADE FEATURES

The Nangbeto Dam is located on the Mono River, a waterway that comprises part of the border between Benin and Togo. The dam restricts the flow of the Mono River, and it also retains sediment that would be carried to

the mouth of the river. Erosion along the coast may be traced to the existence of this dam.

## 14 🌐 FURTHER READING

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# Bhutan

- **Official name:** Kingdom of Bhutan
- **Area:** 47,000 square kilometers (18,147 square miles)
- **Highest point on mainland:** Kula Kangri (7,553 meters/24,781 feet)
- **Lowest point on land:** Drangme Chhu (River) (97 meters/318 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 5:30 P.M. = noon GMT
- **Longest distances:** 306 kilometers (190 miles) from east to west; 145 kilometers (90 miles) from north to south
- **Land boundaries:** 1,075 kilometers (668 miles) total boundary length; China, 470 kilometers (292 miles); India, 605 kilometers (376 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Bhutan is a small, landlocked country in the Himalaya Mountains, between China and India in Southern Asia. To the north and northwest, it borders the Chinese autonomous region of Tibet (Xizang Zizhiqu); to the south and southwest, the Indian states of West Bengal and Assam; and to the east, the Indian state of Arunachal Pradesh (formerly the North-East Frontier Agency). Bhutan has an area of 47,000 square kilometers (18,147 square miles), making it slightly more than half as large as the state of Indiana.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Bhutan has no territories or dependencies.

## 3 🌐 CLIMATE

Bhutan has three distinct climates, corresponding to its three topographical regions. The Duārs Plain areas in the south have a hot, humid, subtropical climate, with heavy rainfall. Temperatures generally average between 15°C (59°F) and 30°C (86°F) year-round. Temperatures in the valleys of the southern foothills of the Himalayas may rise as high as

101°F (40°C) in the summer. The central Inner Himalayan region has a temperate climate, with hot summers, cool winters, and moderate rainfall. Temperatures in the capital city of Thimphu, located in the western part of this region, generally range from about 15°C (59°F) to 26°C (79°F) between June and September (the monsoon season), falling to between -4°C (25°F) and 16°C (61°F) in January. The high mountains of the Greater Himalayas in the north have more severe weather than the regions to the south. At their highest elevations, they are snow-covered year-round, with an arctic climate.

Like other aspects of Bhutan's climate, rainfall varies by region. The northern Himalayas are relatively dry, and most precipitation falls as snow. The Inner Himalayan slopes and valleys have moderate rainfall, averaging between 100 and 150 centimeters (39 and 59 inches) annually. Rainfall in the subtropical southern regions averages between about 500 centimeters and 750 centimeters (197 and 295 inches) per year. The greatest amount of rain falls dur-



# BHUTAN



ing the summer monsoon season, from late June through the end of September.

## 4 TOPOGRAPHIC REGIONS

All of Bhutan is mountainous except for narrow fringes of land at the southern border where the Duars Plain, the lowland of the Brahmaputra River, protrudes northward from India. The rest of Bhutan can be divided into two mountain regions: the Lesser Himalayas, or Inner Himalayas, which extend from the Duars Plain through the central part of the country; and the snow-capped peaks of the Great Himalayas in the far north.

## 5 OCEANS AND SEAS

Bhutan is landlocked.

## 6 INLAND LAKES

There are no notable inland lakes in Bhutan.

## 7 RIVERS AND WATERFALLS

All of Bhutan's numerous rivers flow south through gorges and narrow valleys, eventually draining into the Brahmaputra River in India. The headwaters of most streams are in the regions of permanent snow along the Tibetan border. None of the rivers in Bhutan is navi-

gable, but many of them are potential sources of hydroelectric power.

Bhutan contains four main river systems. The Tongsa River and its tributaries, the Bumtang and Drangme Rivers (river names in Bhutan are often followed by Chu or Chhu, which means river), drains the area east of the Black Mountain watershed. West of the Black Mountains, the drainage pattern changes to a series of parallel streams, beginning with the Sankosh (or Puna Tsang) River and its tributaries, the Mo Chhu and Pho Chhu. These two waterways flow southward to Punakha; there they join the main river, continuing their southward course into the Indian state of West Bengal. Farther west is the third major system, the Wong Chhu and its tributaries. These flow through west-central Bhutan, joining to form the Raigye Chhu before flowing into West Bengal. Still farther west is the smallest system, the Torsa Chhu (called the Amo Chhu farther north), which flows through the Chumbi Valley before entering India.

## 8 DESERTS

There are no notable desert regions in Bhutan.

## 9 FLAT AND ROLLING TERRAIN

The Duars Plain, which lies mostly in India, extends northward across Bhutan's border in strips 10 to 15 kilometers (6 to 9 miles) wide. The northern edges of these plains, which border the Himalayan foothills, have rugged terrain and porous soil. Fertile flatlands are found farther south. At the southern edge of the Inner Himalayas, sloping down to the Duars Plain, are low, densely forested foothills called the Siwalik (or Southern) Hills.

## 10 MOUNTAINS AND VOLCANOES

The mountains of Bhutan are known for their dramatic differences in elevation. Elevations vary from approximately 305 meters (1,000 feet) in the south to almost 7,620 meters

# BHUTAN



EPD/Cynthia Bassett

*Bhutan's landscape features many narrow valleys.*

(25,000 feet) in the north—in some places as close together as 100 kilometers (60 miles). The snowcapped Great Himalayas rise along the Tibetan border, stretching across Bhutan in a belt about 16 kilometers (10 miles) wide. Four peaks in this range have elevations above 6,096 meters (20,000 feet). The highest is Kula Kangri, north of Gasa Dzong, at 7,553 meters (24,781 feet). Next in height is the country's most famous peak, picturesque Chomo Lhari, which towers over the Chumbi Valley at an elevation of 7,314 meters (23,997 feet).

Spurs extending southward from the Great Himalayas make up the north-south ranges of Bhutan's Inner, or Lesser, Himalayas. The fertile valleys between its peaks form the watersheds of Bhutan's major rivers. The dominant range in this system is

the Black Mountain Range, which divides the country almost exactly down the middle from north to south and forms the watershed between the Sankosh and Drangme Chhus (Rivers). Its peaks range from 1,500 to 2,700 meters (4,922 to 8,859 feet) above sea level.

Several strategically important passes follow the major river courses through the valleys of Bhutan's Himalaya Mountains. Formerly of great significance for trade, they now serve as escape routes for Tibetan refugees.

## 11 CANYONS AND CAVES

There are no notable canyons or caves in Bhutan.

## 12 PLATEAUS AND MONOLITHS

There are no notable plateaus or monoliths in Bhutan.

## 13 MAN-MADE FEATURES

A 90-meter (295-foot) suspension bridge at Chazam, spanning the Dangmechu River, was opened on March 16, 2001. It is the most extensive single-span bridge of this type in the Himalayas.

## 14 FURTHER READING

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Zeppa, Jamie. *Beyond the Sky and the Earth: A Journey into Bhutan*. New York: Riverhead Books, 1999.

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# Bolivia

- **Official name:** Republic of Bolivia
- **Area:** 1,098,580 square kilometers (424,164 square miles)
- **Highest point on mainland:** Mount Sajama (6,542 meters / 21,464 feet)
- **Lowest point on land:** Paraguá River (90 meters / 295 feet)
- **Hemispheres:** Southern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 1,450 kilometers (900 miles) from east to west; 1,530 kilometers (950 miles) from north to south
- **Land boundaries:** 6,743 kilometers (4,190 miles) total boundary length; Argentina, 832 kilometers (517 miles); Brazil, 3,400 kilometers (2,113 miles); Chile, 861 kilometers (535 miles); Paraguay, 750 kilometers (466 miles); Peru, 900 kilometers (559 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Home to the world's highest capital city and highest commercially navigable lake, Bolivia has been called the "rooftop of the world." This landlocked country in south-central South America is the continent's fifth-largest nation. With an area of 1,098,580 square kilometers (424,164 square miles), it is almost three times the size of Montana.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Bolivia has no territories or dependencies.

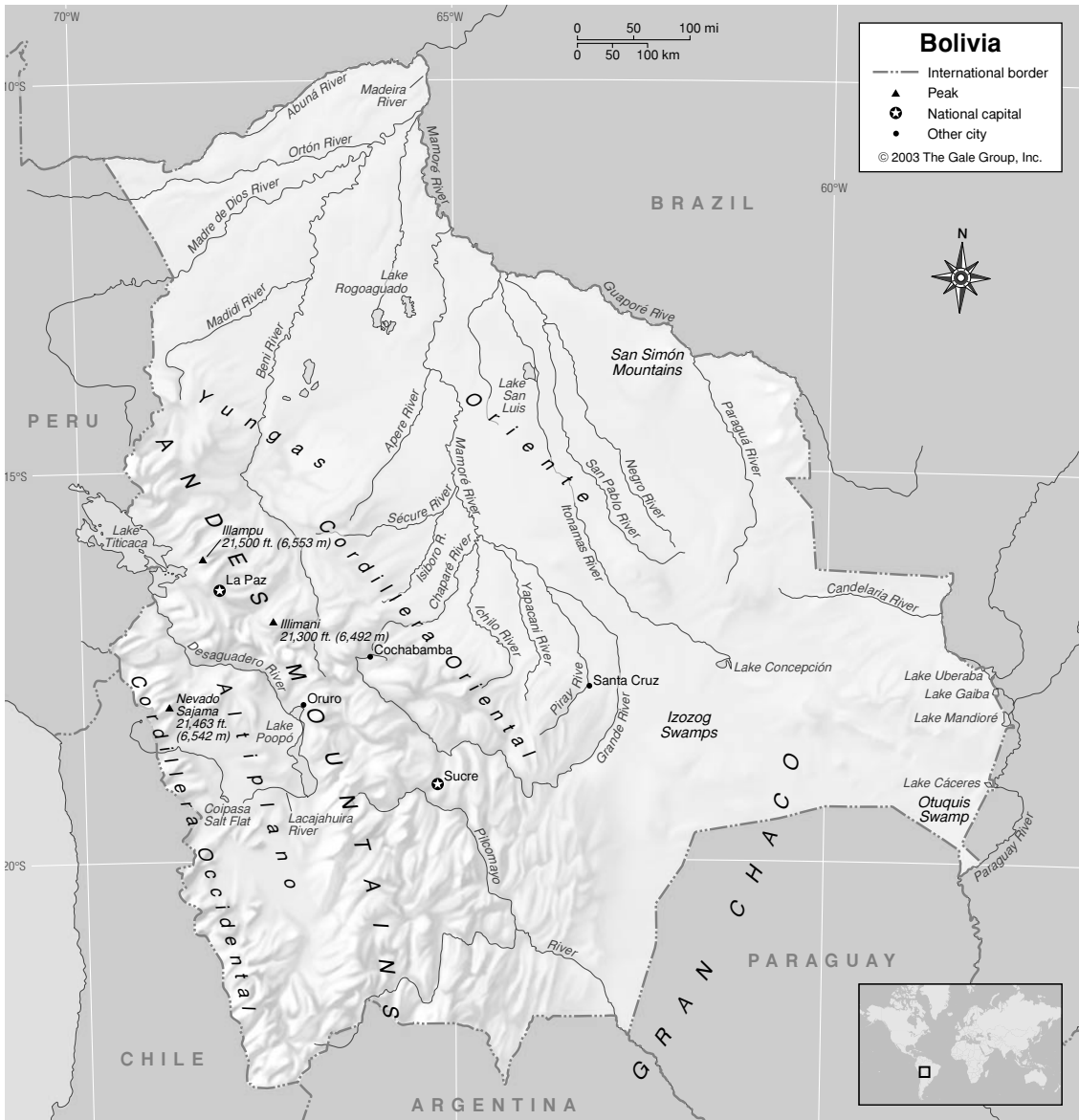
## 3 🌐 CLIMATE

Although Bolivia is a tropical country, its climate varies widely with differences in elevation and terrain. The high peaks of the Cordillera Occidental to the west have a cool climate, and cold winds blow in the Altiplano (the high plains separating Bolivia's two mountain ranges). In the northern Altiplano, however, the climate is moderated by Lake Titicaca. The valleys of the lower Cordillera Oriental have a

semiarid Mediterranean-like climate; but the climate becomes semitropical in the Yungas region on the eastern slopes of these mountains, and tropical in the eastern lowlands. The mean annual temperature in the capital city of La Paz, at the edge of the Altiplano, is about 8°C (46°F), compared with mean temperatures of 16° to 19°C (60° to 68°F) in the Yungas region, and 26°C (79°F) in the city of Trinidad, in the eastern plains. A strong wind originating in the nearby Argentine pampas, called the *surazo*, can bring fierce storms and plunging temperatures in the winter months (June through August).

Like climate conditions in general, rainfall in Bolivia varies greatly by region, ranging from 13 centimeters (5 inches) or less in the southwest to over 152 centimeters (60 inches) in the Amazon basin to the northeast. Rainfall in the Yungas region on the eastern slopes of the Cordillera Oriental averages 76 centimeters (30 inches) to 127 centimeters (50 inches)

# BOLIVIA



annually; it is heaviest between December and February but falls year-round.

The southern part of the country has a long summer dry season that can last from four to six months, while the dry season in the northern areas is shorter. Flooding often occurs in the northeast in March and April.

## 4 TOPOGRAPHIC REGIONS

The Andean highlands of southwest Bolivia cover roughly one-third of the country. They include the mountain ranges of the Eastern and Western Cordilleras, separated by a high plateau called the Altiplano. The remaining two-thirds of Bolivia are part of the Oriente, the country's northern and eastern tropical

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# BOLIVIA

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EPD/Wilko Gijbsbertsen

*During the dry season, salt is harvested on the salt lake of Salar de Uyuni.*

lowland region, which consists of forestland, savannahs, and marshes. At the far southeastern corner of the country lies the Bolivian portion of the Gran Chaco, a thinly populated plain that continues southward into Paraguay and northern Argentina.

## **5** 🌐 OCEANS AND SEAS

Bolivia is landlocked.

## **6** 🌐 INLAND LAKES

Lake Titicaca straddles the Peruvian border in the north. At 3,805 meters (12,484 feet) above sea level, it is both South America's largest inland lake and the world's highest navigable body of water. Lake Titicaca has a length of 222 kilometers (138 miles) and a width of 113 kilometers (70 miles), and contains depths of up to 213 meters (700 feet). There are twenty-five islands in the lake. Southeast of Lake Titicaca

and connected to it by the Desaguadero River, Lake Poopó is a shallow, salty body of brackish water with depths of 3 meters (10 feet) or less, and an area of around 386 square kilometers (1,000 square miles) when its waters are low. Bolivia also has several other large lakes, including Lake Rogoquado. Shallow lakes in the region of the Paraguá River in the east include Cáceres, Mandioré, Gaiba, and Uberaba. The water of Colorado Lake (Laguna Colorado) has a deep reddish color, caused by bacteria which thrive in its warm, volcanic waters.

## **7** 🌐 RIVERS AND WATERFALLS

Bolivia is drained by three different river systems. Flowing down from the Yungas area of the Cordillera Real, the Beni and Mamoré Rivers and the Mamoré's tributaries, including the Chaparé, Ichilo, and Grande, form part of the

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## BOLIVIA

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Amazon River system. These Amazon headwaters flow north to join the Madeira River beyond the border with Brazil. At Bolivia's western border, the Desaguadero River, the only major waterway on the surface of the Altiplano, flows southward from Lake Titicaca into Lake Poopó. Lake Poopó, in turn, drains into the Lacajahuira River. Farther south, the Pilcomayo River rises in the heart of the Yungas and flows southward to the border with

Argentina and Paraguay to join the Paraguay River in Paraguay.

### 8 🌐 DESERTS

The region known as Gran Chaco that lies along the Paraguayan and Argentine borders is hot and dry.

### 9 🌐 FLAT AND ROLLING TERRAIN

Savannah grasslands cover much of the lowland Oriente region, which encompasses the eastern and northern two-thirds of Bolivia, or all the land east of the Eastern and Western Cordilleras. The region slopes from elevations of 610 to 762 meters (2,000 to 2,500 feet) at the foot of the Andes in the west to just 91 meters (300 feet) along parts of the Brazilian border.

### 10 🌐 MOUNTAINS AND VOLCANOES

The Andes Mountains reach both their greatest average elevations and their greatest width in Bolivia. The Bolivian Andes Mountains contain two mountain ranges separated by the high plateau called the Altiplano, which is the country's heartland.

On the west, the Cordillera Occidental (Western Cordillera), which forms the border with Chile, rises above 5,800 meters (19,000 feet), and includes Mount Sajama, Bolivia's highest peak. The chain also contains a number of both active and inactive volcanoes.

The eastern arm of the Bolivian Andes is called either the Cordillera Oriental or Cordillera Real. The name *Cordillera Real* is often used to describe only that section of the range that extends northward from the environs of Cochabamba and Oruro. This part of the Andes, where the capital city of La Paz is located, includes the country's most dramatic peaks, with average heights of over 5,486 meters (18,000 feet) for more than 322 kilometers (200 miles). The best

### DID YOU KNOW?

The Salar de Uyuni in southwest Bolivia is one of the world's largest (12,000 square kilometers/4,600 square miles in area) salt "lakes." During the dry season, vehicles can drive on its surface, which is firmer than sand. During the rainy season, the lake can still be traversed by four-wheel drive vehicles, since the water reaches depths of just 15 to 38 centimeters (6 to 15 inches). In the center of the salt plain lies a hotel, built of salt blocks with a thatched roof.

The layers of salt deposits are up to six meters (20 feet) thick. Villagers from Colchani harvest almost 90,000 kilograms (20,000 tons) of salt by chopping it up and shoveling it into piles. The salt is trucked into the village, where it is sifted and prepared for shipment by train to refiners, where it will be prepared for international sale.

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# BOLIVIA

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known of these summits are Illampu (6,553 meters/21,500 feet) and the triple crown of Illimani, which rises to 6,492 meters (21,300 feet) behind the city of La Paz. The eastern slopes of the northern Cordillera Oriental, called the Yungas, are rugged, steep, and densely forested; they descend swiftly to the eastern plains. South of the Yungas is an area of valleys and mountain basins called the Valles.

## 11 🌐 CANYONS AND CAVES

There are no notable canyons or caves in Bolivia.

## 12 🌐 PLATEAUS AND MONOLITHS

The barren and forbidding landscape of the Altiplano extends southward for a distance of 804 kilometers (500 miles), with an average width of 50 kilometers (80 miles), and altitudes varying from 3,657 meters to 4,267 meters (12,000 to 14,000 feet). The Altiplano tilts upward from the center toward both the Eastern and Western Cordillera, and it descends gradually from north to south. The

plateau floor is made up of sedimentary debris washed down from the adjacent mountains.

## 13 🌐 MAN-MADE FEATURES

The Incan and pre-Incan ruins near Lake Titicaca on Bolivia's Altiplano are among the oldest in South America.

## 14 🌐 FURTHER READING

### Books

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# Bosnia and Herzegovina

- **Official name:** Republic of Bosnia and Herzegovina
- **Area:** 51,129 square kilometers (19,741 square miles)
- **Highest point on mainland:** Mount Maglic (2,386 meters / 7,828 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 325 kilometers (202 miles) from north to south; 325 kilometers (202 miles) from east to west
- **Land boundaries:** 1,459 kilometers (907 miles) total boundary length; Croatia, 932 kilometers (579 miles); Serbia and Montenegro, 527 kilometers (327 miles)
- **Coastline:** 20 kilometers (12 miles)
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

The nation of Bosnia and Herzegovina is located in southeastern Europe on the Balkan Peninsula, between the countries of Croatia, Serbia, and Montenegro. With a total area of 51,129 square kilometers (19,741 square miles), the country is slightly smaller than the state of West Virginia.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Bosnia and Herzegovina has no outside territories or dependencies.

## 3 🌐 CLIMATE

Most of the country has hot summers and cold winters. Areas of higher elevation have shorter, cooler summers and longer, severe winters. The areas closer to the coast have mild, rainy winters. Annual rainfall is about 62.5 centimeters (24.6 inches).

SEASON	MONTHS	AVERAGE TEMPERATURE IN SARAJEVO
Summer	June to August	18.1°C (64.6°F)
Winter	November to March	0°C (32°F)

## 4 🌐 TOPOGRAPHIC REGIONS

The Republic of Bosnia and Herzegovina lies inland along the eastern side of the Adriatic Sea, at the intersection of central Europe and the Mediterranean Sea. High plains and plateaus are in northern Croatia, between Bodanska Gradiška and Bijeljina.

The central region, between Banja Luka and Sarajevo, has low mountains; the higher Dinaric Alps cover the southwestern edge of the country.

Tectonic fault lines run through the central part of the country, from Bodanska Gradiška to Sarajevo, and also exist in the northwest corner between the Sana and Unac Rivers. A thrust fault also runs through southern Bosnia and Herzegovina in the vicinity of Mostar. These structural seams in Earth's crust periodically shift, causing tremors and occasional destructive earthquakes.



# BOSNIA AND HERZEGOVINA



## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Adriatic coast of Bosnia and Herzegovina is only 20 kilometers (12 miles) long. There is one main town, Neum, on the coast, but the area is not suitable for shipping.

The Adriatic Sea is an extension of the Mediterranean Sea. It separates Italy from Croatia, Serbia, Montenegro, and Albania. It is about 772 kilometers (480 miles) long with an average width of 160 kilometers (100 miles), covering an area of about 160,000 square kilometers (60,000 square miles).

## 6 🌐 INLAND LAKES

The country's largest lake is Buško Blato, which has a surface area of 55.8 square kilometers (21.5 square miles). It lies 716.6 meters (2,351.2 feet) above sea level within the Dinaric Alps and has a maximum depth of

17.3 meters (56.8 feet). Jablaničko Jezero is a long, narrow lake that lies at the bend of the Neretva River, southwest of Sarajevo.

Smaller lakes include Bilecko, Matura, Vijaka, Sanicani, Busko, Plivsko, Deransko, Boracko, and Ramsko.

## 7 🌐 RIVERS AND WATERFALLS

The Sava River, the longest river in the country, travels 947 kilometers (589 miles). The first 221 kilometers (137 miles) flows through Slovenia, and the remaining 727 kilometers (452 miles) forms the border between Croatia and Bosnia and Herzegovina (as well as a small section of Serbia and Montenegro), eventually joining the Danube River.

The Bosna River (245 kilometers/152 miles) begins near Sarajevo and flows northward to the Sava. The Drina River (346 kilometers/215 miles) forms much of the border with Serbia and Montenegro and crosses through a south-eastern segment of Bosnia and Herzegovina.

## 8 🌐 DESERTS

There are no desert regions in Bosnia and Herzegovina.

## 9 🌐 FLAT AND ROLLING TERRAIN

The Peri-Pannonian Plain, near the northern border with Croatia, contains the country's most fertile soils, used for farmland and grazing. The plain was once occupied by an ancient sea that was filled in with rich soil carried from the mountains by the rivers and deposited on the plains.

The region contains wide valley basins, alluvial plains (areas where soil has been carried and deposited by rivers), sandy dunes, and low, rolling hills covered with fertile loam (a light soil mixture). In general, the area is low and flat.

## BOSNIA AND HERZEGOVINA



AP Photo/World Monuments Fund, J. Calame

*Mostar, which dates back to the sixteenth century, is built above the Radobolja River. In 1999 Mostar was designated as one of the world's 100-most-endangered places by the World Monuments Fund.*

### 10 🌐 MOUNTAINS AND VOLCANOES

About two-thirds of Bosnia and Herzegovina is mountainous. There are sixty-four mountains, with some peaks exceeding 1,500 meters (4,922 feet) above sea level. Mount Maglic, at 2,386 meters (7,828 feet), is the highest peak in the country, lying in the southeast adjacent to the Serbia and Montenegro border. Nearby are the country's second and third highest mountains: Volujak—at 2,336 meters (7,664 feet) and Velika Ljubušnja—at 2,238 meters (7,343 feet).

The Dinaric Alps consist of ridges that run parallel to the coast. The limestone ranges of the Dinaric Alps, referred to as karst or karstland, are marked by underground drainage channels, formed by water seepage down through the soluble limestone. Over the years,

this water seepage has formed many large depressions and left the surface dry.

Beech forests cover much of the mountainous areas; mixed forests of beech, fir, and spruce blanket the higher mountains. Mount Maglic lies within the Sutjeska National Park, the country's oldest national park, which also contains the old-growth Perucica forest.

### 11 🌐 CANYONS AND CAVES

At 1,300 meters (4,265 feet) deep, Tara Canyon is Europe's deepest canyon. The canyon follows the Tara River along the southeastern border with Yugoslavia.

### 12 🌐 PLATEAUS AND MONOLITHS

There are no plateau regions in Bosnia and Herzegovina.

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# BOSNIA AND HERZEGOVINA

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## 13 MAN-MADE FEATURES

The sixteenth-century Mostar Bridge, destroyed by Croatian forces in violent conflict during 1993, was being rebuilt as of 2002. The bridge, measuring 20 meters (66 feet) in height and 30 meters (100 feet) in length, was first built in 1566 by Mimar Hajrudin, an Ottoman Empire architect.

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Washington, D.C. <http://www.bhembassy.org>  
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# Botswana

- **Official name:** Republic of Botswana
- **Area:** 600,370 square kilometers (231,802 square miles)
- **Highest point on mainland:** Tsodilo Hills (1,489 meters/4,884 feet)
- **Lowest point on land:** Junction of the Limpopo and Shashe Rivers (513 meters/1,683 feet)
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2:00 P.M. = noon GMT
- **Coastline:** None
- **Longest distances:** 1,110 kilometers (690 miles) from north-northeast to south-southwest; 960 kilometers (597 miles) from east-southeast to west-northwest
- **Land boundaries:** 4,013 kilometers (2,488 miles) total boundary length; Zimbabwe, 813 kilometers (504 miles); South Africa, 1,840 kilometers (1,141 miles); Namibia, 1,360 kilometers (843 miles)
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Botswana is a landlocked country (does not have access to the sea) located in southern Africa. It is bordered by Zimbabwe to the northeast, South Africa to the south and southeast, and Namibia to the north and west. Botswana covers an area of 600,370 square kilometers (231,802 square miles), or slightly less than the state of Texas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Botswana claims no territories or dependencies.

## 3 🌐 CLIMATE

Most of the country has a subtropical climate, while the higher altitudes have cooler temperatures. Winter days are warm with cool nights, although the desert is commonly covered in heavy frost. Temperatures range from 33°C (91°F) in January to 22°C (72°F) in July. The August seasonal winds that blow from the west carry sand and dust across the landscape, often contributing to droughts. Normal rainfall averages 45 centimeters (18 inches)

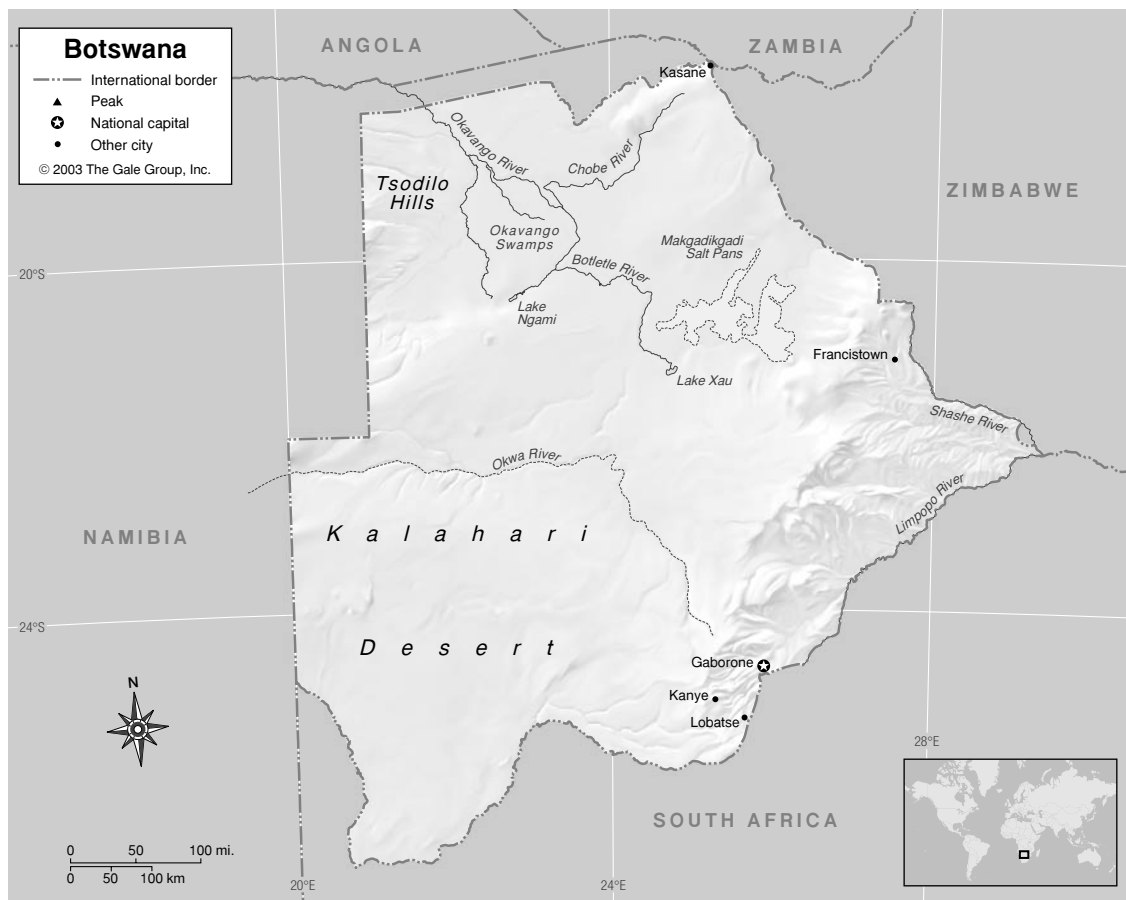
throughout most of the country except for the Kalahari Desert, in the south, which receives less than 25 centimeters (10 inches), and the wet northern plateau regions, which receive about 69 centimeters (27 inches) annually.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	December to February	22 to 40°C (72 to 104 °F)
Winter	April to October	33°C (91°F)

## 4 🌐 TOPOGRAPHIC REGION

Botswana is a vast tableland with a mean altitude of 1,000 meters (3,300 feet). A gently undulating plateau, running northward from the South African border near Lobatse to the Zimbabwe border, forms a watershed between the two main natural divisions of Botswana. The fertile land to the south and east of this plateau is hilly bush country and grassland, or veld. To the west of the plateau, stretching over

# BOTSWANA



the border into Namibia, is the Kalahari Desert. In the north lies the area known as Ngami-land, which is dominated by the Okavango Delta and the Makgadikgadi Salt Pans.

## 5 🌐 OCEANS AND SEAS

Botswana is a landlocked nation.

## 6 🌐 INLAND LAKES

Temporary lakes form in the Okavango Swamps and the Makgadikgadi Salt Pans during seasons of heavy rainfall. Lakes Ngami and Xau are more permanent, but they also rely on the floodwaters that rush down the high plateaus.

## 7 🌐 RIVERS AND WATERFALLS

There are few permanent rivers in Botswana, and its temporary rivers never reach the sea. One of the permanent waterways, the Chobe River in the north, is a major tributary of the Zambezi River. The Zambezi itself forms a short section of Botswana's border. The Limpopo River, a major waterway in the east, marks the border with South Africa. The Okavango River enters the country in the northwest and ends in the Okavango Swamps. The Boteti River flows south from these swamps into Lake Xau.

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# BOTSWANA

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EPD/Cynthia Bassett

*Hippopotamus in the Okavango River.*

## **8** 🌐 **DESERTS**

The Kalahari Desert lies in the western portion of the country. It is a large, dry sandy basin that covers about 500,000 square kilometers (190,000 square miles). The Kalahari reaches from the Orange River in South Africa north to Angola, west to Namibia, and east to Zimbabwe.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

In the heart of the Kalahari Desert, the Okavango River spreads out into a seasonally flooded wetland covering some 16,835 square kilometers (6,500 square miles), or roughly the size of Massachusetts. It comprises swamps, channels, lagoons, and flood plains.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

There are no mountains in this elevated but relatively flat country. Botswana's highest elevations are found in the Tsodilo Hills, which are granite cliffs on the northwest fringe of the Kalahari Desert. The hills form a fortress-like

ridge 20 kilometers (12 miles) in length and have long been considered sacred by the native people. At their highest point, the cliffs reach 1,489 meters (4,884 feet) above sea level.

## **11** 🌐 **CANYONS AND CAVES**

There are a number of caves in Botswana, some of which contain fossils as many as 3 million years old, notably in the area around Lake Ngami. In the southeast, south of Gaborone, lie the Lobatse Caves.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

All of Botswana is located on a broad tableland with an average altitude of 1,000 meters (3,300 feet). A vast plateau, rising to about 1,219 meters (4,000 feet) above sea level, divides the country into two distinct topographical regions. This plateau extends from the southeastern part of the country to the border with Zimbabwe.

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# BOTSWANA

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## 13 MAN-MADE FEATURES

There are no notable man-made features affecting the geography of Botswana.

## 14 FURTHER READING

### Books

Alverson, Marianne. *Under African Sun*. Chicago: University of Chicago Press, 1987.

Augustinus, Paul. *Botswana: A Brush with the Wild*. Randburg, South Africa: Acorn Books, 1987.

Picard, Louis A., ed. *Politics and Rural Development in South Africa: The Evolution of Modern Botswana*. Lincoln: University of Nebraska Press, 1986.

## DID YOU KNOW?

The Okavango Delta, one of the world's largest wetlands, provides a unique ecosystem and habitat for an astounding abundance of African wildlife, including mammals, birds, fish, amphibians, and reptiles.

### Web Sites

The Government of Botswana Website. <http://www.gov.bw/home.html> (accessed July 3, 2003).

Mbendi Profile. <http://www.mbendi.co.za/exch/5/p0005.htm> (accessed July 3, 2003).

# Brazil

- **Official name:** Federative Republic of Brazil
- **Area:** 8,511,965 square kilometers (3,286,488 square miles)
- **Highest point on mainland:** Neblina Peak (Pico da Neblina) (3,014 meters/9,888 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern, Northern, and Western
- **Time zone:** There are four time zones. From east to west—noon GMT = 10 A.M. on the Fernando de Noronha islands; 9 A.M. in Rio de Janeiro; 8 A.M. in Manaus; 7 A.M. in Rio Branco (westernmost)
- **Longest distances:** 4,328 kilometers (2,689 miles) from north to south; 4,320 kilometers (2,684 miles) east to west
- **Land boundaries:** Total: 14,691 kilometers (9,108 miles); Argentina, 1,224 kilometers (759 miles); Bolivia, 3,400 kilometers (2,108 miles); Colombia, 1,643 kilometers (1,019 miles); French Guiana, 673 kilometers (417 miles); Guyana, 1,119 kilometers (694 miles); Paraguay, 1,290 kilometers (800 miles); Peru, 1,560 kilometers (967 miles); Suriname, 597 kilometers (307 miles); Uruguay, 985 kilometers (612 miles); Venezuela, 2,200 kilometers (1,364 miles)
- **Coastline:** 7,491 kilometers (4,655 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Brazil is the largest country in South America and shares common boundaries with every South American country except Chile and Ecuador. Its eastern coastline borders the Atlantic Ocean. With an area of 8,511,965 square kilometers (3,286,488 square miles), it is slightly smaller than the United States. The country is divided into twenty-six states and one federal district. Brazil has land area in both the Northern and Southern Hemispheres, because the equator crosses through the northern part of the country.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Brazil designates the Fernando de Noronha Islands (Arquipélago de Fernando de Noronha), which lie off its northeast coast, as a territory.

The country also controls several small islands in the Atlantic Ocean.

## 3 🌐 CLIMATE

Brazil's geographical diversity makes for a range of climatic conditions. Most of the country has a tropical climate. The southernmost regions lie outside the tropics and have a temperate climate. May through September are the coolest months, and the higher elevations in the south may receive snow during this time. In the north, the coastal areas experience tropical conditions, while the upland interior is relatively dry and moderate.

Rainfall varies widely across the country. In the southern and central part of the country, it generally ranges between 150 centimeters to 200 centimeters (58 inches to 78 inches)



# BRAZIL



annually, but it can be much higher in certain areas. Rainfall is heavier in the Amazon River basin, reaching as much as 300 centimeters (117 inches) annually. Parts of this region experience dry spells of three months or more each year. The northeast region is the driest and hottest part of the country, with lengthy droughts a regular occurrence.

SEASON	MONTHS	AVERAGE TEMPERATURE, RIO DE JANEIRO °CELSIUS (°FAHRENHEIT)
Summer	November to March	29°C (84°F)
Winter	May to September	17°C (63°F)

## 4 🌐 TOPOGRAPHIC REGIONS

The Amazon River basin and its many tributaries dominate the northern part of Brazil, occupying two-fifths of the country. The

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# BRAZIL

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Guiana Highlands, home to the country's highest point, Neblina Peak (Pico da Neblina) near the Venezuela border, are in the northernmost part of the Amazon River basin. To the south is a large plateau called the Brazilian Highlands. This plateau meets the Atlantic Ocean in a steep wall-like slope called the Great Escarpment. The highland block of the country is part of the South American Tectonic Plate.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Brazil's eastern seaboard borders the Atlantic Ocean, with a continental shelf that extends some 370 kilometers (200 nautical miles). The waters of the continental shelf are extremely shallow. Reefs and sandbars dot the shoreline.

### Sea Inlets and Straits

Duck Lagoon (Lagoa dos Patos), on the southern coast of Brazil, is a long, shallow tidal lagoon separated from the Atlantic Ocean by a wide sandbar. It covers an area of 10,153 square kilometers (3,920 square miles) and is the largest lagoon in the world.

Harbors in Brazil include, from south to north: Pôrto Alegre, in Rio Grande do Sul; Santos, in the port of São Paulo; Rio de Janeiro; Vitória, just north of Rio de Janeiro in Espírito Santo; and Belem and Macapá, both at the mouth of the Amazon River.

### Islands and Archipelagos

Many islands exist throughout the river system and delta area of the Amazon. One of the world's largest riverine islands, Marajó, is the largest island in the Amazon River Delta. (A riverine island is one situated in a river.) It lies in the center of the mouth of the Amazon River, separating the western arm from the eastern arm, known as the Pará River. Maracá Island lies north of the mouth of the Amazon, just to the south of Brazil's border with French Guiana.

The Fernando de Noronha Islands are a group of volcanic islands off the northeastern bulge of the country. The island state of Santa Catarina is located off the nation's southern coast, between São Paulo and Pôrto Alegre.

## Coastal Features

Brazil's beaches are among the most famous in the world, including Copacabana and Ipanema, found near Rio de Janeiro. Near the Uruguay border, a large sandbar separates Duck Lagoon from the Atlantic Ocean.

## 6 INLAND LAKES

Brazil has several small lakes throughout the Amazon River basin that formed naturally through flooding of the river systems. The largest of Brazil's natural lakes is the Duck Lagoon; the other large lakes are artificial, such as Sobradinho (3,970 square kilometers/1,533 square miles); Tucuruí (2,820 square kilometers/1,089 square miles); Balbina (2,360 square kilometers/911 square miles); and Serra da Mesa (1,784 square kilometers/689 square miles).

## 7 RIVERS AND WATERFALLS

The Amazon River is Brazil's longest river and the second-longest river in the world. It covers 3,218 kilometers (2,000 miles) within the country of Brazil, but it has a total length of

### DID YOU KNOW?

**T**ropical climate is typically hot and humid, with both abundant rainfall and intense sunshine; the main difference between seasons is the amount of rainfall. Temperate climate is generally mild, with greater differences in temperature from season to season.

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## BRAZIL

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EPD/Cynthia Bassett

*The Pantanal is a wet lowland region known in the upper reaches of the Paraguay River.*

about 6,570 kilometers (4,080 miles). It starts in Peru and flows through Colombia and Brazil before reaching the Atlantic Ocean. The Amazon has eighteen major tributaries, including ten that carry more water than the Mississippi River. The river is also known as having the world's largest flow of water, with about 303 million liters (80 million gallons) of water per second emptying into the Atlantic Ocean.

The Amazon River basin contains the world's largest tropical rain forest, which provides a natural replacement for 15 percent or more of the world's oxygen in the atmosphere. The number of species in this forest is unknown, but about one-fourth of the world's known plant species can be found in Brazil. Along much of the river in the Amazon basin, there are stretches of varzea (flat, swampy land) that is subject to frequent flooding and is underwater for part of every year.

The São Francisco River is the longest river contained entirely in Brazil. It starts near Belo Horizonte and flows northeastward along a line parallel to the coast before turning eastward toward the sea. At the border between the states of Sergipe and Alagoas, it drops 80 meters (265 feet) through a series of three spectacular waterfalls. The falls, known as Paulo Afonso Falls, lie about 305 kilometers (190 miles) from the mouth of the river on the Atlantic coast.

The Río de la Plata basin in the south includes three major rivers: Paraná, Uruguay, and Paraguay. The upper reaches of the Paraguay River contain a wet lowland system in western Mato Grosso called the Pantanal. Part of the region is protected as the Pantanal National Park, made up of swamp and marshland and supporting diverse wildlife. The Pantanal covers an area of about 140,000 square kilo-

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# BRAZIL

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EPD/Cynthia Bassett

*The Serra do Mar runs along the coast of Brazil. Pedra Acu rises to the west of Rio de Janeiro.*

meters (50,000 square miles) and is part of the world's largest freshwater wetland system.

The magnificent Iguazú Falls are located on the Iguazú River near the border with Argentina. The Iguazú River starts near the city of Curitiba and flows into the Paraná River. The Iguazú Falls include about 275 individual cataracts in a complex system that is 4.8 kilometers (3 miles) wide and 82 meters (270 feet) high.

## **8** 🌐 **DESERTS**

There are no desert regions in Brazil, although the northeast is arid, with dunes of white sand. Concern about desertification, the process where arid land becomes desert, is raised during periods of drought, but when the rains are normal, lagoons form between the dunes.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Grasslands cover major portions of the south and west-central regions. The plains of Rio Grande do Sul, the southernmost state of Brazil, are called pampas and provide fields for cattle raising. The southern part of the west-central region is a rolling prairie with rivers draining southward. Its soils are particularly suited for agriculture.

The northern, western, and central areas of the Central Highlands (Brazilian Highlands) feature broad, rolling terrain with low, rounded hills. Names have been given to some systems of hills, but these hills do not reach altitudes high enough to be considered mountains.

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# BRAZIL

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## 10 🌐 MOUNTAINS AND VOLCANOES

With an elevation of 3,014 meters (9,888 feet), the Neblina Peak (Pico da Neblina) in the Imeri range is Brazil's highest peak. It is located in the Guiana Highlands near the border with Venezuela.

The Serra do Mar runs along the coast for 1,609 kilometers (1,000 miles) from Santa Catarina to Rio de Janeiro and northward to join the Serra dos Orgaos. This extended range has an average height of about 1,524 meters (5,000 feet) topped by peaks above 2,133 meters (7,000 feet), including Pedra Acu, which rises to 2,318 meters (7,605 feet) just west of Rio de Janeiro. The Serra do Mar is so near the tidewater in many places that it rises almost directly from the shore.

The Serra da Mantiqueira is the highest and most rugged range of the Central Highlands. It includes the Bandeira Peak (Pico da Bandeira), which at 2,890 meters (9,482 feet) is the highest elevation in the Central Highlands.

The Serra do Espinhaço, or "Backbone Mountains," form a type of spine that determines the drainage divide between the São Francisco River to the west and short streams that tumble eastward to the Atlantic Ocean. It contains a great wealth of minerals. Sometimes the Serra do Espinhaço and the Serra da Mantiqueira are referred to collectively as the Serra Geral.

## 11 🌐 CANYONS AND CAVES

There are no significant caves or canyons in Brazil.

## 12 🌐 PLATEAUS AND MONOLITHS

The Central Highlands are often called the Brazilian Highlands or Brazilian Plateau. The region covers nearly all of Brazil south of the Amazon River basin.

The Guiana Highlands form part of an immense plateau that reaches higher altitudes than the Central Highlands. The Guiana Highlands extend into Venezuela, Guyana, Suriname, and French Guiana.

## 13 🌐 MAN-MADE FEATURES

Most of Brazil's energy comes from the hydroelectric power created by dams. The Sete Quedas hydroelectric power project is located on the Paraná River. The Tucuruí Dam created Lake Tucuruí, near the mouth of the Amazon River. It was the first large dam ever built in a tropical rainforest and has created one of the largest man-made lakes to exist in such a region. The Sobradinho Dam created Lake Sobradinho along the São Francisco River. The Itaipú Hydroelectric Power Station created the Itaipu Reservoir, located near Iguazú Falls.

## 14 🌐 FURTHER READING

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# Brunei Darussalam

- **Official name:** Negara Brunei Darussalam
- **Area:** 5,770 square kilometers (2,228 square miles)
- **Highest point on mainland:** Mt. Pagon (1,850 meters/6,070 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 8 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** 381 kilometers (237 miles)
- **Coastline:** 160 kilometers (100 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The small country of Brunei is an enclave (distinct cultural area or country surrounded by a larger country) on the northern coast of the island of Borneo. Brunei shares the island with two neighbors: the Malaysian state of Sarawak and Indonesia. Brunei has an area of 5,770 square kilometers (2,228 square miles), or slightly more than the state of Delaware.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Brunei believes it has rights to a fishing zone in an area of the Spratly Islands, land whose ownership is disputed among the Philippines, Malaysia, China, Taiwan, and Vietnam. Although Brunei has not made a formal claim on the territory, it does claim to have rights to fish in the waters around the islands.

## 3 🌐 CLIMATE

The temperature of Brunei, a tropical country, averages from 23°C to 32°C (73°F to 89°F) year round. Humidity stays at around 80 percent. The northeast monsoon affects Brunei with heavy rains in November and December. On Brunei's coast the annual rainfall averages around 275 centimeters (110 inches), while inland rainfall amounts to 500 centimeters (200

inches) or more. Brunei is out of the path of most ocean storms such as typhoons, although it can be affected by tidal surges.

## 4 🌐 TOPOGRAPHIC REGIONS

Brunei consists of distinct eastern and western segments, separated by Malaysia's Limbang River valley, but linked by the waters of Brunei Bay. The terrain in both the eastern segment (the Temburong District) and the more populated western segment is composed of a coastal plain rising gradually to hills and cut through by rivers running north to the sea.

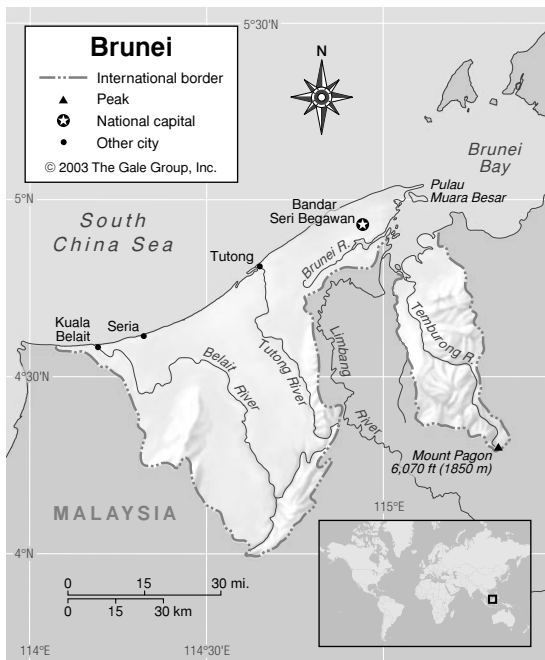
## 5 🌐 OCEANS AND SEAS

Brunei is strategically located on shipping lanes linking the trade routes of the Indian Ocean and Pacific Ocean through the South China Sea. The immensely valuable hydrocarbon deposits that have produced Brunei's petroleum export boom lie mainly under the South China Sea off Brunei's coast.

## Seacoast and Undersea Features

The waters along the Brunei coast are filled with nutrients carried by the rivers, so there is an abundance of marine life, making the area productive for fishing. An estimated five hundred species of fish have been identified in the coastal waters.

# BRUNEI DARUSSALAM



## Sea Inlets and Straits

In Temburong District, in the east, the steep muddy banks of Brunei Bay and its inlets form a major wildlife habitat.

## Islands and Archipelagos

Brunei has thirty-three islands, comprising 1.4 percent of its land area. Two are in the South China Sea. The others are river islands or, like Pulau Muara Besar, are situated in Brunei Bay. The islands are important wildlife habitats and are mostly uninhabited by humans.

## Coastal Features

The western section of Brunei has a coastline on the South China Sea, where sandbars lie between estuaries and the open ocean. The Belait, Tutong, and Brunei districts have three river estuaries and significant mangrove forests.

## 6 🌐 INLAND LAKES

There are a few lakes in Brunei. In Tutong District, a 77-square-kilometer (30-square-mile) nature park surrounds the unusual, S-shaped

Tasek Merimbun. The Wong Kadir and Teraja lakes are in Belait District.

## 7 🌐 RIVERS AND WATERFALLS

Four indigenous river systems and one originating in the Malaysian state of Sarawak flow north through and between the regions of Brunei to the South China Sea. The Belait River, Brunei's longest waterway, flows through western Brunei, as does the Tutong River.

The Brunei River runs southwest from an inlet of Brunei Bay (where Bandar Seri Begawan is located). In the eastern segment of Brunei, the Temburong River provides drainage for the entire Temburong District. The Limbang River valley, which belongs to Sarawak, splits Brunei in two.

## 8 🌐 DESERTS

Brunei has no deserts.

## 9 🌐 FLAT AND ROLLING TERRAIN

In the west of Brunei, hills lower than 90 meters (295 feet) rise toward an escarpment and the higher hills approaching the Sarawak border. Brunei's highest peak, Mount Pagon (1,850 meters/6,070 feet), is located in this region. Brunei's eastern sector is also covered with low hills, which gain height close to the border with Sarawak. The mangrove forests of Brunei's estuaries are an ecological treasure, considered among the most intact in Southeast Asia. Mangrove forests cover an estimated 3.2 percent of Brunei's land.

## DID YOU KNOW?

**B**runei's ecologically intact peat swamps (rare in north Borneo) are found in western Brunei.

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# BRUNEI DARUSSALAM

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ARAMCO/Tor Eigeland

*Brunei's Batu Apoi forest reserve.*

## 10 🌐 MOUNTAINS AND VOLCANOES

Brunei has no mountains.

## 11 🌐 CANYONS AND CAVES

There are no notable caves.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no notable plateaus.

## 13 🌐 MAN-MADE FEATURES

There are no man-made features affecting the geography of Brunei.

## 14 🌐 FURTHER READING

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Government of Brunei Darussalam website. <http://www.brunei.gov.bn/index.htm> (accessed June 5, 2003).



# Bulgaria

- **Official name:** Republic of Bulgaria
- **Area:** 110,910 square kilometers (42,811 square miles)
- **Highest point on mainland:** Musala (2,925 meters/9,596 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 330 kilometers (205 miles) from north to south; 520 kilometers (323 miles) from east to west
- **Land boundaries:** 1,808 kilometers (1,343 miles) total boundary length; The Former Yugoslav Republic of Macedonia (Macedonia), 148 kilometers (92 miles); Greece, 494 kilometers (307 miles); Romania, 608 kilometers (378 miles); Turkey, 240 kilometers (149 miles); Serbia and Montenegro (formerly part of Yugoslavia), 318 kilometers (197 miles)
- **Coastline:** 354 kilometers (214 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Bulgaria is part of the Balkan Peninsula (peninsula surrounded by, from west to east, the Adriatic, Ionian, Aegean, and Black Seas) in southeastern Europe. It has an eastern coastline on the Black Sea and shares borders with Romania, Turkey, Greece, the former Yugoslav republic of Macedonia (Macedonia) and Serbia and Montenegro (formerly part of Yugoslavia). With an area of about 110,910 square kilometers (42,811 square miles), the country is slightly larger than the state of Tennessee. Bulgaria is divided into twenty-eight provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Bulgaria claims no territories or dependencies.

## 3 🌐 CLIMATE

Overall, Bulgaria's climate is temperate, with cold, damp winters and hot, dry summers. There is, however, a modified Mediterranean climate in the Thracian Plain, because of the protection offered by the Balkan Mountains.

Rainfall is generally light in the plateaus, averaging about 65 centimeters (25 inches) per year, and higher in the mountain ranges, where it can reach up to 152 centimeters (60 inches). Most rainfall occurs during the winter months.

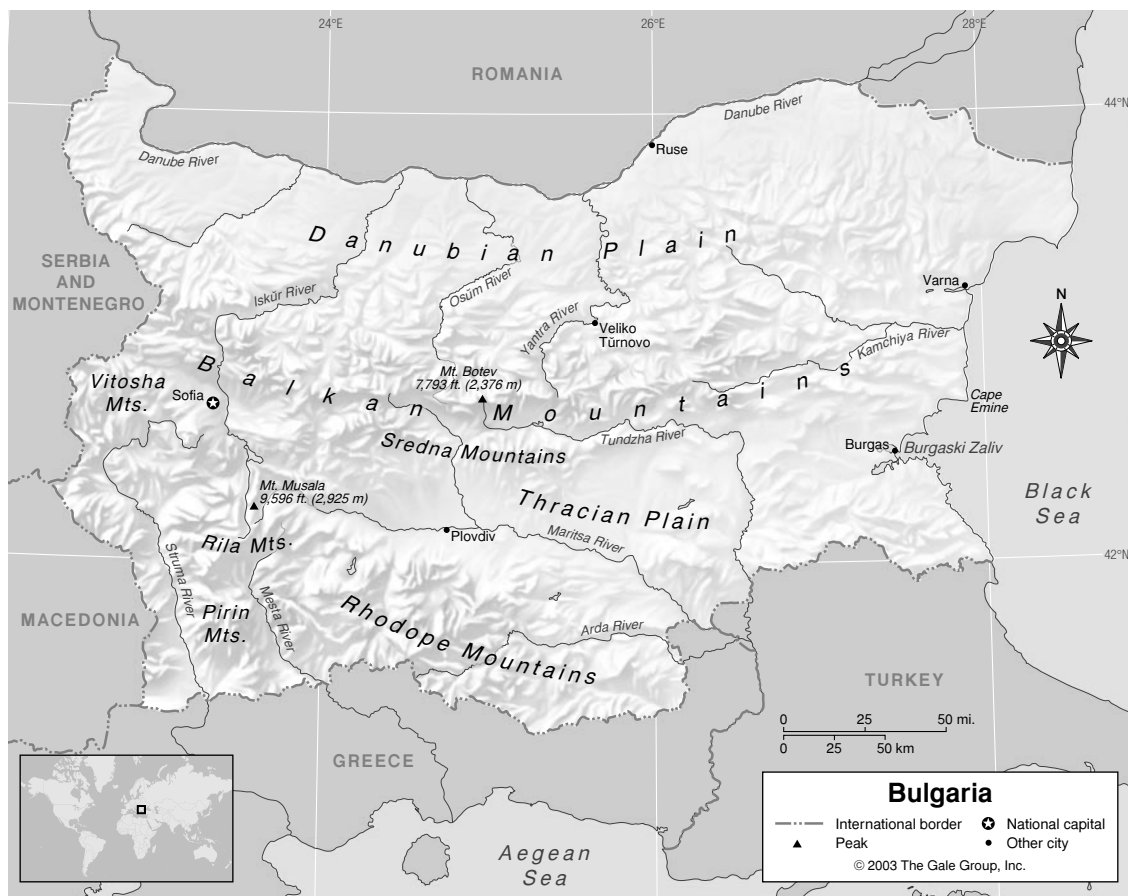
SEASON	MONTHS	AVERAGE TEMPERATURE °CELSIUS (°FAHRENHEIT)
Summer	May to September	22 to 24°C (72 to 75°F)
Winter	November to February	0 to 2°C (32 to 36°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Bulgaria occupies a relatively small area, but is nevertheless a land of unusual scenic beauty. It has picturesque mountains, wooded hills, sheltered valleys, grain-producing plains, and a seacoast along the Black Sea that has both rocky cliffs and long sandy beaches.

In the north of the country is the Danubian Plain. The central portion of the country houses

# BULGARIA



the Balkan Mountains and south of them is the Maritsa River. The Rhodope Mountains are found in the south and southwest areas of the country. Located on the Eurasian Tectonic Plate, Bulgaria is crossed by fault lines that cause frequent earthquakes.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Bulgaria has an eastern coastline on the Black Sea, an inland body of water between Europe and Asia. The waters of the Black Sea are calm and free of tides or dangerous marine life. Called the “Hospitable Sea” by the ancient Greeks, the Black Sea is half as salty as the Mediterranean Sea and has gentle sandy slopes, making it ideal for swimming.

### Sea Inlets and Straits

Burgaski Zaliv is a bay that indents the coast deeply in the south. Cape Emine extends eastward in the north.

### Coastal Features

Bulgaria’s coast on the Black Sea is curved, providing for many beaches along its 354 kilometers (214 miles) of shoreline. Many of the country’s beaches have received awards from the European Union for their environmental excellence. The coastline is varied, with coves, rugged shores, wooded hills, orchards, and fishing villages dotting the expansive area.

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# BULGARIA

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EPD/Saxifraga/Adriaan Dijkse

*Ropotamo River near the Black Sea.*

## 6 INLAND LAKES

Most of the estimated 280 glacial lakes are situated in the Rila and Pirin Mountains, at altitudes of 2,200 to 2,400 meters (7,216 to 7,872 feet). The highest of these, Ledenika Lake in the Rila Mountains, lies at an altitude of 2,715 meters (8,905 feet). Located in the Pirin Mountains, Popovo Lake, also known as the “Pirin Sea,” is the largest lake in the country. It covers an area of 12.4 hectares (30.7 acres) and is 480 meters (1,575 feet) long and 336 meters (1,102 feet) wide.

## 7 RIVERS AND WATERFALLS

The Danube (Dunav) River, which forms the majority of Bulgaria’s border with Romania, is by far the longest river in the country and is the second-longest waterway in Europe. With a total length of 2,850 kilometers (1,770 miles), it is deep and wide enough to be navigable by ocean vessels throughout Bulgaria. Most of the northern part of the country drains into the

Black Sea via the Danube and its tributaries. Many of these tributaries, including the Yantra and the Osum, rise in the Balkan Mountains. One notable exception is the Iskur, which rises in the Rila Mountains and flows northward, passing through Sofia’s eastern suburbs before it cuts a valley through the Balkan Mountains.

South of the Balkan Mountains, most rivers flow south into the Aegean Sea. Most notable among these rivers are the Mesta, the Struma, and the Maritsa, and the Maritsa’s tributaries, the Tundzha and Arda. Together, these waterways provide drainage for most of the Thracian Plain. The Kamchiya River in the northeast is the only large river to flow directly into the Black Sea. In the southeast, the Ropotamo River is the center of a large habitat for birds.

## 8 DESERTS

There are no desert regions in Bulgaria.

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# BULGARIA

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## 9 FLAT AND ROLLING TERRAIN

The Thracian Plain and Danubian Plain, both of which exist on large plateaus, have great varieties of vegetation. They are both densely populated and cultivated.

The north-flowing rivers have cut deep valleys through the Balkan Mountains and the Danubian Plain.

The famous Valley of Roses lies between the Balkan and Sredna Mountains. In this valley, hundreds of thousands of roses are in bloom during the months of May and June. At least 80 percent of the world's attar of roses (the fragrant oil used in perfumes) is produced here.

## 10 MOUNTAINS AND VOLCANOES

The Balkan Mountains (Stara Planina) comprise the biggest and longest mountain chain. As an extension of the Carpathian Mountains, the Balkans cover 700 kilometers (435 miles) across the central portion of the entire country,

### DID YOU KNOW?

The Balkan Peninsula, the southernmost peninsula of Europe, borders the Adriatic and Ionian Seas to the west, the Black and Aegean Seas to the east, and the Mediterranean Sea to the south. The countries within this region are collectively called the Balkan States. These nations include Albania, Bulgaria, continental Greece, southeast Romania, European Turkey, Serbia and Montenegro, Slovenia, Croatia, Bosnia and Herzegovina, and Macedonia.

declining in altitude towards the east. The range's highest peak is Botev at 2,376 meters (7,793 feet). Just to the south of the central part of this range are the Sredna Mountains (Sredna Gora), a 160-kilometer (100-mile) long ridge that runs almost directly from east to west at an average height of 1,600 meters (5,249 feet).

The other major mountain range is the Rhodope. These mountains mark the southern and southwestern borders of Bulgaria and include the Vitosha, Rila, and Pirin Mountains. These last two ranges are largely volcanic in origin and are the highest mountains on the Balkan Peninsula. Musala in the Rila Mountains is the tallest peak in the country at 2,925 meters (9,596 feet).

The densest forests in the country are in the mountainous regions. Broadleaf forests blanket the low areas of both the Balkan and Rhodope ranges, while conifers thrive at the higher elevations. In general, broadleaf forests are the predominant forest throughout the country.

## 11 CANYONS AND CAVES

Tirgard Gorge is located in the West Rhodope Mountains, near the town of Devin. The gorge is about 500 meters (1,640 feet) long with cliffs above 300 meters (984 feet) high. The path to the gorge consists of an 80-meter (262 feet) rock tunnel.

Novi Iskur Gorge, surrounding the Iskara River, is located between the towns of Novi Iskur and Chomakovtsi. This gorge stretches for a length of about 156 kilometers (97 miles) and features a variety of rock formations.

More than two thousand caves are scattered amidst the limestone layers of the Pirin and the Balkan Mountains. The most notable of these caves are Bacho Kiro, Ledenika, Magura, Snezhanka, and Jamova Dupka.

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# BULGARIA

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## 12 🌐 PLATEAUS AND MONOLITHS

The Danubian Plain extends from the Serbia and Montenegro border to the Black Sea. The plateau rises from cliffs along the Danube River and extends south to the Balkan Mountains at elevations as high as 457 meters (1,500 feet). On the southern side of the Balkan Mountains is another plateau, the Thracian Plain, which is drained by the Maritsa River. Both plateaus are fertile regions of hills and plains, gradually declining in elevation as they approach the Black Sea.

The Melnik Pyramids are natural rock formations found in the southwestern slopes of the Pirin Mountains. These amazing monolithic sculptures come in a variety of shapes, including some that look like Egyptian pyramids and Gothic temples.

## 13 🌐 MAN-MADE FEATURES

The Ivanovo Rock Monasteries, located in the Roussenski Lom River valley in northeast Bulgaria, have been designated as a UNESCO (United Nations Educational, Scientific, and Cultural Organization) World Heritage Site.

Hermit monks built the monastery during the twelfth century, carving the cells and chapels of the structure into the rocks. Two hundred years after the construction, the walls of most of the rooms were covered with exquisite fresco paintings.

## 14 🌐 FURTHER READING

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# Burkina Faso

- **Official name:** Burkina Faso
- **Area:** 274,200 square kilometers (105,869 square miles)
- **Highest point on mainland:** Tena Kourou (747 meters/2,451 feet)
- **Lowest point on land:** Black Volta River (200 meters/656 feet)
- **Hemispheres:** Northern, Eastern, and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 873 kilometers (542 miles) from east-northeast to west-southwest; 474 kilometers (295 miles) from south-southeast to north-northwest
- **Land boundaries:** 3,192 kilometers (1,983 miles) total boundary length; Benin, 306 kilometers (190 miles); Cote d'Ivoire, 584 kilometers (363 miles); Ghana, 548 kilometers (341 miles); Mali, 1,000 kilometers (621 miles); Niger, 628 kilometers (390 miles); Togo, 126 kilometers (78 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Burkina Faso (known as Upper Volta from 1960 until 1984) is a landlocked country (does not have access to the sea) in northwest Africa. It lies west of Niger; northwest of Benin; north of Mali, Togo, Ghana, and Côte d'Ivoire; and east and south of Mali. With an area of 274,200 square kilometers (105,869 square miles), the country is slightly larger than the state of Colorado. Burkina Faso is divided into thirty provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Burkina Faso has no outside territories or dependencies.

## 3 🌐 CLIMATE

High temperatures are typical in Burkina Faso, especially during the dry season. From March to May, the harmattan, a dry east wind, contributes to considerably hot temperatures that

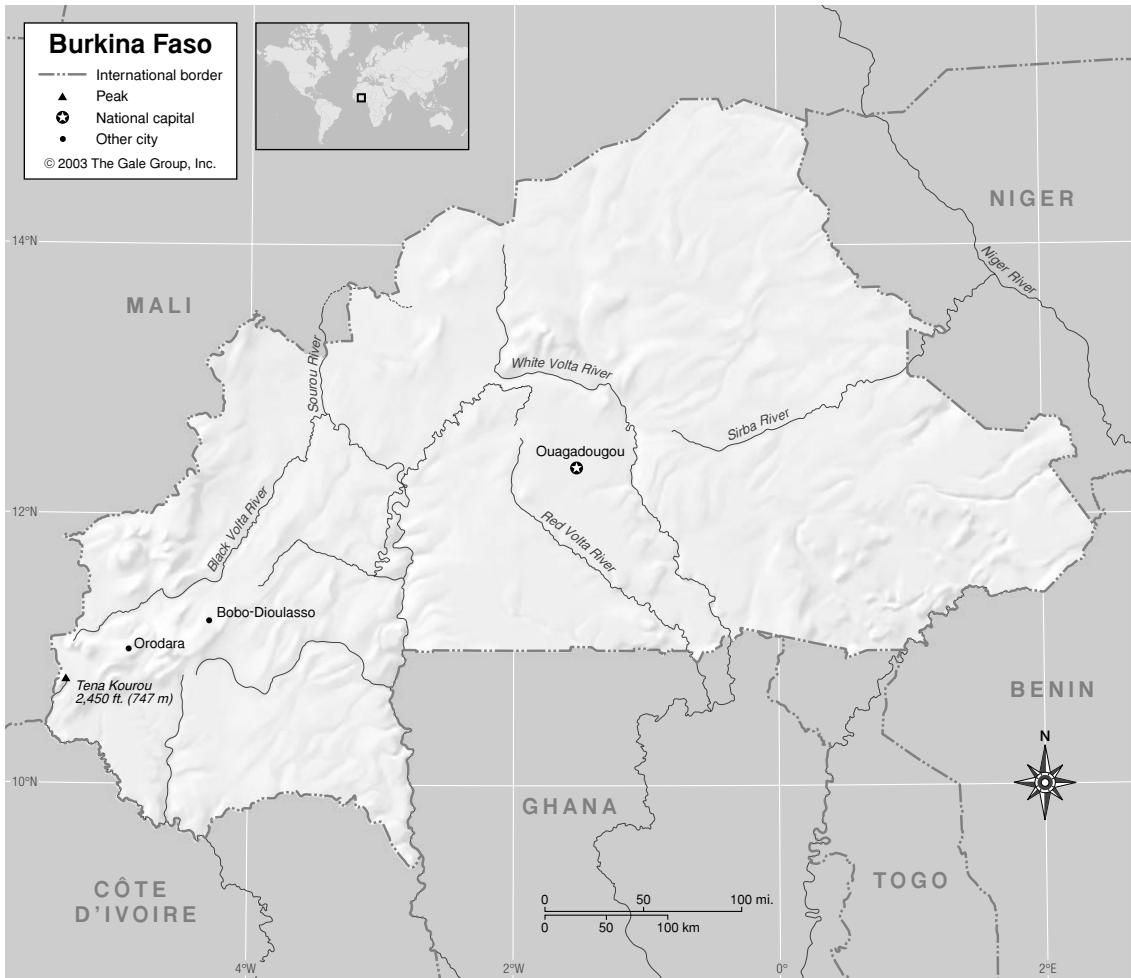
range from 40° to 48°C (104° to 119°F). From May to October, the weather is hot, but wet; and from November to March, it is dry and comfortable. January temperatures vary from 7° to 13°C (44° to 55°F).

The average annual rainfall varies from 115 centimeters (45 inches) in the southwest to a low of 25 centimeters (10 inches) in the extreme north and northeast portion of the country. The country suffers from recurring droughts.

## 4 🌐 TOPOGRAPHIC REGIONS

Burkina Faso is situated on a single, vast plateau known as the Mossi Highlands. Three valleys are carved around the highlands by the Black, White, and Red Volta Rivers, and their main tributary, the Sourou. The rivers are either flooded or dry, making the terrain of this savannah arid and poor. This wild bush country has a mixture of grasslands and small

# BURKINA FASO



trees. The northern provinces of Burkina Faso are part of the Sahel region, a long strip of savannah that marks the southern edge of the Sahara Desert. Though most of the country is flat, there is a hill region in the southwest.

## 5 🌐 OCEANS AND SEAS

Burkina Faso is a landlocked country.

## 6 🌐 INLAND LAKES

Burkina Faso has very few permanent natural lakes. One of them, Lake Tengréla, is located beyond the waterfalls of Karfiguéla near the city of Banfora. Lake Bam is found in the northern stretch of the White Volta River.

## 7 🌐 RIVERS AND WATERFALLS

The longest river in Burkina Faso is the Black Volta (1,352 kilometers/840 miles), located in the southwestern bulge of the country. The two other principal rivers, the White Volta and Red Volta, run north to south in the central plateau region. All of the rivers flow southward and meet in Ghana to form the Volta River and Lake Volta. They are alternately dry or flooded and all are unnavigable.

The hill region of the southwest offers many waterfalls, particularly during the rainy

# BURKINA FASO



UNESCO/Dominique Roger

*Burkinabe villagers have prepared bricks from the dry, clay-like earth.*

season. The Karfiguéla waterfalls are located just outside of Banfora.

## 8 🌐 DESERTS

Sahel is an Arabic word that means “shore.” It refers to the 5,000-kilometer-long (3,125-mile-long) stretch of savannah that forms the edge of the Sahara Desert. The Sahel spreads east to west from Somalia to Mauritania and Senegal and covers most of the northern portion of Burkina Faso. Sparse rainfall means drought is common in this area, so even crops that need very little water often fail. Soil erosion is a great concern for this region, as the dry soil is blown away by the hot harmattans or washed into the rivers during the rains. To catch rainwater and reduce soil erosion on crop areas, farmers build diguettes around their fields. A diguette is a line of stones built up along the borders of a farmland that essentially creates a barrier to keep the rainwater on the crop field.

## 9 🌐 FLAT AND ROLLING TERRAIN

The savannah region of Burkina Faso is primarily grassland during the rainy season.

The highest elevation is Tena Kourou at 747 meters (2,451 feet). It is located in a low hilly region near the Mali border, south of Orodara. The hills were formed by the incline of the central plateau.

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no significant mountain ranges in Burkina Faso.

## 11 🌐 CANYONS AND CAVES

There are no significant caves or canyons in Burkina Faso.

## 12 🌐 PLATEAUS AND MONOLITHS

For the most part, the country consists of a vast plateau in the West African savannah, approximately 198 to 305 meters (650 to 1,000 feet) above sea level. This plateau is slightly



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## BURKINA FASO

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inclined toward the south, and it is notched by valleys formed by the three principal rivers, the Black, White and Red Volta Rivers.

### 13 MAN-MADE FEATURES

Much of Burkina Faso relies on a system of dams and reservoirs to supply water for drinking and agriculture. Some of the largest dams include Douna and Moussodougou in the west; Sourou in the northwest; Bam, Loumbila, and Kanazoé in the central region; and Kompienga in the east. A number of smaller dams are used through the country to create temporary flooding for agriculture.

### 14 FURTHER READING

#### Books

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McFarland, Daniel Miles. *Historical Dictionary of Upper Volta*. Metuchen, NJ: Scarecrow Press, 1978.

Skinner, Elliott P. *African Urban Life: The Transformation of Ouagadougou*. Princeton, NJ: Princeton University Press, 1974.

#### Web Sites

Oxfam's Cool Planet - On The Line - Burkina Faso.  
<http://www.oxfam.org.uk/coolplanet/ontheline>  
(accessed June 13, 2003).

# Burundi

- **Official name:** Republic of Burundi
- **Area:** 27,830 square kilometers (10,745 square miles)
- **Highest point on mainland:** Mount Heha (2,670 meters/8,760 feet)
- **Lowest point on land:** Lake Tanganyika (772 meters/2,533 feet)
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 263 kilometers (163 miles) from north-northeast to south-southwest; 194 kilometers (121 miles) from east-southeast to west-northwest
- **Land boundaries:** 974 kilometers (605 miles) total boundary length; Rwanda, 290 kilometers (180 miles); Tanzania, 451 kilometers (280 miles); Democratic Republic of the Congo, 233 kilometers (145 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Burundi is a small, densely populated, landlocked country (does not have access to the sea) in east-central Africa, bounded by Rwanda, Tanzania, and Lake Tanganyika. It is slightly larger than the state of Maryland.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Burundi claims no territories or dependencies.

## 3 🌐 CLIMATE

Although Burundi lies within fifty degrees of the equator, its high elevations keep temperatures at a comfortable level. Humidity, however, is high. The average annual temperature in the western plains (including the capital city of Bujumbura) is 23°C (73°F). Temperatures average 20°C (68°F) in the plateau region and 16°C (60°F) in the mountains.

Dry seasons occur from June to August and December to January, and rainy seasons from February to May and September to November.

SEASON	MONTHS
Long dry season (winter)	June to August
Short wet season (spring)	September to November
Short dry season (summer)	December to January
Long wet season (fall)	February to May

## 4 🌐 TOPOGRAPHIC REGIONS

Burundi has three major natural regions: 1) the Rift Valley area in the west, which consists of the narrow plains along the Rusizi River and the shores of Lake Tanganyika, together with the belt of foothills on the western face of the divide between the Congo and Nile Rivers; 2) the mountains that form the Congo-Nile divide; and 3) the central and eastern plateaus and the warmer, drier plains near the country's eastern and southeastern borders.

# BURUNDI



## 5 🌐 OCEANS AND SEAS

Burundi is landlocked.

## 6 🌐 INLAND LAKES

Burundi shares Lake Tanganyika with Tanzania, Zambia, and the Democratic Republic of the Congo. Its shores form Burundi's southeastern border, extending for over 161 kilometers (100 miles). Burundi also has a number of smaller lakes located entirely within its borders, of which Lake Rweru in the north is among the largest.

## 7 🌐 RIVERS AND WATERFALLS

West of the mountains that form the Congo-Nile divide, runoff waters drain down Burundi's narrow western plains into the Ru-

sizi River and Lake Tanganyika. This area is known as the western watershed (area where all the rainfall drains into a common river or lake system). The major rivers of the central plateaus include the Ruvironza (or Luvironza) and the Ruvubu; the latter is an extension of the White Nile River. In the east, the two principal rivers on the border with Tanzania are the Rumpungu and the Malagarasi, which forms most of Burundi's southern border.

## 8 🌐 DESERTS

There are no desert areas in Burundi.

## 9 🌐 FLAT AND ROLLING TERRAIN

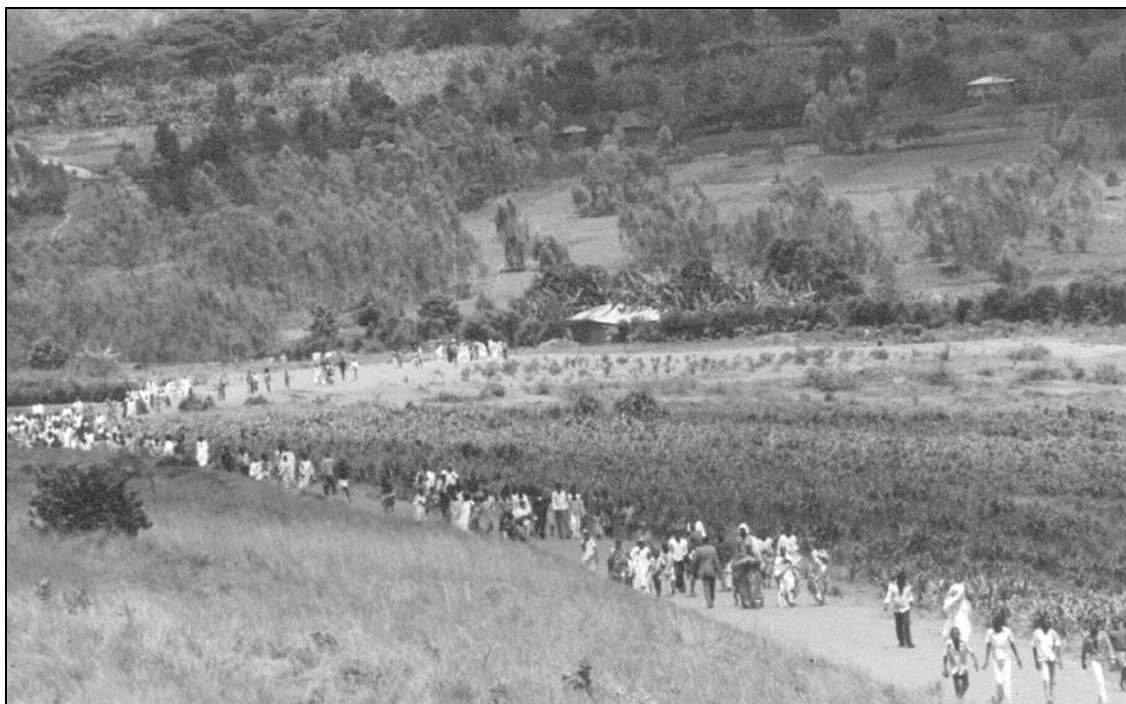
Above the flat western plains that border the Rusizi River and Lake Tanganyika, a belt of foothills and steeper slopes forms the western face of the Congo-Nile divide. This region includes valleys and farmland. At the westernmost edge of the country, the narrow Imbo plain extends south along the Rusizi River from the Rwanda border through Bujumbura. It then continues southward for another 48 kilometers (30 miles) along the eastern shore of Lake Tanganyika. This plain, which belongs to the western branch of the Great Rift Valley, is entirely below 1,066 meters (3,500 feet) in elevation. On Burundi's southeastern border, the Mosso plains lie along the Malagarasi, Rumpungu, and Rugusi Rivers.

Most of Burundi's terrain (land surface) is a treeless plain, called savannah, covered with grasses. Burundi once had areas of forest, but most of the country's trees have been cut down.

## 10 🌐 MOUNTAINS AND VOLCANOES

Burundi's mountains, located in the western part of the country, form part of the divide between the basins of the Nile and Congo Rivers. They extend the entire length of the country from north to south, forming a series of long, narrow ridges that are generally less than 16

# BURUNDI



EPD/Cynthia Bassett

*Most of Burundi is savannah (treeless plain).*

kilometers (10 miles) wide, with an average elevation of about 2,438 meters (8,000 feet).

## **11** 🌐 **CANYONS AND CAVES**

There are no significant caves or canyons in Burundi.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

East of the rugged Congo-Nile divide lies a large central plateau with an average elevation of 1,525 to 2,000 meters (5,000 to 6,500 feet). This pleasant highland, inhabited by farmers and cattle herders, is heavily farmed and grazed.

## **13** 🌐 **MAN-MADE FEATURES**

Burundi, with help from international experts, is developing factories and methods for converting its natural peat (partially decomposed water plants) into fuel, since there is a shortage of wood to burn for cooking and heating.

## **14** 🌐 **FURTHER READING**

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World Atlas Website. <http://www.worldatlas.com/atlas/africa/maps/burundi.htm> (accessed June 13, 2003).

# Cambodia

- **Official name:** Kingdom of Cambodia
- **Area:** 181,040 square kilometers (69,900 square miles)
- **Highest point on mainland:** Phnom Aural (1,810 meters/5,939 feet)
- **Lowest point on land:** Gulf of Thailand at sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 7 P.M. = noon GMT
- **Longest distances:** 730 kilometers (454 miles) from northeast to southwest; 512 kilometers (318 miles) from northwest to southeast
- **Land boundaries:** 2,572 kilometers (1,598 miles) total boundary length; Laos, 541 kilometers (336 miles); Thailand, 803 kilometers (499 miles); Vietnam, 1,228 kilometers (763 miles)
- **Coastline:** 443 kilometers (275 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Cambodia is located in the southwestern part of the Indochina peninsula. (Besides Cambodia, the countries of Myanmar, Thailand, Laos, Vietnam, and part of Malaysia make up the Indochina peninsula in Southeast Asia.) Cambodia lies completely within the tropics—its southernmost points are only a little more than ten degrees above the equator. Bordered by Laos, Thailand, and Vietnam, Cambodia also has a short but heavily indented coastline on the Gulf of Thailand. Cambodia has an area of 181,040 square kilometers (69,900 square miles), or slightly less than the state of Oklahoma.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Cambodia claims no territories or dependencies.

## 3 🌐 CLIMATE

Cambodia has a humid, tropical climate. There is little seasonal variation in temperatures, which generally range from 20°C to

36°C (68°F to 97°F). The two seasons are determined by monsoons. Southwestern winds bring the rainy season, which lasts from April or May to November; northeast monsoon winds trigger a drier season for the remainder of the year, characterized by lower rainfall, less humidity, and variable skies. Rainfall varies from 127 to 140 centimeters (50 to 55 inches) in the great central basin to 508 centimeters (200 inches) or more in the southwestern mountains.

SEASON	MONTHS
Rainy (summer)	April to November
Dry (winter)	December to March

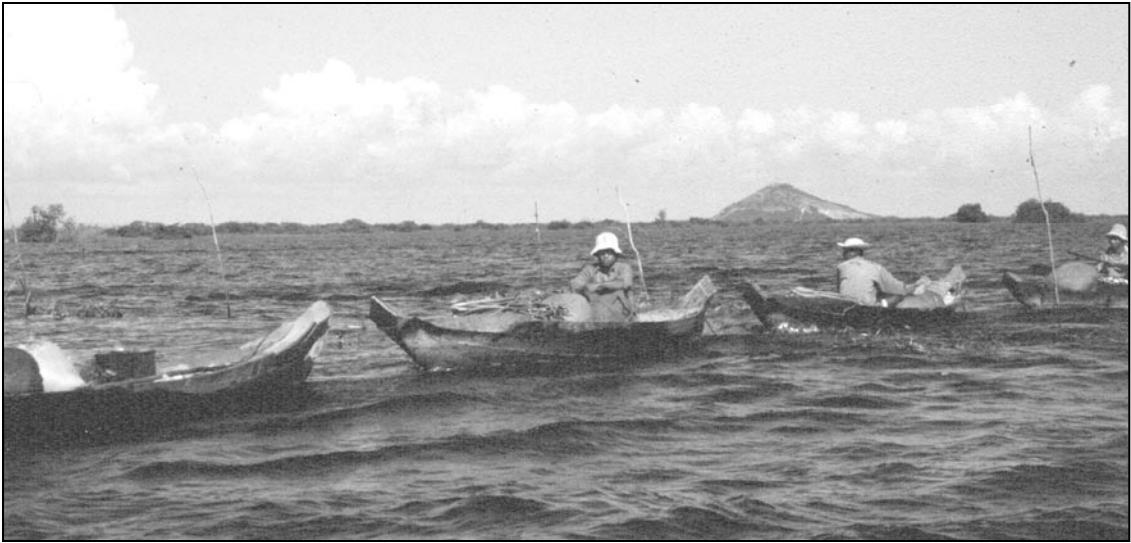
## 4 🌐 TOPOGRAPHIC REGIONS

The heart of Cambodia, occupying three-quarters of the country, is the large drainage basin of the Tonle Sap Lake and the Mekong River. Located in the center of the country,

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# CAMBODIA

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EPD/Cynthia Bassett

*Tonle Sap is Cambodia's largest lake.*

it consists mostly of plains with elevations generally less than 91 meters (300 feet) above sea level. It is bounded by highlands to the east and northeast and by the Cardamom Mountains and Elephant Mountains to the southwest. The mountain ranges that mark the southwestern edge of the central plains are bordered on the Gulf of Thailand side by a narrow coastal plain.

## **5** 🌐 **OCEANS AND SEAS**

Cambodia is bordered on the southwest by the Gulf of Thailand.

### **Seacoast and Undersea Features**

Recreational snorkelers enjoy exploring the waters off Kâmpóng Saôm.

### **Sea Inlets and Straits**

The most important feature of Cambodia's short coastline is the deep, irregularly shaped bay at the port of Kâmpóng Saôm.

## **Islands and Archipelagos**

Numerous islands dot the waters off the Cambodian coast. The largest include Kaôh Kong and Kaôh Rung.

## **Coastal Features**

Cambodia's coastline is heavily indented. The largest and deepest indentation is the bay at Kâmpóng Saôm.

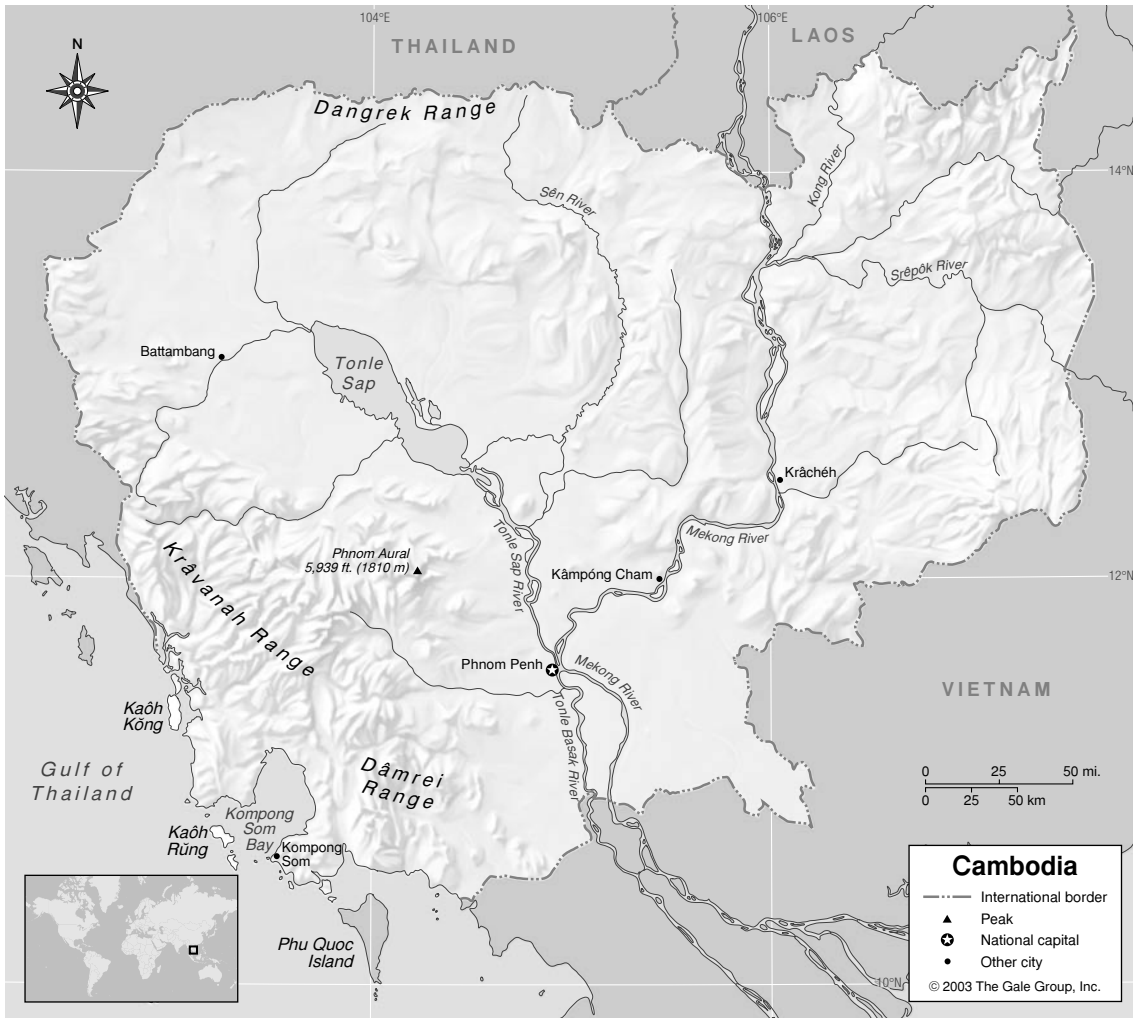
## **6** 🌐 **INLAND LAKES**

Cambodia's largest lake is the Tonle Sap, or Great Lake. Connected to the Mekong River by the Tonle Sap River, it acts as a natural reservoir during the Mekong's flood period. During this time, the area of the lake is enlarged from a low of about 260 square kilometers (100 square miles) to nearly 2,100 square kilometers (800 square miles) at the height of the flooding.

## **7** 🌐 **RIVERS AND WATERFALLS**

The Mekong River, together with its drainage basin, is Cambodia's dominant physical feature. The Mekong flows southward in Cam-

# CAMBODIA



bodia for about 505 kilometers (315 miles), from the Cambodia-Laos border to below the provincial capital of Krâchéh, where it turns westward and then southwestward to Phnom Penh. From Phnom Penh, the river flows generally southeastward. It divides at this point into two principal channels. The new one is known as the Tonle Basak River, which flows independently from here on through the delta area into the South China Sea. In the southwest, the Cardamom and Elephant ranges form a separate drainage divide. To the east of this divide, the rivers flow into the Tonle Sap; those to the west drain into the

Gulf of Thailand. There are extensive rapids located just upstream of Krâchéh.

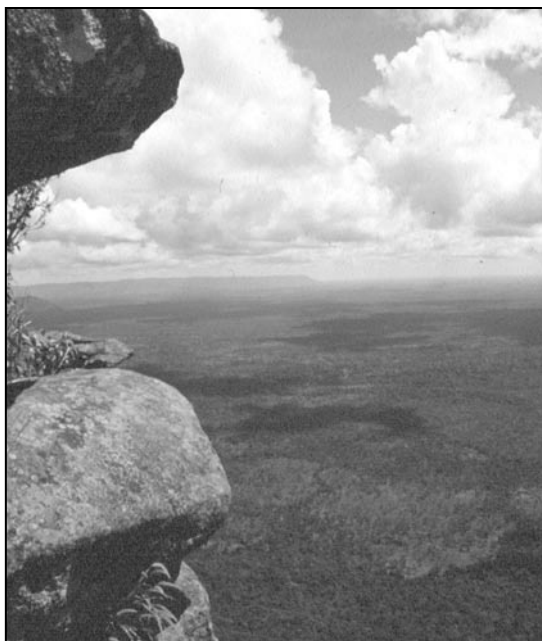
## 8 🌐 DESERTS

There are no desert areas in Cambodia.

## 9 🌐 FLAT AND ROLLING TERRAIN

The alluvial plain (area made up of soil deposited by a river) of the Mekong River and the Tonle Sap drainage basin occupies the center of the country, surrounded by a transitional zone of rolling land with elevations of up to several hundred feet above sea level. The regular flood-

# CAMBODIA



EPD/Cynthia Bassett

*Cambodian countryside as viewed  
from a mountain peak.*

ing of the central plain irrigates the land for the cultivation of rice and other crops.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Cardamom (Krâvanh) Mountains, extending in a northwest-southeast direction, have elevations rising to over 1,524 meters (5,000 feet); Phnom Aural, an eastern spur of this range, is the highest point in the country. The Elephant (Dâmrei) Mountains, running south and southeastward from the Cardamom, has elevations above 914 meters (3,000 feet). The Dangrek range at the northern rim of the basin consists of a steep cliff with an average elevation of about 487 meters (1,600 feet). Facing south, it constitutes the southern edge of the Khorat Plateau, which extends northward into Thailand.

## 11 🌐 CANYONS AND CAVES

There are a few caves in Cambodia. At Phnom Proset, about 40 kilometers (25 miles) from

## DID YOU KNOW?

**D**olphins swim in the waters of the upper Mekong River. Despite increased river traffic, Cambodian customs and environmental activists have managed to protect the estimated eighty dolphins that inhabit the river.

Phnom Penh, is Prasat Ruong, or Temple of the Mountain Cave. Prasat Ruong was built over the opening to a cave that may be explored for about 50 meters (160 feet).

## 12 🌐 PLATEAUS AND MONOLITHS

East of the Mekong River, mountains and plateaus extend eastward at an average elevation of 360 meters (1,200 feet), continuing past the border as the central highlands of Vietnam.

## 13 🌐 MAN-MADE FEATURES

Hydroelectric dams were being planned in 2001 and 2002, including one in Bokor National Park in southwest Cambodia.

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# Cameroon

- **Official name:** Republic of Cameroon
- **Area:** 475,440 square kilometers (183,568 square miles)
- **Highest point on mainland:** Mount Cameroon (4,095 meters/13,435 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,206 kilometers (749 miles) from north to south; 717 kilometers (446 miles) from east to west
- **Land boundaries:** 4,591 kilometers (2,853 miles) total boundary length; Central African Republic, 797 kilometers (495 miles); Chad, 1,094 kilometers (680 miles); Republic of the Congo, 523 kilometers (325 miles); Equatorial Guinea, 189 kilometers (117 miles); Gabon, 298 kilometers (185 miles); Nigeria, 1,690 kilometers (1050 miles)
- **Coastline:** 402 kilometers (250 miles)
- **Territorial sea limits:** 91 kilometers (50 nautical miles)

## 1 🌐 LOCATION AND SIZE

Cameroon is a triangle-shaped country located between West Africa and Central Africa. It has a western border on the waters of the Bight of Biafra in the Gulf of Guinea, between Equatorial Guinea (south) and Nigeria (north). It also shares borders with the countries of Gabon and Republic of the Congo to the south, and Central African Republic and Chad to the east. With a total area of 475,440 square kilometers (183,568 square miles), Cameroon is slightly larger than the state of California. The country is divided into ten provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Cameroon claims no territories or dependencies.

## 3 🌐 CLIMATE

Cameroon has a climate that varies from tropical along the coast to semiarid (little annual rainfall) and hot in the north. The average temperature range in Yaoundé is from 18 to 29°C (64 to 84°F). The north part of Cameroon has a wet season between April and September

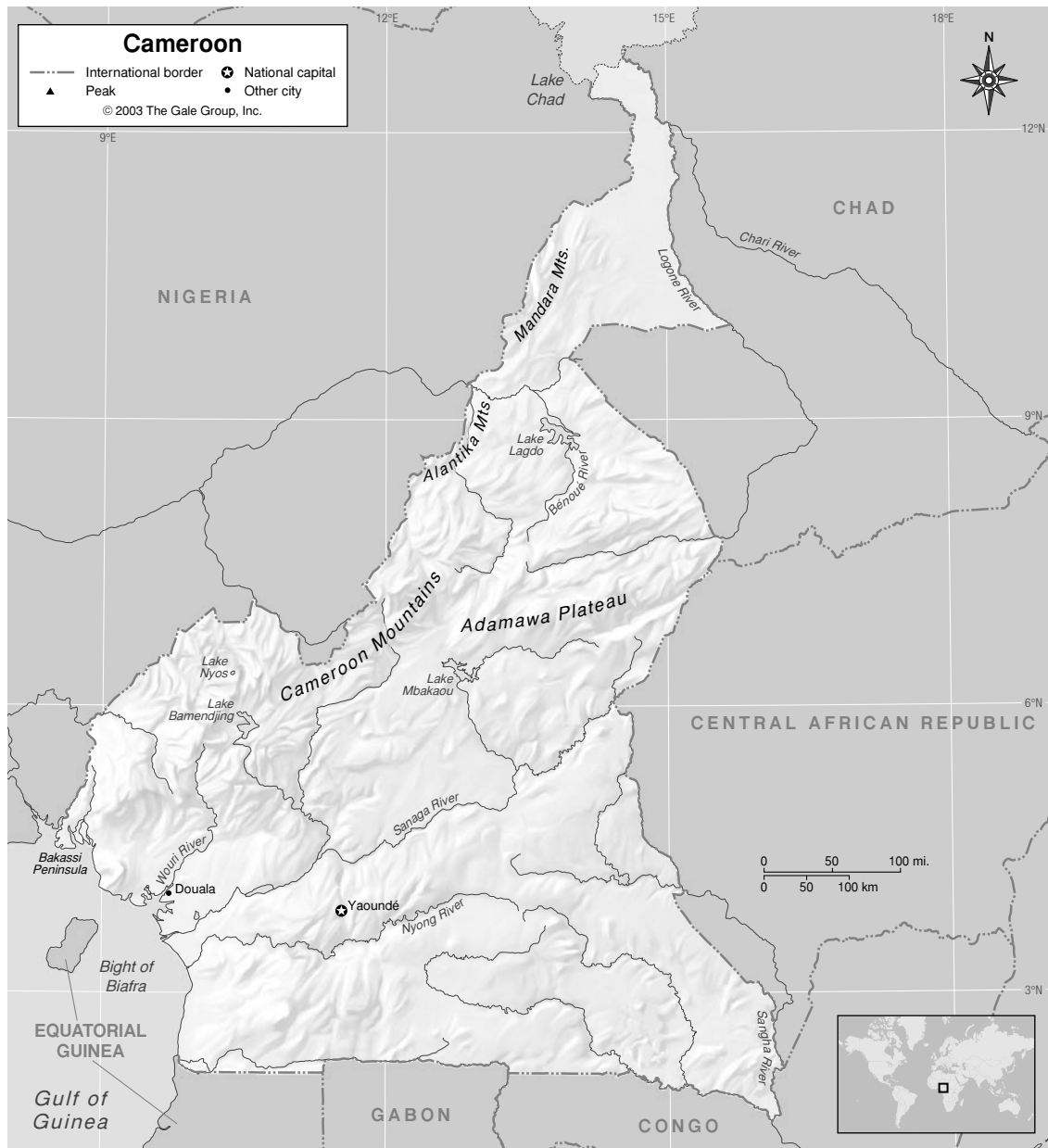
with an average annual precipitation between 100 and 175 centimeters (39 and 69 inches). The south alternates between wet and dry seasons. The two wet seasons are from March to June and again from August to November. Annual precipitation in the south reaches 403 centimeters (159 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

The terrain (surface of the land area) of Cameroon is diverse. The country has four basic geographic regions. The southwestern lowlands are located along the coast. The northwestern highlands run from the northern coast along the border with Nigeria.

The central region covers a majority of the country and includes the Adamawa Plateau. The northern plains run through the northern arm of the country that reaches up through Chad. This area is a part of the Sahel, the semiarid region that borders the Sahara Desert.

# CAMEROON



## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Along its west coast, Cameroon borders the Bight of Biafra, an eastern bay of the Gulf of Guinea.

### Coastal Features

The Bakassi Peninsula is a 1,554-square-kilometer (600-square-mile) region that includes the northern edge of the Cameroon coast and a series of islands that are believed to contain rich oil reserves. The area is mostly a mangrove forest swampland. Currently, the

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# CAMEROON

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EPD/Evangelical Lutheran Church in America

*Homes in Cameroon are typically built in the grassland regions.*

governments of Cameroon and Nigeria both claim ownership of the Bakassi, as each hopes to profit from these potential oil reserves. As of 2002, both countries had filed suits with the International Court of Justice of the United Nations, but the dispute is not expected to be resolved quickly.

Most of the coastal zone is a flat area of sedimentary soils that stretch along the Gulf of Guinea for about 257 kilometers (160 miles). In the south, the coastal plain is covered by equatorial rain forests, with swamplands along its edges. The beaches near Limbe, at the base of Mount Cameroon, are known for their black volcanic sand.

## **6** **INLAND LAKES**

The largest lake in Cameroon is Lake Chad, which is shared by the neighboring country of Chad. The size of the lake varies from season to season, depending on rainfall, with a total area of 10,360 to 25,900 square kilometers

(4,000 to 10,000 square miles). It is divided into north and south basins, reaching depths of only about 7.6 meters (25 feet). The lake has no outlets. Its chief tributary is the Chari River, which extends into Chad. Lake Chad is the largest inland body of water on the Sahel.

Freshwater Lake Nyos and Lake Monoun, in the northwestern highlands, formed in volcanic craters. Both lakes contain toxic levels of carbon dioxide gas. In 1986, a buildup of this gas erupted from Lake Nyos, spewing 80 meters (260 feet) into the air. It created a heavy poisonous cloud that eventually swept over an area of about 25 kilometers (16 miles), suffocating seventeen hundred villagers living in the valley below. In 1984, a similar eruption from Lake Monoun killed thirty-seven people. In 2001, scientists began a project to construct a pipeline ventilation system in the lakes. Through this system, the contaminated waters from the bottom of the lakes are pumped

# CAMEROON

slowly and regularly to the surface in a gas-water fountain. This allows for the carbon dioxide to be released into the atmosphere at a slower, more controlled rate.

Other crater lakes include Barombi Mbo, Bermin, Dissoni (Soden), Benakouma, Kotto, and Mboandong.

## 7 RIVERS AND WATERFALLS

The longest river in Cameroon is the Sanaga at 515 kilometers (325 miles). It is formed by headstreams from the center of the country and flows southwest to the Gulf of Guinea. Three other major rivers are the Djérem, Bénuoé, and Nyong.

## 8 DESERTS

The northern plains between Maroua and Lake Chad are part of the region known as the Sahel. Sahel is an Arabic word meaning “shore.” It refers to the 5,000-kilometer (3,125-mile) stretch of savannah that is the shore or edge of the Sahara Desert. The Sahel spreads

### DID YOU KNOW?

Cameroon's exotic native wildlife is attractive to tourists. The government has created game reserves where animals can be observed first-hand, such as elephants, lions, giant eland (a large antelope), bongos (white-striped antelope), chimpanzees, crocodiles, and dozens of species of birds. Game reserves are located in the far north and in the southeast, which is home to a small population of lowland gorillas.

from Mauritania and Senegal in the west to Somalia in the east.

## 9 FLAT AND ROLLING TERRAIN

Vast stretches of grassland are typical within the highlands near the city of Bamenda, while thorn trees and scrub cover the semi-arid northern plains. A few wooded savannah areas dot the east-central part of the country. Only 4 percent of the land in Cameroon is considered permanent pasture, and only 13 percent of the land is arable.

The Mandara Mountains of northern Cameroon extend northward from the town of Garoua and along the Nigerian border. They have a fairly low elevation, with most peaks under about 1,400 meters (4,593 feet)—much lower than the mountains of the northwestern highlands. The Mandara range is known for the ethnic diversity of its residents; more than fifty ethnic groups live there. Most of the mountain dwellers survive as farmers or cattle breeders.

## 10 MOUNTAINS AND VOLCANOES

The highest mountain range in the country is the Cameroon Mountains, located in the northwest bulge of the country along the border with Nigeria. Elevations in this range are generally between 1,676 meters (5,500 feet) and 2,438 meters (8,000 feet).

These mountains were formed through the volcanic activity of the Cameroon Rift, but currently the only active volcano is Mount Cameroon, with its most recent eruption in May 2000.

The volcano is called Mount Faka in Cameroon. With an altitude of 4,095 meters (13,435 feet), it is the highest peak in West and Central Africa.

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# CAMEROON

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## 11 🌐 CANYONS AND CAVES

There are no significant caves or canyons in Cameroon.

## 12 🌐 PLATEAUS AND MONOLITHS

The Adamawa (Adamaoua) Plateau extends from the eastern to the western border of Cameroon and Nigeria at average elevations of about 1,371 meters (4,500 feet). Surface features in the central parts of this high plateau include small hills or mounds capped by granite or gneiss (a type of rock).

Along the western and eastern borders, old eruptions from fissures and volcanoes have covered the granite surface with lava rock. The Adamawa Plateau forms a barrier between the agricultural south and the pastoral north.

## 13 🌐 MAN-MADE FEATURES

Cameroon relies on a system of river dams for hydropower and water reserves. The Edéa Dam on the Sanaga River provides the bulk of

the country's electricity. A dam on the Bénoué River, built in 1986, formed Lake Lagdo, a large reservoir near Garoua. Other large reservoirs exist near Tibati and Bafoussam.

## 14 🌐 FURTHER READING

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# Canada

- **Official name:** Canada
- **Area:** 9,976,185 square kilometers (3,851,809 square miles)
- **Highest point on mainland:** Mount Logan (5,959 meters/19,551 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** Newfoundland: 8:30 A.M. = noon GMT; New Brunswick, Nova Scotia, Prince Edward Island, and eastern Quebec: 8 A.M. = noon GMT; Ontario east of 90° and western Quebec: 7 A.M. = noon GMT; western Ontario and Manitoba: 6 A.M. = noon GMT; Alberta and Saskatchewan: 5 A.M. = noon GMT; British Columbia and Yukon Territory: 4 A.M. = noon GMT
- **Longest distances:** 5,187 kilometers (3,223 miles) from east to west; 4,627 kilometers (2,875 miles) from north to south
- **Land boundaries:** 8,893 kilometers (5,526 miles) total boundary length; United States (mainland), 6,416 kilometers (3,987 miles); the state of Alaska, 2,477 kilometers (1,539 miles)
- **Coastline:** 243,791 kilometers (151,485 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Canada is located on the northern portion of the North American continent, north of the mainland of the United States. Waters bordering the country include the North Atlantic Ocean to the east, the North Pacific Ocean to the west, and the Arctic Ocean to the north. With a total area of about 9,976,185 square kilometers (3,851,809 square miles), it is the largest country in the Western Hemisphere and the second-largest in the world, exceeded only by Russia. Canada's size is about the same as that of the continent of Europe. Canada is divided into ten provinces and three territories.

## 2 🌐 TERRITORIES AND DEPENDENCIES

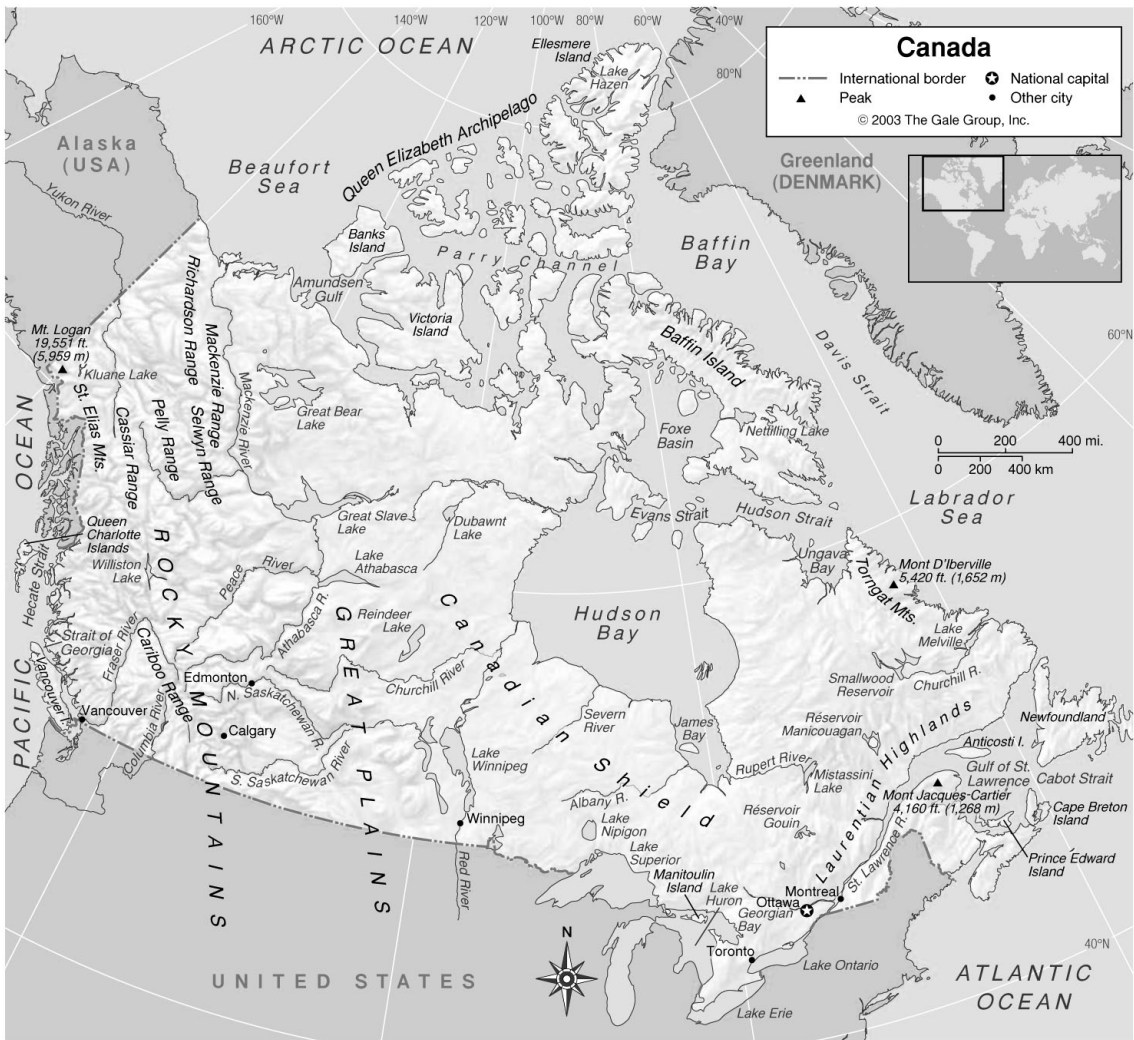
Canada has three territories: Yukon Territory, Northwest Territories, and Nunavut Territory. These lands are all located in the northwestern,

tundra regions of Canada, and each of them has a relatively small population in comparison to the other provinces. The territories are primarily settled by native tribes; these indigenous peoples have obtained a certain level of self-government for each particular territory.

The Yukon Territory (pop. 31,070 as of 1999) was originally occupied by the Athapaskan tribe, which still has six distinct groups of peoples residing in the territory. In the Northwest Territories (pop. 39,672 as of 1996), about 28 percent of the population is descended from the Dene tribe. Other native groups include the Inuvialuit and the Métis.

The Nunavut Territory (pop. 27,700 as of 2000) was separated from the Northwest Territories in 1999. It is now the largest political subdivision in the country, covering

# CANADA



18 percent of the total land area— also the largest native land-claim settlement in the history of the country. About 84 percent of the residents claim ancestry from native tribes; the largest of these Nunavut tribes is the Inuit (83 percent), formerly known as the Eskimos (a derogatory term meaning “eaters of raw meat”). The remainder of the native population in Nunavut Territory is descended from the Dene and Métis tribes.

Each territory has only one senator and one representative in the national parliament,

many fewer legislators than those representing the other provinces.

## 3 🌐 CLIMATE

Canada's continental climate is sub-arctic to arctic in the north, while near the U.S. border a narrow strip has a temperate climate with cold winters. The east and west coasts are maritime and more temperate. The north Canadian coast is permanently icebound, except for Hudson Bay, which is frozen for only nine months of the year. Canada's greatest temperature variation is found in the Northwest Territories, where at Fort Good

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# CANADA

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Hope temperatures range from  $-31^{\circ}\text{C}$  ( $-24^{\circ}\text{F}$ ) in January to  $16^{\circ}\text{C}$  ( $61^{\circ}\text{F}$ ) in July.

Temperatures on the west coast of Canada range from about  $4^{\circ}\text{C}$  ( $39^{\circ}\text{F}$ ) in January to  $16^{\circ}\text{C}$  ( $61^{\circ}\text{F}$ ) in July. On the Atlantic coast, the winter temperatures are warmer than those of the interior, but the summer temperatures are lower. Much of the southern interior of Canada has high summer temperatures and long, cold winters. Average temperature ranges in Ottawa are  $-15^{\circ}$  to  $-6^{\circ}\text{C}$  ( $5^{\circ}$  to  $21^{\circ}\text{F}$ ) in January and  $15^{\circ}$  to  $26^{\circ}\text{C}$  ( $59^{\circ}$  to  $79^{\circ}\text{F}$ ) in July.

The west coast of the country and some inland valleys have mild winters and mild summers with rainfall occurring throughout the year. The west coast receives between 150 centimeters and 300 centimeters (60 and 120 inches) of rain annually while the maritime provinces receive 115 to 150 centimeters (45 to 60 inches) annually. The driest area is the central prairie, where fewer than 50 centimeters (20 inches) of rain fall each year. The region to the east of Winnipeg is considerably wetter than the western prairie, receiving 50 to 100 centimeters (20 to 40 inches) of rainfall yearly.

## 4 TOPOGRAPHIC REGIONS

Topographically, Canada is divided into the Atlantic provinces, the Great Lakes-St. Lawrence Lowlands, the Canadian Shield, the Interior Plains, the Western Cordillera, and the Northwest Territories (including the political division of the Nunavut Territory). The Territories cover the region east of the Western Cordillera and north of the Interior Plains and the Canadian Shield. Within this large area, there are two distinct sub-regions: the sub-arctic Mackenzie River Valley to the west, and the arctic area of the islands and north-central mainland.

The Canadian Shield is surrounded by a series of lowlands: the Atlantic region and

the Great Lakes-St. Lawrence Lowlands to the east, the Interior Plains to the west, and the Arctic Lowlands to the north. The Atlantic provinces have rugged, indented coasts. The Great Lakes-St. Lawrence Lowlands constitute the heartland of the country's population. This region has the largest area of level land easily accessible by water from the east.

Canada is located on the North American Tectonic Plate.

Because much of Canada has low population density (averaging just three people per square kilometer, or eight people per square mile), many species of wildlife thrive in large expanses of native habitat. The habitat of the northern Arctic region supports populations of Arctic fox, wolf, Arctic hare, ptarmigan, ootpik (a species of owl), musk ox, polar bear, seal, and caribou. The Rocky Mountain region supports species of bear (brown, black, and grizzly), cougar, elk, deer, moose, bighorn sheep, mountain goat, and coyote. The vast plains region supports coyote, deer, and hawk, among others. The ocean waters surrounding Canada support species of whale, and the country's many lakes support trout, salmon, and pike.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Canada borders three oceans: the Pacific on the west, the Arctic to the north, and the Atlantic on the east. The Beaufort Sea in the Arctic Ocean lies off the northwest border of the country, near the border shared with Alaska.

The Arctic Archipelago lies on a submerged plateau of the Arctic Ocean, with a floor that varies from flat to gently undulating. From the Alaskan border eastward to the mouth of the Mackenzie River, the continental shelf is shallow and continuous, with its outer edge





EPD/Cynthia Bassett

*Iceberg in the waters of Nunavut territory.*

at a depth of 64 meters (210 feet) at about 74 kilometers (46 miles) from the shore. The underwater Mackenzie Trough (formerly known as the Herschel Sea Canyon) is located near the western edge of the Mackenzie River Delta. The submerged portion of the Mackenzie Delta forms a pock-marked undersea plain, most of it less than 55 meters (180 feet) deep. A deeply submerged continental shelf runs along the entire western coast of the Arctic Archipelago, from Banks Island to Greenland.

Along the Atlantic coast, the submerged continental shelf has great width and diversity. From the coast of Nova Scotia, its width varies from 111 to 185 kilometers (69 to 115 miles), from Newfoundland 185 to 518 kilometers (115 to 322 miles) at the entrance of Hudson Strait, and northward from there it merges with the submerged shelf of the Arctic Ocean.

The outer edge varies in depth from 189 to 3,110 meters (620 to 10,201 feet). The overall gradient is slight, but the shelf is studded with shoals, ridges, and banks.

The Pacific coast is strikingly different and is characterized by bold, abrupt relief—a repetition of the mountainous landscape. From the islet-strewn coast, the continental shelf extends from 93 to 185 kilometers (58 to 115 miles), except on the western slopes of Vancouver Island and the Queen Charlotte Islands, where the seafloor drops rapidly.

### **Sea Inlets and Straits**

Amundsen Gulf lies just east of the Beaufort Sea and separates Banks Islands from the mainland. A series of gulfs, straits, and channels surround the islands of the Arctic Archi-

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# CANADA

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pelago. These include the Viscount Melville Sound, M'Clintock Channel, Queen Maud Gulf, the Gulf of Boothia, Lancaster Sound, Parry Channel, M'Clure Strait, Norwegian Bay, Jones Sound, and Smith Sound. These waters of the Arctic are locked in ice most of the year.

Baffin Bay, in the north, separates Baffin Island from Greenland, opening to the Davis Strait and then to the Labrador Sea, which lies off the southeastern tip of Greenland. Turning south around Newfoundland, the easternmost point of the North American continent, the Cabot Strait separates Newfoundland and Nova Scotia and provides a channel to the Atlantic for the Gulf of St. Lawrence. The Hudson Bay is a shallow inland sea which is 822,325 square kilometers (317,417 square miles) in area, having an average depth of 128 meters (422 feet). Hudson Bay, along with its southern arm James Bay and its northern arm Foxe Basin, connects to the Labrador Sea and the Atlantic Ocean through the Evans Strait and the Hudson Strait. The Hudson Strait, which also separates Baffin Island from the continental coast, is 796 kilometers (495 miles) long and from 69 to 222 kilometers (43 to 138 miles) wide.

On the west coast of Canada, fronting the North Pacific, is a labyrinth of straits and sounds extending from Vancouver Island in the south and winding through the Alexander Archipelago in the north. These waters include the relatively shallow Queen Charlotte Sound as well as two straits: Hecate Strait and the Strait of Georgia.

## Islands and Archipelagos

Canada has more than fifty-two thousand islands, with all but a few hundred of them considered "minor" in size, defined as less than 129 square kilometers (49.81 square miles) in area. The largest islands are those in the Arc-

tic Archipelago, extending from James Bay to Ellesmere Island. Within the Arctic Archipelago, Baffin Island is larger than 500,000 square kilometers (193,050 square miles), Victoria Island contains 217,000 square kilometers (83,783 square miles), and Banks Island covers some 70,000 square kilometers (27,027 square miles).

The Queen Elizabeth Archipelago surrounding the north magnetic pole has thirty-five islands, each one larger than 129 square kilometers (49.81 square miles) in size. Ellesmere, the northernmost of Canada's islands, is the largest of the Elizabeth group, covering more than 196,000 square kilometers (75,675 square miles).

The largest islands on the western coast are Vancouver Island (31,285 square kilometers/12,079 square miles) and the Queen Charlotte Islands. Large islands on the eastern coast include: Newfoundland (108,860 square kilometers/42,030 square miles), Prince Ed-

## DID YOU KNOW?

Visitors to Gros Morne National Park in Newfoundland can see plate tectonics in action. Geologists believe that, at least six hundred million years ago, North America and Europe were a single landmass. As the two continents pulled apart, magma from deep inside Earth oozed up between them. This solidified magma, as well as fossils preserved in the sedimentary rock, is on display at Gros Morne, which also contains some of eastern Canada's most dramatic scenery.

# CANADA

**CANADA'S TEN LARGEST LAKES (LISTED IN DESCENDING ORDER OF SIZE)**

NAME	AREA	PROVINCE
Lake Superior	82,367 square kilometers (31,802 square miles)	Ontario (shared with U.S.)
Lake Huron	59,565 square kilometers (23,000 square miles)	Ontario (shared with U.S.)
Great Bear Lake	31,328 square kilometers (12,095 square miles)	Northwest Territories
Great Slave Lake	28,568 square kilometers (11,030 square miles)	Northwest Territories
Lake Erie	25,655 square kilometers (9,910 square miles)	Ontario (shared with U.S.)
Lake Winnipeg	23,760 square kilometers (9,174 square miles)	Manitoba
Lake Ontario	19,009 square kilometers (7,340 square miles)	Ontario (shared with U.S.)
Lake Athabasca	7,850 square kilometers (3,030 square miles)	Saskatchewan
Reindeer Lake	5,660 square kilometers (2,185 square miles)	Saskatchewan
Nettling Lake	5,066 square kilometers (1,956 square miles)	Nunavut Territory

ward Island (5,620 square kilometers/2,170 square miles), Cape Breton Island (10,311 square kilometers/3,981 square miles), Grand Manan and Campobello Islands in New Brunswick, and Anticosti Island and the Ile de la Madeleine of Quebec. Manitoulin Island in Lake Huron is the world's largest island located within a freshwater lake; its land mass covers some 2,765 square kilometers (1,068 square miles).

## Coastal Features

Canada's coastlines of nearly 244,000 kilometers (151,647 miles), including its mainland and offshore islands, are among the largest of any country in the world.

## 6 INLAND LAKES

Canada has 31,752 lakes; more than a third of these are situated in the northern half of the country, in the Northwest Territories and Nunavut Territory. Lakes and rivers cover 7.6 percent of Canada's total area; consequently, surface water is the source of 90 percent of the fresh water used by residents. Indeed, Canada's lakes play a critical role in the country's eco-

system as natural regulators of river flow, smoothing out excess runoff during flooding and sustaining the waterways during dry seasons.

Thirty-six percent of the Great Lakes, the largest freshwater lakes in the world, are situated in Canada. Of the five Great Lakes, only Lake Michigan is completely outside of Canadian borders. Lake Superior, Canada's largest lake in terms of volume (and shared with the United States), has a surface area of 82,367 square kilometers (31,802 square miles) and is the world's largest freshwater lake. Lake Nipigon, in eastern Canada near Lake Superior, is famous for its towering cliffs and its greenish-black sand beaches.

In Canada's northern provinces lie two significant lakes. The Great Slave Lake, in the Northwest Territories, is the deepest and fourth-largest of Canada's lakes, reaching a depth of 614 meters (2,014 feet). Also in this region is the Great Bear Lake, located in a largely uninhabited part of northwestern Canada. It is third in size, but it is the largest lake wholly within Canada.

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# CANADA

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In the northeast, the Nunavut Territory contains two more notable lakes. Nettiling Lake, the country's tenth-largest, receives runoff from the slightly smaller Amadjuak Lake, which in turn helps to drain Baffin Island into Foxe Basin. Nettiling Lake is frozen most of the year. Far to the north, on Ellesmere Island, is Lake Hazen (540 square kilometers/210 square miles), the largest lake in the world to lie completely north of the Arctic Circle. This lake helps function as a "thermal oasis," catching the sun's energy and heating the surrounding land to moderate temperatures that are unusual at such an altitude. The lake itself, however, almost never thaws.

In the eastern coastal regions, the important lakes are Smallwood Reservoir (an artificial lake which covers 6,460 square kilometers/2,500 square miles) and Lake Melville (3,000 square kilometers/1,160 square miles). Churchill River connects Lake Melville to Smallwood Reservoir. Lake Melville is a large coastal lake that is linked to the Atlantic Ocean by Hamilton Inlet.

Canada's southern central and western regions include the rest of the country's largest lakes. Lake Winnipeg, in the province of Manitoba, is the country's sixth-largest lake. Not far to the northwest is Reindeer Lake. Farther northwest, on the way to the Great Slave Lake, is Lake Athabasca, famous for its plentiful trout. One lucky Canadian, fishing at this lake in 1961 with a gillnet, caught one of the world's largest lake trout: a 46-kilogram (102-pound) fish.

## **7** 🌐 RIVERS AND WATERFALLS

Canada's rivers drain into five major ocean outlets: the Pacific, Arctic, and Atlantic Oceans; Hudson Bay; and the Gulf of Mexico. The Yukon and Mackenzie Rivers in the west, the North Saskatchewan, South Saskatchewan, Saskatchewan, Peace, and Athabasca Rivers

in central Canada, and the Ottawa and St. Lawrence Rivers in the east comprise Canada's main rivers.

The Central Canadian Shield is drained by the Nelson-Saskatchewan, Churchill, Severn, and Albany Rivers, all of which flow into Hudson Bay. The 4,290-kilometer-long (2,635-mile-long) Mackenzie River is the country's longest river. It is fed by several tributaries and by three large lakes (Great Bear Lake, Great Slave Lake, and Lake Athabasca), and it drains into the Arctic Ocean. The Columbia, Fraser, and Yukon Rivers are the principal drainage systems of western Canada. The Great Lakes drain into the broad St. Lawrence River, which flows into the Gulf of St. Lawrence.

In the prairies, groundwater is the principal source of water for streams during the frequent dry weather periods. In hot summer months, melting glaciers may contribute up to 25 percent of the flow of the Saskatchewan and Athabasca Rivers.

## **8** 🌐 DESERTS

There are no desert regions in Canada.

## **9** 🌐 FLAT AND ROLLING TERRAIN

Between the Western Cordillera and the Canadian Shield is the region broadly known as the West, including the Manitoba and Mackenzie Lowlands. The Manitoba Lowland (leading to the Saskatchewan and Alberta Plains) is one of only a few parts of Canada that is as flat as a tabletop. The Manitoba Escarpment forms the boundary between the Manitoba Lowland and the Saskatchewan Plain. In the south, the Missouri Couteau divides the Saskatchewan and Alberta Plains. The landscape of the two plains is similar to that of the U.S. Great Plains, with rolling prairie; deeply incised rivers; water-filled depressions (called sloughs); dry streambeds (called coulees); and, in the drier areas, mesas, buttes, and badlands.



EPD/Cynthia Bassett

*Polar bears live in Canada's Arctic region.*

To the south and southeast of the Shield lies a triangular, flat, and fertile plain bounded by Georgian Bay in Lake Huron, the St. Lawrence River, and Lake Ontario. Grasslands made up of many different types of stunted bushes and grasses extend over much of the southern Canadian Great Plains.

The Tundra is situated on the northern Canadian Shield. This is an area of Precambrian rock with moss-covered, frozen subsoil. Low-growing grasses and small bushes thrive in this arctic region.

Between the northern tundra and the southern grassland is the boreal forest. Canada's great boreal forest is the largest of its woodlands, occupying 35 percent of the total Canadian land area and 77 percent of Canada's total forest land. Named for the Greek god of the north wind, Boreas, this forest constitutes a band 1,000 kilometers (600 miles) wide.

The boreal forest is characterized by the predominance of coniferous trees, which first sprung up during the Miocene Epoch, twelve

to fifteen million years ago; today, this forest is an important source of paper products, jack-pine railway ties, and logs.

Canada possesses 24 percent of the world's wetlands, covering more than 127 million hectares (314 million acres). Most of the wetlands are located in the boreal peat bogs in arctic and sub-arctic regions, or in the Prairie pothole region across south-central Canada and the northern United States, which contains more than four million wetlands and ponds.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The principal mountainous region is the Western Cordillera (or Cordilleran) Mountain system located in the westernmost portion of Canada. The Cordilleran range, commonly known as the Canadian Rockies, is composed of relatively young, folded, and faulted mountains and plateaus. These Canadian Rockies include several smaller ranges, including the Richardson, Mackenzie, Selwyn, Pelly, Cassiar, and Cariboo Ranges. The chain is much narrower than the Rocky Mountains in the United States, with less extensive interior plateaus.

The individual summits, however, are much higher in Canada, and they contain some of the most beautiful scenery in the world, with magnificent forests of alpine fir, Engelmann spruce, lodgepole pine, aspen, and mountain hemlock. Most peaks in the Canadian Rockies exceed elevations of 4,500 meters (14,765 feet); twenty-four summits top 4,000 meters (13,123 feet). Canada's highest point is Mount Logan (5,959 meters/19,551 feet), located near the Alaskan border in the St. Elias Mountains of the Yukon Territory. The only other parts of Canada with comparable spectacular mountains are Baffin and Ellesmere Islands in the northeastern Arctic Ocean.

The Torngat Mountains stretch through Quebec, Newfoundland, and Labrador in

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# CANADA

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eastern Canada. The highest point in Quebec is Mont D'Iberville, at 1,652 meters (5,420 feet), within the Torngat range. The Appalachian Chain crosses parts of eastern Canada. In the Appalachians, the highest peak is Mont Jacques-Cartier, at 1,268 meters (4,160 feet).

## 11 CANYONS AND CAVES

Canada has caves in nearly every region. Vancouver Island is commonly called the "Island of Caves" because of the large number of caves located there, many of which have not been explored.

The longest cave in the country is Castle-guard Cave in the Banff National Park of Alberta province. It runs about 20,122 meters (66,017 feet) long and about 390 meters (1,280 feet) deep. Banff National Park also contains the Cave and Basin, an area which boasts naturally occurring warm mineral springs. The discovery of the cave in 1883 prompted the government to choose the site as the center of its first national park, making the cave a national historic site as well as a protected area.

Arctomys Cave, in the Canadian Rockies of British Columbia, is the deepest cave in the country and one of the deepest in North America north of Mexico. It has a depth of 536 meters (1,759 feet).

There are a number of canyons throughout the Canadian Rockies, including Johnston, Marble, Cline River, Coral River, Thomson, and Fraser Canyons.

## 12 PLATEAUS AND MONOLITHS

The most prominent geographic feature in the country is the Canadian Shield (sometimes called the Precambrian Shield or the Laurentian Plateau), which takes up almost half of Canada's total area. It extends beyond the Canadian boundary into the United States in two limited areas: at the head of Lake Superior and in the Adirondack Mountains. Structurally,

the shield may be thought of as a huge saucer, the center of which is occupied by Hudson Bay and James Bay, which have breached the northeastern rim to drain into the Atlantic Ocean through the Hudson Strait. Most of the shield is relatively level and less than 612 meters (2,000 feet) above sea level.

Only along the dissected rim of the saucer are there major hills and mountains: the Torngat Mountains. Except for the plains, the rest of the shield is composed of undulating terrain with rocky, knoblike hills; lakes interconnected by rapidly flowing streams occupy the hollows between these hills. A second and far less extensive plateau supports the Western Cordillera.

### DID YOU KNOW?

The North Magnetic Pole is located at 78°N latitude and 104°W longitude, in the Queen Elizabeth Islands of northern Canada. The earth's magnetic poles represent the two nearly opposite ends of the planet where the earth's magnetic intensity is the greatest. These differ slightly in location from the geographic poles, which are designated as 90°N latitude/0° longitude (North Pole) and 90°S latitude/0° longitude (South Pole). The South Magnetic Pole is located at 66°S latitude and 139°E longitude, on the Adélie Coast of Antarctica.

## 13 🌐 MAN-MADE FEATURES

As of 2002, the Syncrude Tailings Dam in Alberta was the largest in the world, based on the total amount of building material used in its construction. It is a barrage dam, created from piled-up dirt and residue (or tailings) left over from mining operations at Syncrude Canada Ltd. The Gardiner Dam in Saskatchewan is the twelfth-largest water-retaining dam in the world. Hydroelectric power from this dam is used across the province. The WAC Bennett Dam, on the Peace River in British Columbia, is responsible for the creation of Williston Lake, the largest artificial lake in Canada (1,761 square kilometers/680 square miles). The Churchill Falls Dam and its underground power station (in Newfoundland) make up the sixth largest hydroelectric plant in the world.

Yoho National Park of British Columbia contains the Spiral Tunnels, carved through the Canadian Rockies by the Canadian Pacific Railroad. The Hector Tunnel is 992 meters (3,255 feet) long and the Field Tunnel is 891 meters (2,922 feet) long.

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# Cape Verde

- **Official name:** Republic of Cape Verde
- **Area:** 4,033 square kilometers (1,557 square miles)
- **Highest point on mainland:** Mount Fogo (Pico de Cano) (2,829 meters/9,281 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 10 A.M. = noon GMT
- **Longest distances:** 332 kilometers (206 miles) from southeast to northwest and 299 kilometers (186 miles) from northeast to southwest
- **Land boundaries:** None
- **Coastline:** 965 kilometers (598 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Cape Verde is an archipelago (chain of islands) off the coast of West Africa. The country consists of ten islands and five islets (small islands) located in the North Atlantic Ocean just west of Senegal. The islands are generally divided into northern (Barlavento) and southern (Sotavento) groups. With a total land area of 4,033 square kilometers (1,557 square miles), the country is slightly larger than the state of Rhode Island. The country is divided into fourteen districts.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Cape Verde claims no territories or dependencies.

## 3 🌐 CLIMATE

The cold Atlantic Canary Current, in the Atlantic Ocean, creates an arid (almost no rain) atmosphere around the islands. Cape Verde has two seasons. Rainfall is scarce and generally occurs in the latter half of the year. Annual precipitation is only about 13 centimeters (5 inches) in the northern islands and 30 centimeters (12 inches) in the southern ones. Droughts (periodic lack of rainfall) often last for years and can devastate the environment.

SEASON	MONTHS	AVERAGE TEMPERATURE
Winter (dry)	December through June	21°C (70°F)
Summer (slightly rainier)	July through November	27°C (81°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Though the Cape Verde islands were formed by volcanic activity, there is currently only one active volcano (Mount Fogo, also called Pico de Cano) on the islands. Most of the islands are mountainous with steep cliffs and ravines. The two districts of Barlavento and Sotavento were determined by the direction of the prevailing northeasterly winds. Barlavento lies windward (closest to the direction from which the wind blows), while Sotavento is leeward (the direction to which the wind blows).

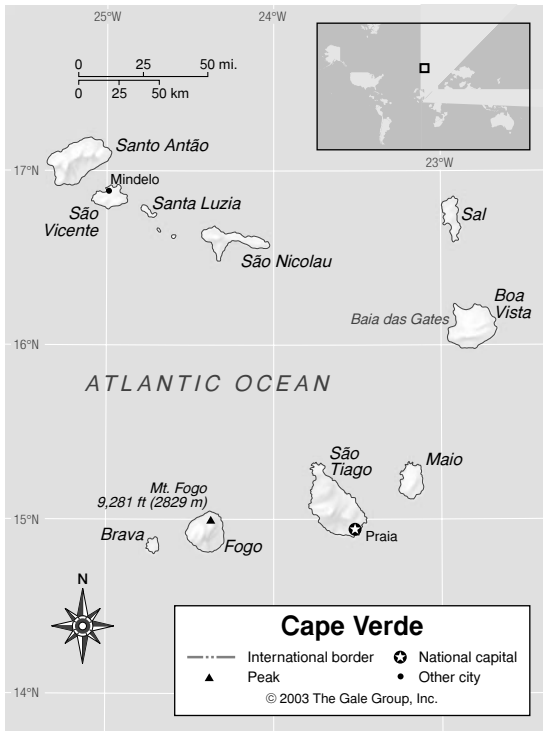
## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The islands of Cape Verde are completely surrounded by the waters of the North Atlantic Ocean. The cold Canary Current runs adjacent to the islands, providing an ideal environment



# CAPE VERDE



for a fishing industry. The Canary Current is so named because it flows southwestward from Spain through the Canary Islands. The waters around Cape Verde support vibrant colonies of aquatic life, including parrot fish, barracuda, moray eels, several species of whales, dolphins, porpoises, and turtles.

## Sea Inlets and Straits

Cape Verde has several fine harbors, with Mindelo on São Vicente being the principal one.

## Islands and Archipelagos

The Barlavento islands of Cape Verde include Santo Antão, São Vicente, Santa Luzia (uninhabited), São Nicolau, Sal, Boa Vista, plus two islets. The Sotavento islands include Brava, Fogo, São Tiago, Maio, and three islets.

## Coastal Features

The beaches at Baia das Gates on Boa Vista are the most popular among tourists.

## 6 🌐 INLAND LAKES

There are no significant lakes in Cape Verde.

## 7 🌐 RIVERS AND WATERFALLS

Because of the general drought-like conditions of the islands, there are no significant rivers in Cape Verde. Several small temporary streams may form after heavier rainfalls. There are four islands that have year-round running streams, but these contain very little water.

## 8 🌐 DESERTS

Because of Cape Verde's relatively cool climate, its barren, dry islands are not classified as desert.

## 9 🌐 FLAT AND ROLLING TERRAIN

With drought, cyclones, volcanic activity, and problems with insect infestation, Cape Verde's land problems are recurrent. Only 11 percent of the land is arable (able to support agriculture) and excessive soil erosion has occurred from raising crops and grazing animals on land that is too arid for such purposes.



EPD/Saxifraga/Piet Zomerdijk

*The island of São Vicente is typical of the Cape Verde islands.*

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# CAPE VERDE

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UNESCO/Dominique Roger

*Coastal view of Cidade Velha on the island of Sao Tiago.*

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Except for the low-lying islands of Sal, Boa Vista, and Maio, the Cape Verde islands are quite mountainous with both rugged cliffs and deep ravines. The highest areas receive the most moisture, not as rainfall, but from the condensation of moisture that accumulates off the slopes of the mountains from the Atlantic currents. The terrain is able to support lush vegetation and trees that are typical of both temperate and tropical climates.

The highest peak in Cape Verde is Mount Fogo (also called Pico de Cano), located on the island of Fogo. Mount Fogo stands 2,829 meters (9,281 feet) high and is the only active volcano on the islands, erupting most recently in 1995.

## **11** 🌐 **CANYONS AND CAVES**

Deep ravines interlace the cliffs and mountains of the country.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

There are no plateau regions on Cape Verde.

## **13** 🌐 **MAN-MADE FEATURES**

There are no major man-made structures affecting the geography of Cape Verde.

## **14** 🌐 **FURTHER READING**

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# Central African Republic

- **Official name:** Central African Republic
- **Area:** 622,984 square kilometers (240,534 square miles)
- **Highest point on mainland:** Mount Ngaoui (1,420 meters /4,659 feet)
- **Lowest point on land:** Ubangi River (335 meters /1,099 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,437 kilometers (893 miles) from east to west; 772 kilometers (480 miles) from north to south
- **Land boundaries:** 5,203 kilometers (3,233 miles) total boundary length; Cameroon, 797 kilometers (495 miles); Chad, 1,197 kilometers (744 miles); Democratic Republic of the Congo, 1,577 kilometers (980 miles); Republic of the Congo, 467 kilometers (290 miles); Sudan, 1,165 kilometers (724 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

In accordance with its name, the landlocked Central African Republic lies roughly at the center of the African continent just north of the equator and more than 603 kilometers (375 miles) from the Atlantic Ocean. Bordered by five neighboring nations, it has an area of 622,984 square kilometers (240,534 square miles), or slightly less than the state of Texas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Central African Republic claims no territories or dependencies.

## 3 🌐 CLIMATE

The climate is tropical (hot, sunny, and humid), but is also moderated by rainfall and altitude.

Temperatures average around 27°C (80°F) all year. The harmattan—a hot, dry Saharan wind—affects the climate during the summer months. Rainfall varies, increasing from north to south. The northern part of the country is

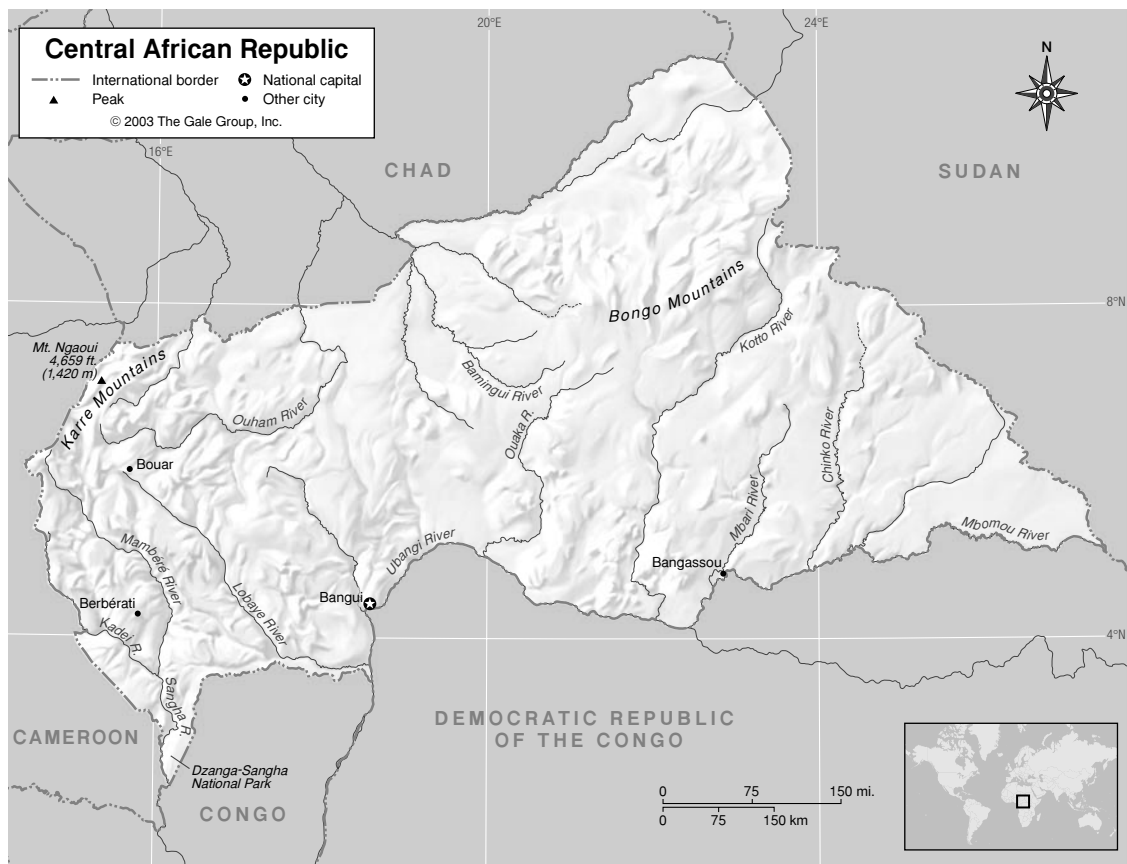
relatively dry, with an annual average rainfall of about 76 centimeters (30 inches). The northeast, with a semiarid climate, is the driest part of the country. The central plateau region receives up to 152 centimeters (60 inches) of rain per year. Annual rainfall in the southern part of the country averages at least 178 centimeters (70 inches).

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	July and August	21-29°C (70°-84°F)
Winter (dry)	November to April	21-34°C (70°-93°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Most of the country consists of a large plateau that separates the basin of Lake Chad to the north from that of the Congo River to the south. The dominant features of the landscape are the Bongo Mountains in the eastern part of the country and the Karre Mountains, otherwise known as Yadé Massif, to the west.

# CENTRAL AFRICAN REPUBLIC



## 5 🌐 OCEANS AND SEAS

The Central African Republic is landlocked.

## 6 🌐 INLAND LAKES

Many of the country's lakes are seasonal, filling during the rainy season and drying up when the rains stop.

## 7 🌐 RIVERS AND WATERFALLS

Two river systems drain the Central African Republic, one flowing southward, the other flowing northward. The Chinko, Mbari, Kotto, Ouaka, and Lobaye Rivers flow south. They are tributaries of the Ubangi River, which forms most of the country's southern border with the Democratic Republic of the Congo. From the conjunction of the Uele and Mbomou Rivers, the Ubangi flows westward along the Congo

border from Bangassou. It bends to the south past Bangui to form the border between the Republic of the Congo and the Democratic Republic of the Congo. The Mambéré and Kadei, which also flow south, are tributaries of the Congo River. They join in the southwest to form the Sangha River. The Ouham and Bamingui flow north to Chad to join the Chari River, which continues northward to the Chad Basin.

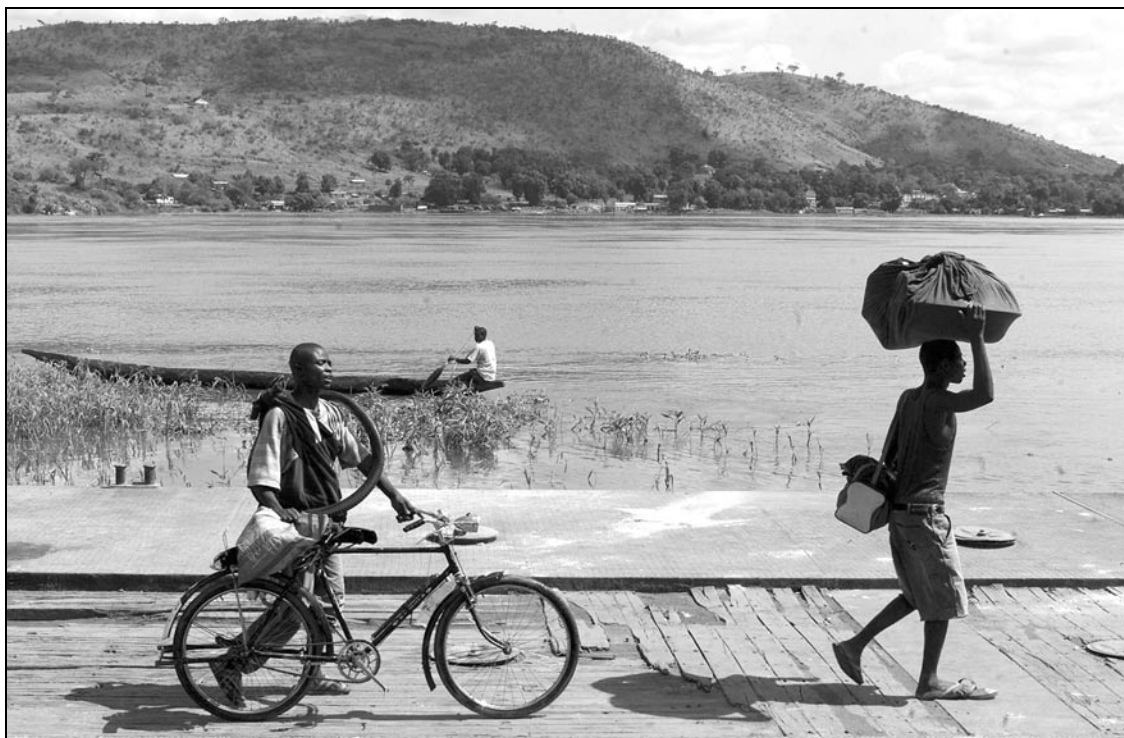
## 8 🌐 DESERTS

The country's northeastern tip, which borders the Sahel, has a semiarid desert climate.

## 9 🌐 FLAT AND ROLLING TERRAIN

The valleys of the Chari and Ubangi rivers break up the central plateau in the north and south, respectively.

## CENTRAL AFRICAN REPUBLIC



AP Photo/Christine Nesbitt

*Refugees carry their possessions onto a ferry to cross the Ubangi River from Bangui, Central African Republic, to the Democratic Republic of the Congo in 2002.*

### 10 🌐 MOUNTAINS AND VOLCANOES

The country's central plateau rises to the Bongo Mountains near the border with Sudan in the northeast, and to the Yadé Massif near the borders with Cameroon and Chad in the northwest. The Bongo Mountains rise to elevations as high as 1,368 meters (4,488 feet) and extend into the Sudan. The granite escarpment (steep slope) of the Yadé Massif in the northwest is a continuation of Cameroon's Adamoua Plateau. It includes Mount Ngaoui, the Central African Republic's highest peak.

### 11 🌐 CANYONS AND CAVES

There are no significant caves in the Central African Republic.

### 12 🌐 PLATEAUS AND MONOLITHS

An undulating plateau, with elevations roughly between 610 meters and 762 meters (2,000 feet and 2,500 feet), extends across the center of the country. It is covered with grass and scattered groups of trees, crisscrossed by river valleys, ridges, and isolated granite peaks called *kaga*. The plateau's eastern section slopes southward toward the Mbomou and Ubangi Rivers. A large expanse of sandstone is located in the southwestern part of the country near Berbérati and Bouar.

### 13 🌐 MAN-MADE FEATURES

National parks include the Bamingui-Bangoran National Park and Saint Floris National Park in the northeast, where the terrain is relatively flat and grassy. Here, visitors can observe

## CENTRAL AFRICAN REPUBLIC



EPD/Evangelical Lutheran Church in America

*Much of the terrain is dry in Central African Republic, with scrubby trees the only vegetation.*

African “big game” animals—examples of species include elephant, lion, leopard, rhinoceros, giraffe, buffalo, hippopotamus, monkey, baboon, cheetah, crocodile, warthog, galago (also called bushbaby, a large-eyed, long-tailed furry animal), and many types of birds. Poachers have killed so many animals here that some of the species are now endangered. There were once huge herds of elephants in this region, but as of 2002, only a few thousand remained.

The Dzanga-Ndoki Park and Dzanga-Sangha Reserve, in the south, have the last areas of undisturbed rain forest in the country. Tourists may observe lowland gorillas and forest elephants that make the reserve their home. Several species of antelopes, chimpanzees, and monkeys may also be seen.

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(accessed March 4, 2003).

# Chad

- **Official name:** Republic of Chad
- **Area:** 1,284,000 square kilometers (495,755 square miles)
- **Highest point on mainland:** Emi Koussi (3,415 meters/11,204 feet)
- **Lowest point on land:** Bodélé Depression (160 meters/525 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,765 kilometers (1,097 miles) from north to south; 1,030 kilometers (640 miles) from east to west
- **Land boundaries:** 5,968 kilometers (3,708 miles) total boundary length; Libya, 1,055 kilometers (655 miles); Sudan, 1,360 kilometers (845 miles); Central African Republic, 1,195 kilometers (743 miles); Cameroon, 1,094 kilometers (680 miles); Nigeria, 87 kilometers (54 miles); Niger, 1,175 kilometers (730 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Chad is a landlocked country located in northern Central Africa, south of Libya. It extends north to south for more than 1,609 kilometers (1,000 miles) from the Tropic of Cancer, within the Sahara Desert. It is bordered by Libya to the north; Niger, Nigeria, and Cameroon to the west; and Sudan and the Central African Republic to the east. With an area of 1,284,000 square kilometers (495,755 square miles), Chad is slightly more than three times the size of the state of California. The country is divided into fourteen prefectures (districts).

## 2 🌐 TERRITORIES AND DEPENDENCIES

Chad claims no territories or dependencies.

## 3 🌐 CLIMATE

From north to south, Chad has three climate zones. In the north, the Sahara Desert swings between extreme temperatures from day to night. In the central Sahel region, where the

capital city of N'Djamena is located, the average daily temperatures range from 28°C to 42°C (73°F to 108°F) in April and from 14°C to 33°C (57°F to 91°F) in December. In the southern Sudan region, temperatures are more moderate. The most extreme temperatures in the country range from -12°C (10°F) to 50°C (122°F).

Like the temperatures, rainfall varies considerably from north to south. In the Sahara Desert, annual rainfall averages only 2.5 centimeters (1 inch). In the Sahel, however, average annual rainfall is about 76 centimeters (30 inches). In the Sudan region, average rainfall can be as high as 122 centimeters (48 inches).

Because of sparse rainfall and northern harmattan (hot, dry) winds, the country suffers from periodic droughts (periods with almost no rainfall). Locust plagues (large swarms of grasshoppers which destroy vegetation) are also a problem.

# CHAD



## 4 TOPOGRAPHIC REGIONS

From the swamp-like regions surrounding Lake Chad and the Chari River system in western Chad, the central portion of the country dips into the shallow bowl of the Bodélé Depression. This basin extends for more than 804 kilometers (500 miles) to the plateaus, mountain ranges, and extinct volcanoes associated

with the Tibesti Massif in northern Chad, a major landmark of the Sahara Desert.

Southeast of Lake Chad, an area of relatively flat, sedimentary land extends for several hundred miles before rising gently to the rolling plateaus and scattered low mountains of the eastern and southern border areas.



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# CHAD

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## 5 🌐 OCEANS AND SEAS

Chad is a landlocked country.

## 6 🌐 INLAND LAKES

Lake Chad is the country's largest lake, shared by the bordering country of Cameroon. The size of the lake varies from season to season, depending on rainfall, from 10,360 to 25,900 square kilometers (4,000 to 10,000 square miles). It is divided into north and south basins with maximum depths of only about 7.6 meters (25 feet). Its chief tributary, the Chari River, extends southeastward to the Central African Republic. Lake Chad is the largest inland body of water on the Sahel.

A number of very shallow lakes are scattered across the flat plains surrounding Lake Chad. Lake Fitri to the southeast holds water year-round and is a major supplier of fish in the area. Most of the others, however, are temporary lakes that fill with rain or flood waters from the river system. By the end of the annual dry season, their waters have usually evaporated. One of the largest, the Bahr el Ghazal, receives some overflow from Lake Chad during its flood stage. The Lake Chad basin region contains great rolling dunes separated by very deep depressions. In some of these are found oases with groves of date palms.

## 7 🌐 RIVERS AND WATERFALLS

The longest river in Chad is the Chari River (also called the Shari). At 1,200 kilometers (720 miles) long, it is also the longest river of interior drainage in Africa. It forms at the junction of the Gubingui and Bamingui Rivers, located at the border with the Central African Republic, and the Chari River then flows northwest into Lake Chad. The Logone River is its chief tributary. The Chari and Logone join near the city of N'Djamena.

Seasonal flooding of the rivers creates swamp-like wetlands in the surrounding areas. These wetlands are often used for irrigation.

There are no permanent streams in northern or central Chad. Summer rainfall collected by the various shallow wadis (seasonally dry streambeds) flows toward inland basins, but most of these streams disappear soon after the end of the brief rainy season.

## 8 🌐 DESERTS

Desert covers roughly one-half of the country, beginning with the Saharan Aozou strip along the northern border with Libya and extending into the central and southern Sahel and Sudan regions, which include the Lake Chad basin.

The Sahara Desert, which covers an area of 9,065,000 square kilometers (3,500,000 square miles) is the largest desert in the world. It covers the entire region of North Africa, from the Atlantic coast on the west to the Red Sea on the east. It borders the Mediterranean Sea and the Atlas Mountains in the north and extends into the southern region known as the Sahel.

Sahel is an Arabic word that means "shore." It refers to the 5,000-kilometer-long (3,125-mile-long) stretch of savannah that forms the shore, or edge, of the Sahara Desert. The Sahel spreads west to Mauritania and Senegal and east to Somalia.

Just beyond the Sahel is a region known as the Sudan Desert, south of the Sahara but still north of the equator. It extends from the Atlantic coast of the continent to the mountains of Ethiopia.

## 9 🌐 FLAT AND ROLLING TERRAIN

The southern Sudanic climate supports wide areas of savannah grasslands or prairies. Though only 3 percent of the land in Chad is considered arable, 36 percent supports permanent pastures. The Sahel region is covered with



EPD/Robert J. Groelsema

*Chadian fishermen use nets to haul in their daily catch.*

a carpet of brilliant green grass following the first rains of the season. These grasses, with thorn trees interspersed throughout, often exist for several months of the year before disappearing in the dry season. Palms and acacia trees also grow in this region.

Isolated hills found in the southwest region of the country do not generally exceed elevations of 457 meters (1,500 feet). These rocky outcroppings, which resemble piles of boulders, rise unexpectedly over the flat and gently rolling landscape, but they support only sparse vegetation.

The low-lying area of the Bodélé Depression is within the Sahel region. This area dips to 160 meters (525 feet) above sea level, the lowest point in the country. The basin was probably a part of Lake Chad in prehistoric times.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The highest mountains in Chad are found in the Tibesti Massif, located at the northern border of the country. This volcanic mountain range covers an area that is about 563 kilometers (350 miles) long. It is the highest mountain range in the Sahara Desert and includes seven main volcanoes. Of these, Emi Koussi is the highest peak in Chad.

Emi Koussi rises to an altitude of 3,415 meters (11,204 feet). Now an extinct volcano, it has a crater that is 19 kilometers (12 miles) wide and 1,219 meters (4,000 feet) deep.

## **11** 🌐 **CANYONS AND CAVES**

There are no significant canyons or caves in Chad.

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# CHAD

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## 12 🌐 PLATEAUS AND MONOLITHS

From the central bowl to southern Chad, the land slopes upward almost imperceptibly to rolling plateaus, which for the most part are less than 610 meters (2,000 feet) above sea level. The plateaus are marked here and there by mountains, such as the Guera Massif near Mongo, which has at least one peak above 1,493 meters (4,900 feet).

## 13 🌐 MAN-MADE FEATURES

In 2000, the petroleum producers ExxonMobil and Chevron of the United States and Petronas of Malaysia began to develop the oil resources of southern Chad. The pipeline under construction will stretch 1,070 kilometers (670 miles) from the fields in Chad to a port on the Cameroon coast. It is scheduled to become operational in 2003.

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# Chile

- **Official name:** Republic of Chile
- **Area:** 756,950 square kilometers (292,260 square miles)
- **Highest point on mainland:** Ojos del Salado (6,880 meters/22,573 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 356 kilometers (221 miles) from east to west; 4,270 kilometers (2,653 miles) from north to south
- **Land boundaries:** 6,171 kilometers (3,835 miles) total boundary length; Argentina, 5,150 kilometers (3,200 miles); Bolivia, 861 kilometers (535 miles); Peru, 160 kilometers (99 miles)
- **Coastline:** 6,435 kilometers (3,999 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Chile is a long, narrow country fringing the southwestern edge of South America, between the Pacific Ocean to the west and the Andes Mountains to the east. It reaches to Cape Horn, the southernmost tip of the continent, and it touches the Atlantic Ocean at the Strait of Magellan. It also extends beyond the Strait of Magellan to include part of Tierra del Fuego, an archipelago that it shares with Argentina. The Andes Mountains span almost the full length of the country, which has an area of 756,950 square kilometers (292,260 square miles), or slightly less than the state of Montana. Measuring 4,270 kilometers (2,653 miles) between its northern and southern extremities, Chile has an average width of not much more than 161 kilometers (100 miles), making it the world's longest and narrowest country. Its 38-degree latitude span gives it an extremely varied climate and vegetation.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Chile has several island dependencies in the Pacific Ocean, including Easter Island, which is situated more than 3,218 kilometers (2,000 miles) west of the mainland. The most remote possession of any Latin American country, Easter Island is volcanic land mass with an area of 117 kilometers (45 miles) and a subtropical climate. Chile's other island possessions are Sala y Gómez, San Felix, San Ambrosio, and the Juan Fernandez Islands. Like Easter Island, these islands are preserved as part of a national park. Chile is also one of several nations that claim land in Antarctica.

## 3 🌐 CLIMATE

Due to its great length, Chile covers a wide range of latitudes, so its climate varies considerably. Temperatures steadily cool as the country extends southward, away from the equator and toward Antarctica. The mean temperature at Arica, in the far north, is 18°C (64°F), while that of Santiago, in the center of the country, is 14°C (57°F), and

# CHILE



Punta Arenas in the extreme south averages 6°C (43°F). Winter temperatures are moderated by winds off the Pacific Ocean, and sea winds also temper the heat in summer.

Central Chile, where most of the country's population is concentrated, has a pleasant Mediterranean climate, with well-differenti-

ated seasons; its winters are mild, and its summers are warm and dry.

The southern part of the country is subject to frequent storms.

While average temperatures in Chile steadily drop with increasing southerly latitude, the amount of rainfall gradually rises. It ranges from virtually no precipitation north of 27°S latitude to around 406 centimeters (160 inches) annually at 48°S latitude (the heaviest precipitation in any region outside the tropics). Between these extremes are Copiapo at 3 centimeters (1 inch), Santiago at 33 centimeters (13 inches), and Puerto Montt at 185 centimeters (73 inches). In the far south, precipitation once again decreases, to 46 centimeters (18 inches) at Punta Arenas. Snow and sleet are common in the southern third of the country. The coastal archipelagos are among the world's rainiest regions.

## 4 TOPOGRAPHIC REGIONS

Chile is commonly divided into regions by latitude from north to south. Major regions are: the Norte Grande (a desert); the Norte Chico (a semiarid region); the Central Valley (a temperate heartland); the south-central region (a dense rain forest and the picturesque Lake District); and the southern region (a cold and windswept landscape). The coastline of the southern region includes thousands of islands, extending down to Cape Horn.

## 5 OCEANS AND SEAS

Chile borders the South Pacific Ocean, and the curved southernmost portion of its coast reaches to the Atlantic Ocean at the Strait of Magellan. The Humboldt Current, an ocean current flowing northward from Antarctica, chills the waters of the Pacific off the Chilean coast.

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# CHILE

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EPD/Saxifraga/Wiel Peolmans

*Mountain peaks in Lauca National Park in northern Chile.*

## Seacoast and Undersea Features

Chile's offshore islands consist of submerged mountaintops that are a continuation of the Andes Mountains.

## Sea Inlets and Straits

At the southern tip of the country, the Strait of Magellan lies between Tierra del Fuego and the rest of Chile, providing Chile with an opening to the Atlantic Ocean. Numerous other inlets separate the islands of Chile's southern coast, including the Gulf of Corcovado, the Gulf of Penas, and the Nelson Strait.

## Islands and Archipelagos

The southern third of the Chilean coast consists of an extensive series of islands and archipelagos stretching for some 1,130 kilometers (700 miles). Separated by thin channels and fjords, they form a long chain from Chiloé

Island slightly south of Puerto Montt to Tierra del Fuego. Cape Horn, located on an island to the south of Tierra del Fuego, is the southernmost point in South America.

## Coastal Features

There are few beaches and natural harbors along Chile's long, narrow coast. In the north, the coastal mountains rise close to the shoreline in steep cliffs; however, rocky outcroppings do provide good protection from the sea at the harbors of Valparaíso and Talcahuano. The Brunswick Peninsula, separated from Tierra del Fuego by the Strait of Magellan, is the southernmost point on mainland South America.

## 6 INLAND LAKES

There is a picturesque district of lakes, hills, and waterfalls at the eastern edge of the Central Valley, between Concepción and Puerto Montt. In the southern part of this district lies

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# CHILE

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EPD/Saxifraga/Wiel Poelmans

*Mountainous landscape of northern Chile.*

Lake Llanquihue, the country's largest lake, and the third-largest natural lake in South America. It has a maximum length of 35 kilometers (22 miles), a maximum width of 40 kilometers (25 miles), and maximum depths of 1,500 meters (5,000 feet).

## **7** 🌐 RIVERS AND WATERFALLS

Because most of Chile's rivers flow across the narrow country in a westward direction—down the Andes and into the Pacific—they are short. Nevertheless, their steep path down the mountainsides makes them a good source for hydroelectric power. There are around thirty rivers, including the Loa, Aconcagua, Huasco, Coquimbo, Limari, Mapocho, Maule, Maipo, Bío-Bío, Copiapó, and Toltén. The longest is the Loa River in the north.

## **8** 🌐 DESERTS

The Atacama Desert, which extends from the northern border to the Aconcagua River,

consists largely of dry river basins and salt flats, with a few rivers and oases. It is both the warmest and driest part of the country, and is said to be the world's driest desert. The region immediately to the south of the Atacama Desert is semiarid.

## **9** 🌐 FLAT AND ROLLING TERRAIN

Chile has no notable flat or rolling terrain.

## **10** 🌐 MOUNTAINS AND VOLCANOES

The Andes Mountains reach their greatest elevations in Chile, where they span nearly the entire length of the country, starting with the peaks of the Atacama Desert in the north. The Andes chain forms most of Chile's border with Argentina to the east. The crests of the Andean range are higher in the northern half of the country. In this northern sector is Ojos del Salado, Chile's loftiest peak, and—at more than 6,857 meters (22,500 feet)—the second-highest point in the Western Hemisphere. Chile's

# CHILE

tallest volcano, Guallatiri (6,060 meters/19,882 feet) lies in the far north, near the borders with Bolivia and Peru. A little to the south, near the borders with Bolivia and Argentina, lies Lascar (5,990/19,652), another volcano.

South of Santiago, the peaks of the Andes become progressively lower. In the far south, the Andes continue to decline in elevation, merging into the lowlands of Chilean Patagonia on both sides of the Strait of Magellan. The mountain system makes a final appearance at Cape Horn, which is also the crest of a submerged mountain.

By contrast, the peaks and plateaus of the coastal mountain range in the west are lower than those of the Andes, with elevations ranging from 300 to 2,100 meters (1,000 to 7,000 feet) in the northern half of the country. The system declines in elevation south of Valparaíso and plunges into the sea in the far south. Its peaks reappear as the islands of the southern archipelagos.

## DID YOU KNOW?

Chile has experienced many earthquakes throughout history, including the worst earthquake ever to occur anywhere on Earth since 1960, as measured by the U.S. Geological Service. This earthquake, centered just off the Chilean coast on May 22, 1960, registered 8.6 on the Richter scale. On July 30, 1995, an earthquake measuring 8.0 on the Richter scale struck near the northern coast of Chile, causing three deaths and leaving hundreds of people homeless.

## 11 🌐 CANYONS AND CAVES

The Cueva del Milodon (Cave of the Milodon) National Park features a 30-meter-deep (100-foot-deep) cave. The milodon is a mythical prehistoric animal believed to have been a plant-eating mammal that was twice the size of a human. The caves in the park also house remnants of human settlements. Archaeologists believe ancient humans lived in these caves thousands of years ago.

## 12 🌐 PLATEAUS AND MONOLITHS

In northern Chile, there are dry, barren plateau basins at elevations of 610 to 1,219 meters (2,000 to 4,000 feet) between the eastern and western mountain ranges. In the north-central part of the country, much of this plateau land gives way to spurs of the Andes, with fertile valleys in between.

## 13 🌐 MAN-MADE FEATURES

Chile has no significant man-made features affecting its geography.

## 14 🌐 FURTHER READING

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# China

- **Official name:** People's Republic of China
- **Area:** 9,596,960 square kilometers (3,705,407 square miles)
- **Highest point on mainland:** Mount Everest (8,850 meters/29,035 feet)
- **Lowest point on land:** Turpan Pendi (154 meters/505 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 8 P.M. = noon GMT in East; 5 p.m. = noon GMT in West.
- **Longest distances:** 845 kilometers (525 miles) from east-southeast to west-southwest; 3,350 kilometers (2,082 miles) from south-southeast to north-northwest
- **Land boundaries:** 22,147 kilometers (13,762 miles) total boundary length; Afghanistan, 76 kilometers (47 miles); Bhutan, 470 kilometers (292 miles); Myanmar, 2,185 kilometers (1,358 miles); Hong Kong, 30 kilometers (19 miles); India, 3,380 kilometers (2,100 miles); Kazakhstan, 1,533 kilometers (953 miles); Kyrgyzstan, 858 kilometers (533 miles); Laos, 423 kilometers (263 miles); Mongolia, 4,677 kilometers (2,906 miles); Nepal, 1,236 kilometers (768 miles); North Korea, 1,416 kilometers (880 miles); Pakistan, 523 kilometers (325 miles); Russia, 3,645 kilometers (2,265 miles); Tajikistan, 414 kilometers (257 miles); Vietnam, 1,281 kilometers (796 miles)
- **Coastline:** 14,500 kilometers (9,010 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

China is located in eastern Asia, west of the East China Sea, Korea Bay, Yellow Sea, and South China Sea. The country is bordered by fourteen other nations. With a total area of about 9,596,960 square kilometers (3,705,407 square miles), the country is slightly smaller than the United States. China is administratively divided into twenty-three provinces, five autonomous (self-governing) regions, and four municipalities.

## 2 🌐 TERRITORIES AND DEPENDENCIES

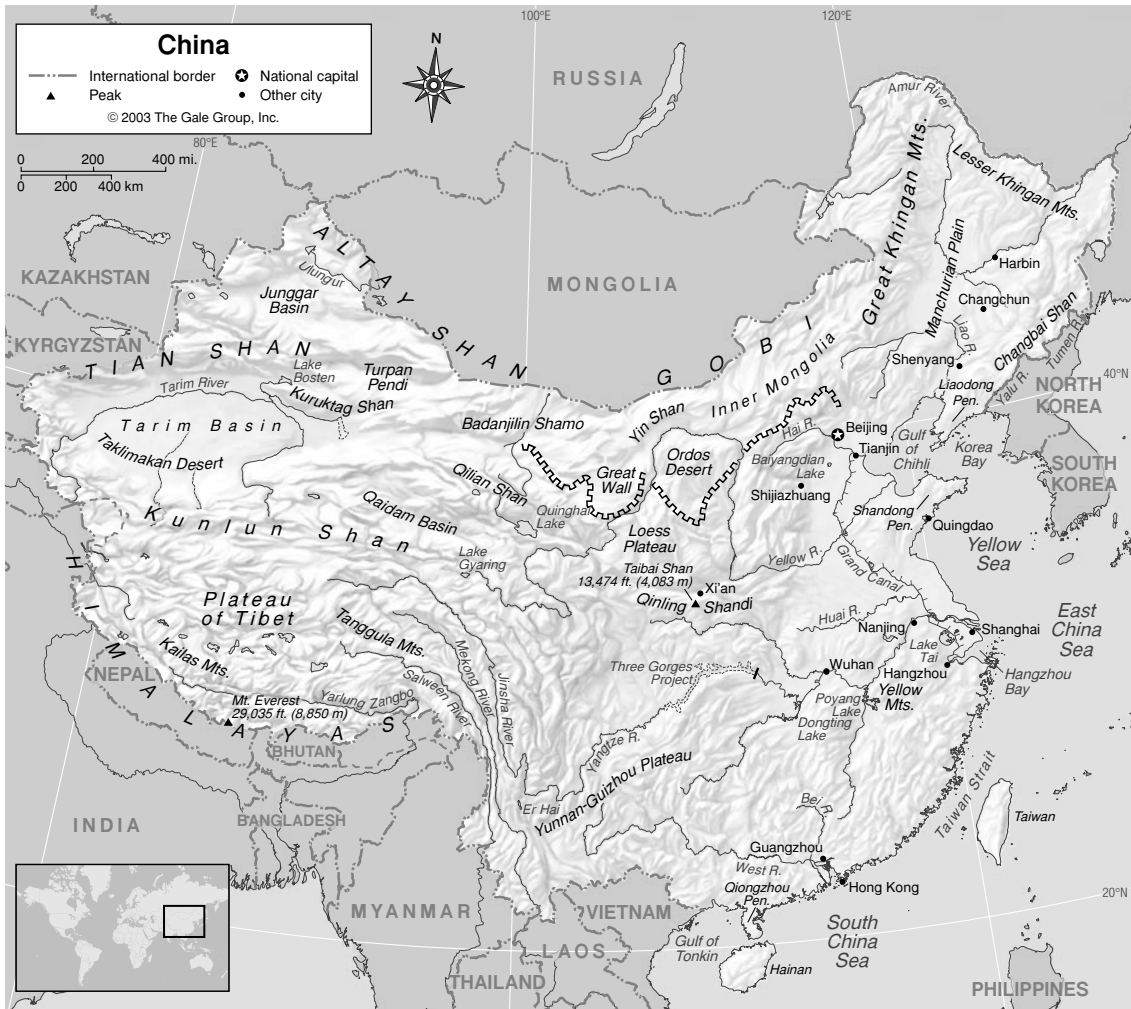
Most international governments recognize Taiwan as an independent country; China, however, strongly disagrees with the rest of the world. It claims Taiwan as one of its provinces. The Special Administrative Regions of Hong

Kong and Macau, located near the southeast edge of China, both maintain largely independent political and economic government structures; they are governed by China, however, in matters of foreign affairs and defense.

## 3 🌐 CLIMATE

Most of the country enjoys a temperate climate, but since the country is so large with such variations in altitude, many extremes in climate do exist. At the highest elevations in southwestern China, there are only fifty frost-free days per year. The hottest spot in China is in northwestern China in the Turpan Pendi, where summer highs can reach 47°C (116°F). Winter temperatures in northern China often drop to as low as -27°C (-17°F), and even in summer, they reach just 12°C (54°F). In the

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Yangtze River valley, the mean temperature in summer is 29°C (85°F).

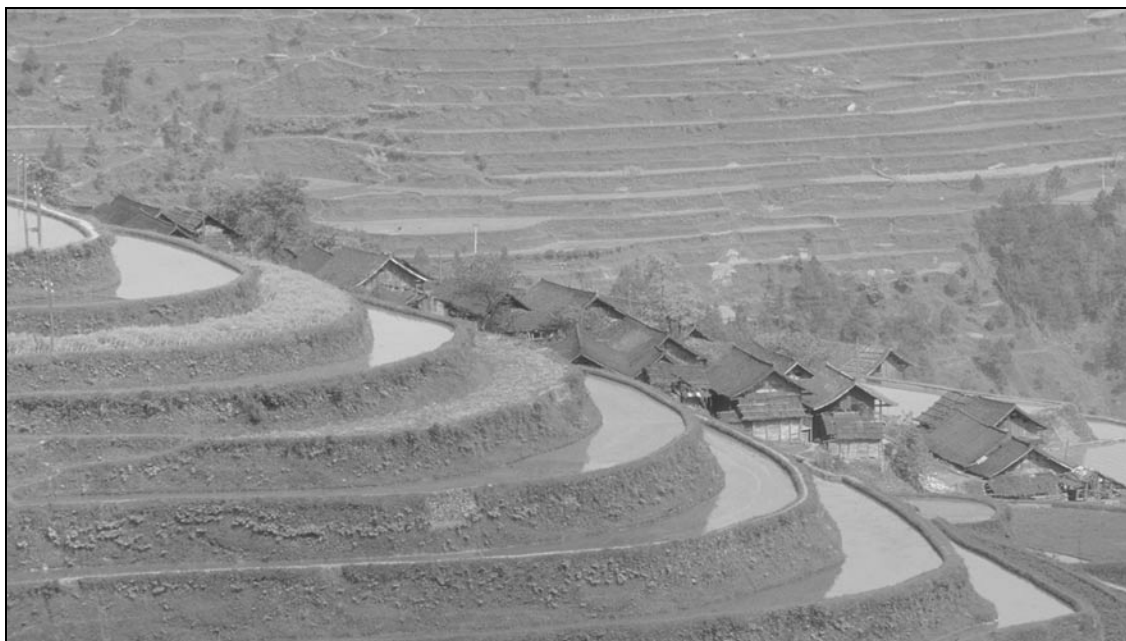
Most of the country's rainfall occurs during the summer months. Rainfall is heaviest in the southeast, averaging 200 centimeters (80 inches) per year. In the northeastern region near Beijing, annual rainfall averages about 60 centimeters (25 inches). In the far northwest, the annual rainfall averages 10 centimeters (4 inches), although some desert regions may go a year or longer with no precipitation. Along the southern coast,

severe storms are common, with destructive typhoons occasionally occurring.

## 4 🌐 TOPOGRAPHIC REGIONS

The vast territory of China exhibits great variation in terrain and vegetation. The highest elevations are found in the far southwest in the Plateau of Tibet (Xizang Gaoyuan) and the Himalayas. The high elevations of the western portion of the country, which cover more than half of the overall territory, have cold temperatures and generally arid conditions that prevent the development of agriculture. As a result, the

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EPD/Cynthia Bassett

*Chinese farmers carve terraces into the land to grow rice.*

western region is more isolated and much more sparsely populated than the eastern areas.

The eastern quarter of the country is mostly lowlands and may be divided into northern China and the slightly larger southern China, separated from each other by the Yellow River and the Qinling Shandi (Ch'in Ling Shan) mountain range. In the northeastern region is the large Manchurian Plain. The Gobi Desert is separated from the Manchurian Plain by the Great Khingan Mountains, which occupy a northeastern region of China straddling the China-Mongolia border. To the southeast, the heavily populated Loess Plateau stretches from Beijing to Nanjing across the valley of the Yellow River.

China lies entirely on the Eurasian Tectonic Plate. The Tibetan region in the southwest, however, straddles the boundary of the Indian and Eurasian Tectonic Plates. Seismic fault lines also run north to south through the

eastern region of China and the Manchurian Plain. Consequently, both the northeast and southwest regions are centers of seismic activity and experience periodic earthquakes, some of which have been devastating.

China's varied terrain supports diverse populations of plants, birds, reptiles, amphibians, and mammals. China's more than one hundred unique wildlife species include the giant panda, the golden-haired monkey, the South China tiger, the Chinese alligator, the freshwater white-flag dolphin, and the red-crowned crane. The metasequoia, found only in China, is believed to be one of the oldest tree species in the world.

## **5** 🌐 **OCEANS AND SEAS**

### **Seacoast and Undersea Features**

The waters surrounding China are principally seas of the Pacific Ocean. From north to south along the western coast, they include the

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Yellow Sea (Huang Hai), East China Sea (Dong Hai), and the South China Sea (Nan Hai). The South China Sea features a deep ocean floor. Elsewhere, the continental shelf supports coastal fish farms and also contains substantial oil deposits.

## Sea Inlets and Straits

Korea Bay and the Gulf of Chihli (Bo Hai), both inlets of the Yellow Sea, have substantial amounts of sea ice. Korea Bay separates the Liaodong Peninsula from North Korea. The turbulent waters of the Gulf of Chihli are relatively shallow, at 20 meters (70 feet). Also, the coastal area of the Gulf of Chihli has extensive wetlands, including riverine wetland, marshes, and salt marshes. The Taiwan Strait lies between the mainland and the island of

Taiwan. The Gulf of Tonkin lies off the coast of Guangxi, the extreme southeastern province of China, located between Hainan Island and Vietnam.

## Islands and Archipelagos

There are more than five thousand islands lying off the eastern coast of China. Taiwan (with an area of 36,000 square kilometers/22,500 square miles) is the largest. Hainan Island (about 34,000 square kilometers/21,250 square miles) is the second-largest island, but it is the largest which is fully under the jurisdiction of China. Other neighboring islands include the Spratly Islands, the Diaoyutai Islands, the Paracel Islands, and the Pescadores. The ownership of all of these islands groups is under dispute.

## DID YOU KNOW?

The Silk Road is an ancient, seven-thousand-mile-long trading route that extended from east-central China through the present day countries of India, Pakistan, Iran, Iraq, and Syria. It essentially connected the region of the Yellow River Valley to the Mediterranean Sea. From there, costly Chinese silk could be transported throughout the Roman Empire. The Silk Road served not only as a transportation route for trade but also as a route of cultural exchange; travelers and traders from different regions shared their religious, political, and social beliefs and customs with one another.

## Coastal Features

China's coastline extends more than 14,500 kilometers (9,010 miles). More than half the coastline (predominantly in the south) is rocky, while most of the remainder is sandy. The Hangzhou Bay (Hangzhou Wan), just south of Shanghai, roughly divides the two types of shoreline.

The Shandong Peninsula juts out at the northernmost reach of the Yellow Sea. It features the dramatic and sacred peak, Tai Shan (1,530 meters/5,069 feet). North of the Shandong Peninsula, the coastline curves around another land mass: the Liaodong Peninsula. This peninsula separates Korea Bay from the Gulf of Chihli. In the south, separating the Gulf of Tonkin from the South China Sea, the narrow Qiongzhou Peninsula extends out from the mainland at China's southernmost point and almost touches Hainan Island.

The coastal areas of China are the most densely populated regions, containing more than 400 people per square kilometer (1,036 people

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per square mile). Bustling port cities lie along the coast, from Shanghai near the Yangtze Delta to Guangzhou (Canton), where the West River and Bei River join to become the Pearl River.

## 6 INLAND LAKES

Qinghai Lake is currently China's largest lake and the third-largest salt lake in the world, with an area of 4,209 square kilometers (1,625 square miles). The lake is slowly drying up, however, shrinking a little bit each year. It is located in the Qaidam Basin, a sandy and swampy basin that contains many other salt lakes, including Lakes Ngoring and Gyaring.

Poyang Hu is the largest freshwater lake in China with a surface area of 2,779 square kilometers (1,073 square miles). It is found on the south Yangtze River in southeast China.

Dongting Hu is a large, shallow lake also south of the Yangtze. About 40 percent of the Yangtze's water travels through several channels into the lake. Lake Tai is located at the base of Mount Yu Shan on the other side of the Great Canal, just inland from Shanghai. Baiyangdian Lake (360 square kilometers/140 square miles) is used as a water source for the region just to the southwest of Beijing, which is home to hundreds of thousands of people. The lake is drying up due to overuse for industrial and agricultural production and drinking water, as well as a result of recurring drought.

There are several other notable lakes in China, many of which are located in the various mountain ranges, catching water from the many mountain streams. Erhai Lake is a freshwater lake on the plateau of Yunnan. Tianchi Lake (Heavenly Lake) lies in the Tian Shan Mountains in the northwest, about 115 kilometers (70 miles) northeast of Ürümqi. Also in the northwest between the Tian Shan and Kuruktag Shan Mountains is Lake Bosten, which receives the Kaidu River and other streams.



EPD/Cynthia Bassett

*The giant panda is one of the many unique animal species found in China.*

## 7 RIVERS AND WATERFALLS

China's most important rivers lie in the eastern and northeastern part of the country. The three major river systems here are the Yangtze River (Chang Jiang), the Yellow River (Huang He), and the Hai River. The Yangtze is found south of the Kunlun and Qinling Mountains. It is the longest river in China—5,525 kilometers (3,434 miles)—and is navigable over much of its length. The Yangtze begins on the Plateau of Tibet and flows east through the heart of the country, draining an area of 1.8 million square kilometers (694,000 million square miles) before emptying into the East China Sea. The large Jinsha River is a major tributary of the upper Yangtze. The Hai River rises southwest

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# CHINA

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of Beijing and flows through several lakes before joining the Yangtze.

Flowing initially northeast from its source in the Kunlun Shan, the Yellow River follows a winding path, measuring 4,671 kilometers (2,903 miles), as it courses toward the sea through the Loess Plateau. It is China's second-longest river. Over the centuries, the Yellow River has become choked with silt as it brings down a heavy load of sand and mud from its upper reaches, much of which is deposited on the flat plain. The water travels through artificial embankments that require constant repair. After years of these repairs, the river now actually flows on a raised ridge, the riverbed having risen 50 meters (164 feet) or more above the plain.

The Hai River flows west to east and is located north of the Yellow River. Its upper course consists of five rivers that converge near Tianjin, then flow 70 kilometers (43 miles) before emptying into the Gulf of Chihli.

Other significant rivers in northeastern China include the Amur River (Heilong Jiang), which flows a total 4,350 kilometers (2,719 miles) through Russia and China; the Liao River; and the Yalu River, which, along with the Tumen River, forms the border with North Korea. The largest river flowing in the southeast is the Pearl River (Zhu Jiang). The Pearl River flows to form the large Boca Tigris estuary between Hong Kong and Macau, linking Guangzhou to the South China Sea. The West River in southeastern China is an important commercial waterway. All of these rivers drain into the Pacific Seas.

Between the high mountains of the north and northwest, the rivers have no outlet to the sea. Many such waterways terminate in lakes or else diminish in the desert. A few are useful for irrigation. The largest of these rivers are the Konqi, the Kaidu, the Ulungur, and the Tarim.

Its length of 2,179 kilometers (1,354 miles) makes the Tarim River China's longest river without an outlet to the sea.

## 8 🌐 DESERTS

One of the significant problems facing China is desertification. Currently, the total desert area comprises more than 2.6 million square kilometers (1 million square miles), or about 30 percent of the country's total land area. In the extreme west of the country, between two east-west mountain ranges, lies the Tarim Basin, where Asia's driest desert, the Taklimakan Desert, is found. Brutal sandstorms, arid conditions, extreme temperatures, and the remoteness of the area have prevented any significant exploitation of the vast petroleum reserves of this desert region. The Gobi Desert lies along the northern border with Mongolia. In China, the Badanjin Shamo forms the southern limit of the Gobi. Much of the Gobi is mountainous, stark terrain. The Ordos (or Mu Us) Desert is the extension of the Gobi that lies along the southern edge of Inner Mongolia (Nei Mongol).

## 9 🌐 FLAT AND ROLLING TERRAIN

Only about 12 percent of China's land area may be classified as grasslands. Because of the country's size, however, there are still some significant plains regions. A principal feature of the south-central part of China is the fertile plain that is home to the Yangtze River. To the south of the river, a large plate-shaped section of the plain surrounds Lake Tai.

The Loess Plateau is mainly a large plain, also known as the North China Plain. It is actually a continuation of the central Manchurian Plain to the northeast, but is separated from it by the Gulf of Chihli. The Han people, China's largest ethnic group, have farmed the rich alluvial soils of the plain since ancient times, constructing the Grand Canal (Dayun He) for north-south transport.



EPD/Cynthia Bassett

*Animals graze in a wide valley in Guizhou Province in southern China.*

There are also grasslands in the massive Tarim Basin and the Junggar Basin in China's northwest corridor. Rich deposits of coal, oil, and metallic ores lie in this area. The Tarim is China's largest inland basin, measuring 1,500 kilometers (932 miles) from east to west and 600 kilometers (373 miles) from north to south at its widest parts.

Being so mountainous, China has many hill regions between and at the feet of the various ranges. There are also some notable hilly regions in the south, along the coastline of the South China Sea, where farmers must carve terraces into the land to grow rice.

## **10** **MOUNTAINS AND VOLCANOES**

Mountains cover more than two-thirds of the nation's territory, impeding communication and leaving only limited areas of level land

for agriculture. The Himalayas form a natural boundary with countries on the southwest. Similarly, the Altay Shan Mountains form the extreme northwest border with Mongolia.

The Himalayas are the highest mountains on Earth. They extend along a 2,414-kilometer (1,500-mile) arc from Jammu and Kashmir in the northwest to where the Brahmaputra River cuts south through the mountains near the Myanmar border. This range forms much of China's western and all of its southwestern international borders. Mount Everest, the world's highest mountain—8,850 meters (29,035 feet)—is found in this region on the border between Nepal and China. Seven of the world's nineteen peaks with summit elevations greater than 7,000 meters (23,000 feet) are also located here.

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## SACRED MOUNTAIN PEAKS IN CHINA

NAME	LOCATION	HEIGHT	RELIGION
Bei Heng Shan	Shanxi Province	3,060 meters (10,095 feet)	Taoism
Nan Heng Shan	Hunan Province	1,282 meters (4,232 feet)	Taoism
Hua Shan	Shanxi Province (along the Yellow River)	1,985 meters (6,552 feet)	Taoism
Song Shan	Henan Province (along the Yellow River)	1,485 meters (4,900 feet)	Taoism
Tai Shan	Shandong Province	1,530 meters (5,069 feet)	Taoism
Emei Shan	Sichuan Province	3,060 meters (10,095 feet)	Buddhism
Jiuhua Shan	Anhui Province	1,322 meters (4,340 feet)	Buddhism
Putuo Shan	Zhejiang Province	282 meters (932 feet)	Buddhism

Moving north from the Himalayas, several ranges also run west to east, including the Kailas Mountains (Gangdisê Shan), Tanggula Mountains, the Kunlun Shan, the Kuruktag Shan, the Qilian Shan, and the Tian Shan. The Tian Shan stretch across China between Kyrgyzstan and Mongolia. The Qinling Shandi (Ch'in Ling Shan), a continuation of the Kunlun Shan, divides the Loess Plateau from the Yangtze River Delta. The Qinling Shandi forms both geographic and cultural boundaries between the two great parts of China. To the south lie the densely populated and highly developed areas of the lower and middle plains of the Yangtze. To the north are the more remote, more sparsely populated areas.

In the far northeast, north of the Great Wall, the Great Khingan Mountains (Da Hinggan Ling) form a barrier along the border with Mongolia, extending from the Amur to the Liao River in a north-south orientation, with elevations reaching 1,715 meters (5,660 feet). The Lesser Khingan Mountains (Xiao Hinggan Ling) line the northeastern border with Russia. To the east, along the border with Korea, lie the Changbai Shan (Forever White Mountains), where snow covers the peaks year-round.

The Yellow Mountains (Huang Shan), southwest of Shanghai, contain seventy-two peaks, the tallest of which is Lianhua Feng (Lotus Flower Peak) at 1,864 meters (6,151 feet). The Yellow Mountains region also includes hot mineral springs, where the water temperature is constant at 42°C (108°F).

## 11 CANYONS AND CAVES

The Grand Yarlung Zangbo Canyon in the Tibet autonomous region is the largest canyon in the world at 505 kilometers (316 miles) long and 6,009 meters (10,830 feet) deep. The Yarlung Zangbo, the river that eventually becomes the Bramaputra, carved this canyon.

The Three Gorges, a famous 322-kilometer-deep (200-mile-deep) canyon on the Yangtze, will be submerged when the Three Gorges Dam becomes operational in 2009. The Huetiaojian (“Tiger Leaping”) Canyon, located along the Jinsha River, an upper tributary of the Yangtze, is one of the world’s deepest canyons at 3,000 meters (9,900 feet) deep.

There are a large number of natural and hand-carved caves in China that were created and used by religious monks and followers. The Longmen Grottoes in the city of Luoyang contain one of the largest collections of Chinese and Buddhist art of the late Northern Wei



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and Tang Dynasties (c. 316-907 A.D.), including statues carved into rock, sculptured walls and ceilings, and rock paintings. The site has about 2,345 caves.

The Yungang Grottoes, in Datong city, contain similar Chinese and Buddhist art, including about 51,000 statues in 252 caves. The Magao Grottoes in Dunhuang (also called the Dunhuang Grottoes) are located along the old Silk Road of China. This region features 492 caves with an estimated 45,000 square meters of frescos and 2,415 painted statues. Nearly fifty thousand artifacts were found in Magao, including Buddhist scriptures, historical documents, textiles, and other relics. All of these cave sites have been designated as United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage Sites.

## 12 PLATEAUS AND MONOLITHS

About 25 percent of China's total area may be characterized as plateau. The Plateau of Tibet is in China's southwest, enclosed by the Himalayas and the Kunlun Shan. It is the highest and most extensive plateau in the world, incorporating some 2.3 million square kilometers (888,000 square miles) with elevations that average more than 4,000 meters (13,123 feet) above sea level. The loftiest summits rise to over 7,200 meters (23,622 feet). It is referred to as the "roof of the world," and the land there continues to rise, gaining an average of 10 millimeters (0.04 inches) per year in elevation. North of Tibet rise two more plateaus: the Tarim Basin and the Junggar Basin. In these regions, the elevation averages 4,600 meters (15,000 feet). The Tian Shan range separates the two plateaus.

The Inner Mongolia (Nei Mongol) Plateau, China's second-largest plateau, lies in the northeast near the border with Mongolia. It covers an area of about 1,000,000 square ki-

lometers (386,100 square miles), with 2,000 kilometers (1,250 miles) stretching from east to west and 500 kilometers (300 miles) from north to south. The elevation averages between 1,000 and 2,000 meters (3,300 to 6,600 feet).

To the south is Loess Plateau, the third largest plateau in China, covering 600,000 square kilometers (308,881 square miles). The plateau is covered by a layer of loess, a yellowish soil blown in from the deserts of Inner Mongolia. The loess layer ranges from 100 to 200 meters (330 to 660 feet) in depth and rises to elevations that range from 800 to 2,000

## DID YOU KNOW?

The Great Wall of China is one of the largest structures ever built by humans. Construction began around the seventh and eighth centuries B.C. Most of the Great Wall along the country's northern flank, the east-west extent of which is more than 3,300 kilometers (2,050 miles), was completed about 220 B.C. The wall was built as a barrier against invaders and became, for a time, the world's largest military structure. In its most complete stage, it stretched across 6,000 kilometers (3,729 miles) of mountainous and desert terrain in northeastern China. Today, some of the sections are in ruins or seriously decayed. Several segments remain intact and are visited by tourists, however, including guard towers.

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meters (2,640 to 6,600 feet). The Loess Plateau experiences some of the most severe soil erosion conditions of anywhere in the world.

The last notable plateau in China is the Yunnan-Guizhou plateau in the southwest. The smallest plateau in China, it features unusual geology with dramatic stone outcroppings and overhangs.

## 13 MAN-MADE FEATURES

In 1994, work began on the seventeen-year-long project to construct the world's largest dam on the Yangtze. The Three Gorges Dam will be the largest hydroelectric dam in the world, measuring just over 2 kilometers (about a mile) across and 185 meters (610 feet) high when it is completed (projected for 2009). Its reservoir is expected to extend more than 560 kilometers (350 miles) upstream, flooding the towns and villages that are home to an estimated two million people, all of whom will be forced to relocate when the dam is completed.

The Grand Canal (Dayun He), running from Beijing in the north to Hangzhou in the south, is the longest (1,801 kilometers/1,126 feet) and oldest artificial canal in the world. It links five rivers: the Hai River, Yellow River, Huai River, the Yangtze River, and the Qian-

tang River. It was dug by hand over a period that stretched from 486 B.C. to 1293 A.D.

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# Colombia

- **Official name:** Republic of Colombia
- **Area:** 1,138,910 square kilometers (439,736 square miles)
- **Highest point on mainland:** Pico Cristóbal Colón (5,775 meters/18,947 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 7 A.M. = noon GMT
- **Longest distances:** 1,700 kilometers (1,056 miles) from north-northwest to south-southeast; 1,210 kilometers (752 miles) from north-northeast to south-southwest
- **Land boundaries:** 6,004 kilometers (3,731 miles) total boundary length; Brazil, 1,643 kilometers (1,021 miles); Ecuador, 590 kilometers (367 miles); Panama, 225 kilometers (140 miles); Peru, 1,496 kilometers (930 miles); Venezuela, 2,050 kilometers (1,274 miles)
- **Coastline:** Total: 3,208 kilometers (1,993 miles); Caribbean Sea, 1,760 kilometers (1,100 miles); North Pacific Ocean, 1,448 kilometers (905 miles)
- **Territorial sea limits:** 22 kilometers 12 nautical miles

## 1 🌐 LOCATION AND SIZE

Located in the northwest corner of the South American continent, Colombia is the only country in South America with both Atlantic (Caribbean) and Pacific Ocean coastlines. It is the fifth-largest in size of the Latin American countries. It shares borders with Panama, Venezuela, Brazil, Peru, and Ecuador. With an area of about 1,138,910 square kilometers (439,736 square miles), the country is slightly less than three times the size of Montana. Colombia is divided into thirty-two departments and one federal district.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Colombia has no outside dependencies or territories.

## 3 🌐 CLIMATE

Temperatures throughout the country are dependent more on altitude than on a change in seasons. The hottest area, also known as

*tierra caliente*, is a tropical zone that extends vertically from sea level to about 1,100 meters (3,500 feet). In this area, the temperature is usually between 24 and 27°C (75°F and 81°F), with a maximum near 38°C (100°F) and a minimum of 18°C (64°F). A temperate zone, or *tierra templada*, exists at elevations between 1,100 and 2,000 meters (3,500 and 6,500 feet), with an average temperature of 18°C (64°F). Rising to elevations between 2,000 and 3,000 meters (6,500 and 10,000 feet), one encounters the *tierra fría*, or cold country, which has yearly temperatures averaging 13°C (55°F). Above 3,000 meters (10,000 feet), one encounters more frigid temperatures, often between -17°C and 13°C (1°F and 55°F).

The seasons are determined by changes in rainfall. Areas in the north generally experience only one rainy season, lasting from May through October. Other areas of the country, particularly on the western coast and near the

# COLOMBIA



Andes, experience alternating three-month cycles of wet and dry seasons. Annual rainfall averages 107 centimeters (42 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

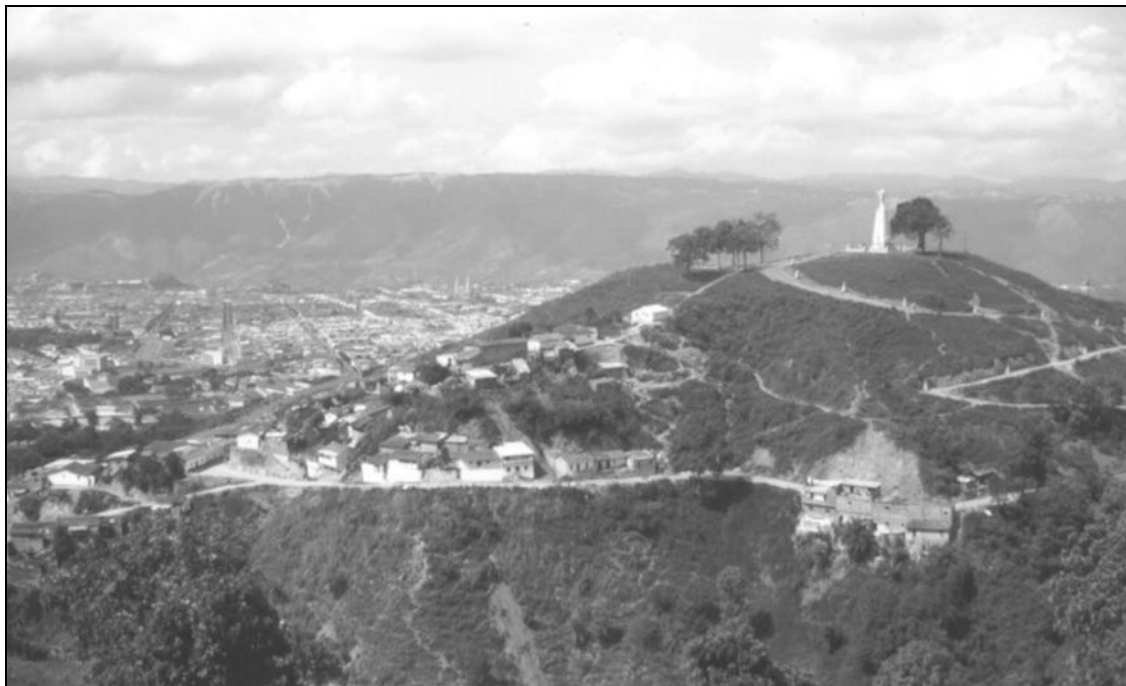
The country consists of four main geographic regions: the Central Highlands (including the three Andean ranges and the lowlands between them), the Atlantic Lowlands, the Pacific Lowlands and their coastal regions, and the Eastern Plain. Among the unusual animals

that thrive in Colombia are the jaguar, puma, ocelot, peccary (a small hog-like animal), and armadillo. Native birds include the colorful red-billed emerald hummingbird, found along the coast and in the forested lower slopes of the mountains, and various species of eagle, hawk, falcon, vulture, and condor. Several species of poisonous snake inhabit the tropical forests, including the South American rattlesnake, the anaconda, and various coral snakes.

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# COLOMBIA

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EPD/Evangelical Lutheran Church in America

*A missionary complex lies on a Colombian hilltop.*

Colombia sits on the extreme edge of the South American Tectonic Plate. Just to the east is the Nazca Plate, and immediately to the north is the Caribbean Plate. Subduction (one plate pushing under another) at these plate boundaries has pushed up the rock, resulting in the mountains that exist on Colombia's coasts. This process also formed volcanoes, and many of them remain active. Folding and faulting of Earth's crust resulted in seismic fault lines between the mountain ranges, and the continued movement of the plates subjects Colombia to frequent earthquakes, some of which are very destructive.

## **5** **OCEANS AND SEAS**

### **Seacoast and Undersea Features**

The Caribbean Sea, an arm of the Atlantic Ocean, lies northwest of Colombia. The waters along the Caribbean coast are attractive to snorkelers and scuba divers from around the

world, since the water is clear and the coastal areas are lined with extensive coral reefs. Colombia has a southwestern coastline along the Pacific Ocean, which is separated from the Caribbean Sea by the Isthmus of Panama.

Rich marine life fills the Pacific Ocean waters along Colombia's western coast, influenced by the Humbolt Current. It is common to see dolphins here, and deep-sea fishing is a popular tourist activity. From July through September, humpback whales populate the waters during their mating season.

### **Sea Inlets and Straits**

The Gulf of Morrosquillo is located on the Caribbean coast, south of Cartagena. Further south, the Gulf of Urabá cuts sharply into the mainland just before the Isthmus of Panama.

The Pacific coast is very irregular, featuring many alternating bays and capes. From north

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# COLOMBIA

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to south, the sea inlets are the Gulf of Cupica, the Gulf of Tibugá, and at the southernmost point, Tumaco Bay.

## Islands and Archipelagos

Colombia possesses a few islands in the Caribbean Sea and some in the Pacific Ocean. The combined area of these islands does not exceed 65 square kilometers (25 square miles). Off Nicaragua, about 644 kilometers (400 miles) northwest of the Colombian coast, lies the San Andrés y Providencia Intendency, an archipelago of thirteen small cays grouped around the two larger islands of San Andrés and Providencia. Other islands in the same area—the ownership of which has been in dispute—are the small islands, cays, or banks of Santa Catalina, Roncador, Quita Sueno, Serrana, and Serranilla. Off the coast south of Cartagena are several small islands, among them the islands of Rosario, San Bernardo, and Fuerte.

The island of Malpelo lies in the Pacific Ocean about 434 kilometers (270 miles) west of Buenaventura. Nearer the coast, a prison colony is located on Gorgona Island. Gorgonilla Cay is off its southern shore.

## Coastal Features

The Atlantic Lowlands consist of all land in Colombia north of an imaginary line extending northeastward from the Gulf of Urabá to the Venezuelan frontier at the northern extremity of the Cordillera Oriental. The region corresponds generally to one that is often referred to as the Caribbean Lowland or Coastal Plain. This Atlantic Lowland region is roughly the shape of a triangle, the longest side of which is the coastline. Inland from the coastal cities are swamps, hidden streams, and shallow lakes that support banana and cotton plantations, countless small farms and, in higher places, cattle ranches. The northernmost extension of the Atlantic Coast is Point Gallinas.

The Pacific Lowlands are a thinly populated region of jungle and swamp with considerable but little-exploited potential wealth in minerals and other resources. Buenaventura, at about the midpoint of the 1,287-kilometer-long (800-mile-long) coast, is the only port of any size. On the east, the Pacific Lowlands are bounded by the Cordillera Occidental, from which run numerous streams. The peaks of the Cordillera Occidental provide a barrier to rainclouds; as a result, the rainfall along the coast is heavy. The rainforest that lines the coast is dense, with a rich diversity of plant, animal, and bird life. From north to south along the Pacific Coast are Point Marzo, Point Solano, and Cape Corrientes.

## 6 INLAND LAKES

While Colombia has several lakes, none of them are very large and data concerning the area of each lake is scarce. Laguna de la Cocha, a volcanic lake located in the department of Nariño, and Lake Fúquene (with an area of 30 square kilometers/11 square miles), a shallow lake that lies in the Cordillera Oriental, are both being considered by the international organization RAMSAR as wetlands of international significance.

Lake Tota near Bogotá supports tourism with abundant resources for fishing and boating. The largest lake in the north is Laguna de la Plaza. It is located in the Sierra Nevada de Cocuy Mountain Range near the border with Venezuela and has a shore lined with rock formations. Another lake in the area is Laguna Grande de los Verdes. Lake Zapatosa is the largest of the many lakes of northern Colombia.

## 7 RIVERS AND WATERFALLS

The Amazon River is the longest river in South America and the second-longest river in the world. The Amazon starts in Peru and touches the southernmost part of Colombia before coursing through Brazil to flow eastward to the Atlantic Ocean. The total length of the

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## COLOMBIA

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EPD/Peter Langer

*Residents of Cartagena in northwest Colombia can enjoy sunsets over the Caribbean Sea.*

Amazon is about 6,570 kilometers (4,080 miles). It has a total of eighteen major tributaries, including ten that are larger than the Mississippi River. The river is also known as having the world's largest flow of water, with about eighty million gallons of water per second emptying into the Atlantic Ocean. The main Colombian rivers that serve as tributaries to the Amazon are the Vaupés, Apaporis, Caquetá, and the Putumayo.

The Magdalena River rises near a point some 177 kilometers (110 miles) north of Ecuador, where the Cordillera Oriental and the Cordillera Central diverge. It is fed by numerous mountain torrents originating high in the snowfields, where for millennia glaciers have planed the surface of folded and stratified rocks. The Magdalena is navigable from the Caribbean Sea as far as the town of Neiva, deep in the interior, but is inter-

rupted at the midpoint of the country by rapids at the town of Honda.

Running parallel to the Magdalena and separated from it by the Cordillera Central, the Cauca River has headwaters not far from those of the Magdalena. The Cauca eventually joins the Magdalena in swamplands of the Atlantic (Caribbean) coastal region. Further west, the navigable Atrato River flows northward to the Gulf of Urabá.

There are no great rivers in western Colombia, as the mountains lie too close to the coastline. The longest rivers in this region are the San Juan and the Patía. East of the Andes, however, there are many large rivers, including several that are navigable. The Orinoco River flows north along part of the border with Venezuela. Many of Colombia's eastern rivers flow into it. The Guaviare River and two rivers to its north, the Arauca and the Meta,

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# COLOMBIA

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EPD/Peter Langer

*The region around Medellín in north-central Colombia averages 1,500 meters (5,000 feet) in elevation.*

are the Orinoco's major Colombian tributaries. The Guaviare serves as a border for five political subdivisions, and it divides eastern Colombia into the Eastern Plains subregion in the north and the Amazonas subregion in the south.

## **8** 🌐 **DESERTS**

In the plains region of the northeast, between the Meta River and the Cordillera Oriental, some of the terrain is dry. This region may resemble desert during periods of drought, but there is no true desert terrain in Colombia.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The Eastern Plains lie east of the Andes and are crisscrossed from east to west by many large rivers. The Spanish term for plains (*llanos*) can be applied only to the open plains in the northern part where cattle are raised, particularly in piedmont areas near the Cordillera Oriental.

The narrow region along the Pacific coast, known as the Pacific Lowlands, is swampy, heavily forested, and sparsely populated. Along the Atlantic coast, the Atlantic Lowlands also consist largely of open, swampy land, but there are cattle ranches and plantations there, and settlements centered on the port cities.

The Cordillera Occidental is separated from the Cordillera Central by the deep rift of the Cauca River Valley. This tropical valley follows the course of the Cauca River for about 241 kilometers (150 miles) southward from a narrow gorge at about its midpoint near the town of Cartago. The cities of Cali and Palmira are situated on low terraces above the floodplain of the Cauca Valley. It is a fertile sugar agricultural zone that includes the best farmland in the country.



## 10 🌐 MOUNTAINS AND VOLCANOES

Beginning near the border with Ecuador, the Andes Mountains divide into three distinct cordilleras (mountain chains) that extend northward almost to the Caribbean Sea. The Cordillera Occidental in the west roughly follows the Pacific coast. Slightly inland, the Cordillera Central extends parallel to the Cordillera Occidental, while the Cordillera Oriental lies furthest east. Altitudes in these ranges reach almost 5,791 meters (19,000 feet) and the mountain peaks are permanently covered with snow. Below the summits, the elevated basins and plateaus of these ranges have a moderate climate that provides pleasant living conditions and enables farmers in many places to harvest twice a year.

The Cordillera Occidental range is the lowest and the least populated of the three and supports little economic activity. It is separated from the Cordillera Central by the deep rift of the Cauca River Valley. A pass about 1,524 meters (5,000 feet) above sea level provides the major city of Cali with an outlet to the Pacific Ocean. The relatively low elevation of the cordillera permits dense vegetation, which on the western slopes is truly tropical.

The Cordillera Central, also called the Cordillera del Quindío, is the loftiest of the mountain systems. Its crystalline peaks form a 805-kilometer-long (500-mile-long) towering wall dotted with snow-covered volcanoes, several of which reach elevations greater than 5,500 meters (18,000 feet). There are no plateaus in this range and no passes below 3,352 meters (11,000 feet). The highest peak, the Nevado del Huila, rises 5,750 meters (18,865 feet) above sea level. Toward its northern end, this cordillera separates into several branches that descend toward the Atlantic coast, including the San Jerónimo Mountains, the Ayapel Mountains, and the San Lucas Mountains.

## DID YOU KNOW?

In the volcanic mountains of the Sierra Nevada de Santa Marta, the town of Arboletes is especially known for its pungent mud volcanoes, which, instead of spewing molten rock, bubble and spatter a mixture of hot water and clay or mud from deep within Earth. One of its volcanoes has a large crater that is filled with a lake of mud. Locals and tourists alike enjoy swimming and soaking in the lake.

The Cordillera Oriental is the longest of the three systems, extending more than 1,200 kilometers (745 miles). In the far north, where the Cordillera Oriental makes an abrupt turn to the northwest near the Venezuela border, lies the Sierra Nevada de Cocuy.

The Sierra Nevada de Santa Marta is an isolated mountain system near the Caribbean coast in the northern, semiarid Guajira Peninsula. It is the tallest coastal mountain range in the world. The range includes many tall peaks, as well as some active volcanoes. Its slopes are generally too steep for cultivation. In the southern part of the peninsula, the Sierra Nevada de Santa Marta rise to a height of 5,775 meters (18,947 feet) at Pico Cristóbal Colón, the highest peak in Colombia.

To the west of the Atrato River, along the Pacific Coast and the Panama border, rises the Serranía de Baudó, an isolated chain that occupies a large part of the coastal plain. Its highest elevation is less than 1,829 meters (6,000 feet).

# COLOMBIA

## DID YOU KNOW?

Colombia has two archeological sites that are designated as World Heritage Sites by UNESCO (United Nations Educational, Scientific, and Cultural Organization). Tierradentro is a complex of hypogea (underground chambers) located in the town of San Andrés de Pisimbalá in the southern Andes. The underground structures are ancient burial chambers that have been decorated with black and red geometric figures representing the decorations of homes from the time period in which they were created (between the sixth and tenth centuries). There are a number of large animal-like statues surrounding the chambers, which were most likely meant to serve as guards to the tombs.

San Agustin, located in the mountains and canyons just to the south of Tierradentro, is a similar site that also contains a number of burial mounds, tombs, small temples, and large monolithic animal sculptures. Researchers believe that this area was a ceremonial site where natives worshipped nature and death as symbols of continuity and evolution.

## 11 CANYONS AND CAVES

There are no major caves or canyons in Colombia.

## 12 PLATEAUS AND MONOLITHS

North of Bogotá, the densely populated plateaus of Chiquinquirá and Boyacá feature fertile fields, rich mines, and large industrial establishments. The average elevation in this area is about 2,438 meters (8,000 feet).

## 13 MAN-MADE FEATURES

There are two major dams in Colombia, both of which are built on fairly small but fast-flowing rivers. The Guavio Dam, on the Guavio River near Bogotá, is the tenth-highest dam in the world at 243 meters (797 feet). This hydroelectric dam produces most of the electricity for the surrounding areas. The Urrá Multipurpose Dam Project is located on the Sinú River, which flows south of the town of Montería in northwest Colombia. Besides serving as a source of hydroelectric power, this dam is expected to regulate the annual downstream flooding.

## 14 FURTHER READING

### Books

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Lessard, Marc. *Colombia*. Montréal, Canada: Ulysse, 1999.

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Pollard, Peter. *Colombia Handbook*. Lincolnwood, IL: Passport Books, 1998.

Williams, Raymond L., et al. *Culture and Customs of Colombia*. Westport, CT: Greenwood Press, 1999.

### Web Site

UNESCO World Heritage Sites in Colombia.  
<http://www.geo.ya.com/travelimages/unesco-colombia.html> (accessed June 13, 2003).

# Comoros

- **Official name:** Federal Islamic Republic of Comoros
- **Area:** 2,170 square kilometers (838 square miles)
- **Highest point on mainland:** Mount Karthala (2,360 meters/7,743 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 180 kilometers (110 miles) from east-southeast to west-northwest; 110 kilometers (60 miles) from north-northeast to south-southwest
- **Land boundaries:** None
- **Coastline:** 340 kilometers (211 miles)
- **Territorial sea limits:** 22 kilometers 12 nautical miles

## 1 🌐 LOCATION AND SIZE

Comoros is a group of three islands located in the northern edge of the Mozambique Channel, between the eastern shore of Mozambique and the island of Madagascar. With an area of 2,170 square kilometers (838 square miles), the country is a little more than twelve times the size of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Comoros has no territories or dependencies.

## 3 🌐 CLIMATE

The islands of Comoros have a tropical marine climate. The temperature averages 28°C (82°F) in March, the hottest month. From May to September, southerly winds bring cooler and drier conditions with temperatures averaging around 19°C (66°F). The rainy season is from December to April with January rainfall averaging about 42 centimeters (16.5 inches). Rainfall and temperature vary from island to island during any given month and even vary throughout an island due to the topography. The central, higher areas of an island are often cooler and moister than the coastal regions.

## 4 🌐 TOPOGRAPHIC REGIONS

Comoros is composed of three islands: Grande Comore (Ngazidja), Anjouan (Nzwani) and Mohéli (Mwali). The islands were created by the volcanic action along a fissure in the underlying seabed running west-northwest to east-southeast. The center of Grande Comore is a desert lava field. Hilly, black basalt relief formations rise 1,200 to 1,600 meters (3,950 to 5,250 feet) on Anjouan and 500 to 800 meters (1,650 to 2,600 feet) on Mohéli.

## 5 🌐 OCEANS AND SEAS

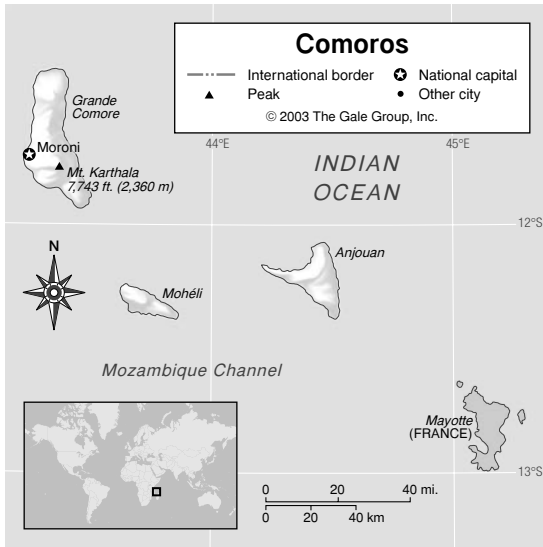
### Seacoast and Undersea Features

The islands of Comoros are completely surrounded by the waters of the Mozambique Channel, an arm of the Indian Ocean set apart by the island of Madagascar.

### Islands and Archipelagos

The northernmost and largest island in Comoros is Grande Comore (Ngazidja), with an area of 1,148 square kilometers (443 square miles). Next in size and to the south of Grande Comore is Mohéli (Mwali) at 290 square kilo-

# COMOROS



meters (112 square miles). Anjouan (Nzwani), which is east of Mohéli, is 424 square kilometers (164 square miles) in area.

The island of Mayotte (Maore), southeast of Anjouan, is claimed by Comoros but remains under French administrative control.

There are also several smaller islands surrounding the main land areas.

## Coastal Features

Mangrove swamps can be found along the coastal zones of the islands. The sandy beaches of the islands have the potential to become an important resource for the tourism industry in Comoros. In places, rocky cliffs rise dramatically from the sea.

## 6 🌐 INLAND LAKES

There are no major lakes in Comoros.

## 7 🌐 RIVERS AND WATERFALLS

There are no major rivers in Comoros.

## 8 🌐 DESERTS

A desert lava field lies in the central interior of the island of Grande Comore.

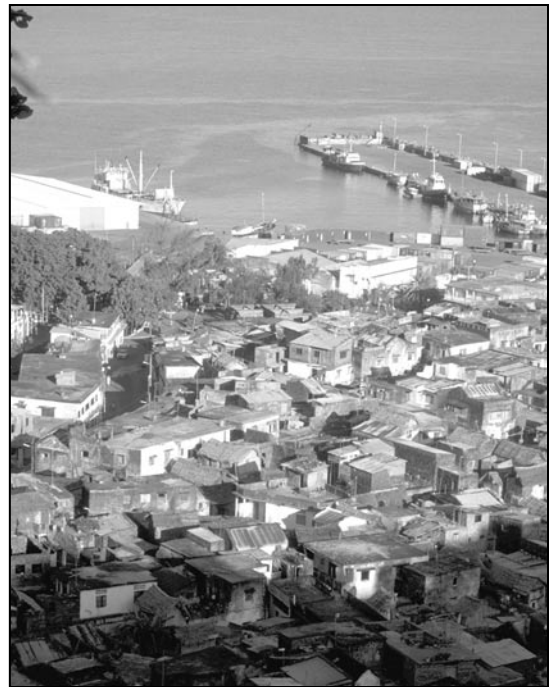
## 9 🌐 FLAT AND ROLLING TERRAIN

There are large tracts of fertile soil on the volcanic islands, but because of the dense population, farming has been forced upwards on the hills, leading to deforestation and erosion. The rich volcanic soils enable the growth of plentiful vegetation. Mangroves predominate in the coastal areas, with palms, bananas, and mangoes further inland.

The island of Anjouan has steep hills that rise nearly 1,500 meters (5,000 feet) from a volcanic massif in the center of the island. On Mohéli there is a ridge in the center of a plain that reaches 580 meters (1,900 feet) above sea level.

## 10 🌐 MOUNTAINS AND VOLCANOES

The highest peak of the Comoros is Mount Karthala (2,360 meters/7,743 feet), located



ARAMCO/Ilene Perlman

*Domoni on the island of Anjouan (Nzwani) is an important trading center.*

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# COMOROS

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ARAMCO/Ilene Perlman

*Dramatic cliffs rise from the sea on the coast of Comoros.*

on the southern tip of the island of Grande Comore. It is also an active volcano. Lush forest areas grow around the hills and volcanic peaks of the islands.

## **11** 🌐 **CANYONS AND CAVES**

There are no notable canyons or caves on Comoros.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The plateau on Grande Comore rises nearly 600 meters (2,000 feet).

## **13** 🌐 **MAN-MADE FEATURES**

While there are no notable man-made features on the Comoros Islands, humans have been living on the volcanic islands for centuries.

## **14** 🌐 **FURTHER READING**

### **Books**

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# APPENDIX A

## A CONTINENTS BY AREA, FROM LARGEST TO SMALLEST

RANK	CONTINENT	AREA (SQ MI)	AREA (SQ KM)
1	Asia	17,139,445	44,391,162
2	Africa	11,677,239	30,244,049
3	North America	9,361,791	24,247,039
4	South America	6,880,706	17,821,029
5	Antarctica	5,500,000	14,245,000
6	Europe	3,997,929	10,345,636
7	Australia	2,967,909	7,686,884

## B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
1	Russia	6,592,735	17,075,200	11.0
2	Antarctica	5,405,000	14,000,000	9.4
3	Canada	3,851,788	9,976,140	6.7
4	United States of America	3,717,792	9,629,091	6.4
5	China	3,705,386	9,596,960	6.4
6	Brazil	3,286,470	8,511,965	5.7
7	Australia	2,967,893	7,686,850	5.1
8	India	1,269,338	3,287,590	2.3
9	Argentina	1,072,157	2,776,890	1.9
10	Kazakhstan	1,049,150	2,717,300	1.8
11	Sudan	967,493	2,505,810	1.7
12	Algeria	919,590	2,381,740	1.6
13	Congo, Democratic Republic of the	905,563	2,345,410	1.6
15	Mexico	761,606	1,972,550	1.3
16	Saudi Arabia	756,984	1,960,582	1.3
17	Indonesia	741,096	1,919,440	1.3
18	Libya	679,358	1,759,540	1.2
19	Iran	636,293	1,648,000	1.1
20	Mongolia	604,247	1,565,000	1.0
21	Peru	496,223	1,285,220	0.9
22	Chad	495,755	1,284,000	0.9
23	Niger	489,189	1,267,000	0.8
24	Angola	481,350	1,246,700	0.8
25	Mali	478,764	1,240,000	0.8

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
26	South Africa	471,008	1,219,912	0.8
27	Colombia	439,733	1,138,910	0.8
28	Ethiopia	435,184	1,127,127	0.8
29	Bolivia	424,162	1,098,580	0.7
30	Mauritania	397,953	1,030,700	0.7
31	Egypt	386,660	1,001,450	0.7
32	Tanzania	364,879	945,037	0.6
33	Nigeria	356,667	923,768	0.6
34	Venezuela	352,143	912,050	0.6
35	Namibia	318,694	825,418	0.6
36	Pakistan	310,401	803,940	0.5
37	Mozambique	309,494	801,590	0.5
38	Turkey	301,382	780,580	0.5
39	Chile	292,258	756,950	0.5
40	Zambia	290,584	752,614	0.5
41	Myanmar	261,969	678,500	0.5
42	Afghanistan	250,000	647,500	0.4
43	Somalia	246,199	637,657	0.4
44	Central African Republic	240,534	622,984	0.4
45	Ukraine	233,089	603,700	0.4
46	Botswana	231,803	600,370	0.4
47	Madagascar	226,656	587,040	0.4
48	Kenya	224,961	582,650	0.4
49	France	211,208	547,030	0.4
50	Yemen	203,849	527,970	0.4
51	Thailand	198,455	514,000	0.3
52	Spain	194,896	504,782	0.3
53	Turkmenistan	188,455	488,100	0.3
54	Cameroon	183,567	475,440	0.3
55	Papua New Guinea	178,703	462,840	0.3
56	Sweden	173,731	449,964	0.3
57	Uzbekistan	172,741	447,400	0.3
58	Morocco	172,413	446,550	0.3
59	Iraq	168,753	437,072	0.3

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
60	Paraguay	157,046	406,750	0.3
61	Zimbabwe	150,803	390,580	0.3
62	Japan	145,882	377,835	0.3
63	Germany	137,846	357,021	0.2
64	Congo, Republic of	132,047	342,000	0.2
65	Finland	130,127	337,030	0.2
66	Malaysia	127,316	329,750	0.2
67	Vietnam	127,243	329,560	0.2
68	Norway	125,181	324,220	0.2
69	Côte d'Ivoire	124,502	322,460	0.2
70	Poland	120,728	312,685	0.2
71	Italy	116,305	301,230	0.2
72	Philippines	115,830	300,000	0.2
73	Ecuador	109,483	283,560	0.2
74	Burkina Faso	105,869	274,200	0.2
75	New Zealand	103,737	268,680	0.2
76	Gabon	103,347	267,667	0.2
77	Guinea	94,926	245,857	0.2
78	United Kingdom	94,525	244,820	0.2
79	Ghana	92,100	238,540	0.2
80	Romania	91,699	237,500	0.2
81	Laos	91,428	236,800	0.2
82	Uganda	91,135	236,040	0.2
83	Guyana	83,000	214,970	0.1
84	Oman	82,031	212,460	0.1
85	Belarus	80,154	207,600	0.1
86	Kyrgyzstan	76,640	198,500	0.1
87	Senegal	75,749	196,190	0.1
88	Syria	71,498	185,180	0.1
89	Cambodia	69,900	181,040	0.1
90	Uruguay	68,039	176,220	0.1
91	Tunisia	63,170	163,610	0.1
92	Suriname	63,039	163,270	0.1
93	Bangladesh	55,598	144,000	0.1



## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
94	Tajikistan	55,251	143,100	0.1
95	Nepal	54,363	140,800	0.1
96	Greece	50,942	131,940	0.1
97	Nicaragua	49,998	129,494	0.1
98	Eritrea	46,842	121,320	0.1
99	Korea, North (Democratic People's Republic of)	46,540	120,540	0.1
100	Malawi	45,745	118,480	0.1
101	Benin	43,483	112,620	0.1
102	Honduras	43,278	112,090	0.1
103	Liberia	43,000	111,370	0.1
104	Bulgaria	42,822	110,910	0.1
105	Cuba	42,803	110,860	0.1
106	Guatemala	42,042	108,890	0.1
107	Iceland	39,769	103,000	0.1
108	Serbia and Montenegro	39,517	102,350	0.1
109	Korea, South (Republic of)	38,023	98,480	0.1
110	Hungary	35,919	93,030	0.1
111	Portugal	35,672	92,391	0.1
112	Jordan	35,637	92,300	0.1
114	Azerbaijan	33,436	86,600	0.1
115	Austria	32,378	83,858	0.1
116	United Arab Emirates	32,000	82,880	0.1
117	Czech Republic	30,450	78,866	0.1
118	Panama	30,193	78,200	0.1
119	Sierra Leone	27,699	71,740	0.05
120	Ireland	27,135	70,280	0.05
121	Georgia	26,911	69,700	0.05
122	Sri Lanka	25,332	65,610	0.04
123	Lithuania	25,174	65,200	0.04
124	Latvia	24,938	64,589	0.04
125	Togo	21,925	56,785	0.04
126	Croatia	21,831	56,542	0.04
127	Bosnia and Herzegovina	19,741	51,129	0.03

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
128	Costa Rica	19,730	51,100	0.03
129	Slovakia	18,859	48,845	0.03
130	Dominican Republic	18,815	48,730	0.03
131	Bhutan	18,147	47,000	0.03
132	Estonia	17,462	45,226	0.03
133	Denmark	16,638	43,094	0.03
134	Netherlands	16,033	41,526	0.03
135	Switzerland	15,942	41,290	0.03
136	Guinea-Bissau	13,946	36,120	0.02
137	Moldova	13,067	33,843	0.02
137	Taiwan	13,892	35,980	0.02
138	Belgium	11,780	30,510	0.02
139	Lesotho	11,720	30,355	0.02
140	Armenia	11,506	29,800	0.02
141	Albania	11,100	28,748	0.02
142	Solomon Islands	10,985	28,450	0.02
143	Equatorial Guinea	10,831	28,051	0.02
144	Burundi	10,745	27,830	0.02
145	Haiti	10,714	27,750	0.02
146	Rwanda	10,169	26,338	0.02
147	Macedonia	9,781	25,333	0.02
148	Belize	8,867	22,966	0.02
149	Djibouti	8,494	22,000	0.01
150	El Salvador	8,124	21,040	0.01
151	Israel	8,019	20,770	0.01
152	Slovenia	7,820	20,253	0.01
153	Fiji	7,054	18,270	0.01
154	Kuwait	6,880	17,820	0.01
155	Swaziland	6,704	17,363	0.01
156	East Timor	5,640	14,609	0.01
157	Bahamas	5,382	13,940	0.01
158	Vanuatu	4,710	12,200	0.01
159	Qatar	4,416	11,437	0.01
160	Gambia, The	4,363	11,300	0.01

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
161	Jamaica	4,243	10,990	0.01
162	Lebanon	4,015	10,400	0.01
163	Cyprus	3,571	9,250	0.01
164	Brunei	2,228	5,770	0.004
164	Puerto Rico	3,515	9,104	0.01
165	Trinidad and Tobago	1,980	5,128	0.003
166	Cape Verde	1,557	4,033	0.003
167	Samoa	1,104	2,860	0.002
168	Luxembourg	998	2,586	0.002
169	Comoros	838	2,170	0.001
170	Mauritius	718	1,860	0.001
171	São Tomé and Príncipe	386	1,001	0.0007
172	Dominica	291	754	0.0005
173	Tonga	289	748	0.0005
174	Kiribati	277	717	0.0005
175	Micronesia	271	702	0.0005
176	Palau	177	458	0.0003
177	Bahrain	239	620	0.0004
178	Saint Lucia	239	620	0.0004
179	Andorra	181	468	0.0003
181	Singapore	250	647.5	0.0004
181	Seychelles	176	455	0.0003
182	Antigua and Barbuda	171	442	0.0003
183	Barbados	166	430	0.0003
184	Saint Vincent and the Grenadines	150	389	0.0003
185	Malta	122	316	0.0002
186	Maldives	115	300	0.0002
187	Saint Kitts and Nevis	101	261	0.0002
188	Marshall Islands	70	181.3	0.0001
189	Liechtenstein	62	160	0.0001
190	San Marino	24	61.2	--
191	Tuvalu	10	26	--
192	Nauru	8.1	21	--
193	Monaco	0.7	1.95	--
194	Vatican City	0.17	0.44	--

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
1	China	Asia	1,284,303,705
2	India	Asia	1,045,845,226
3	United States of America	North America	280,562,489
4	Indonesia	Asia	231,328,092
5	Brazil	South America	176,029,560
6	Pakistan	Asia	147,663,429
7	Russia	Europe	144,978,573
8	Bangladesh	Asia	133,376,684
9	Nigeria	Africa	129,934,911
10	Japan	Asia	126,974,628
11	Mexico	North America	103,400,165
12	Philippines	Asia	84,525,639
13	Germany	Europe	83,251,851
14	Vietnam	Asia	81,098,416
15	Egypt	Africa	70,712,345
16	Ethiopia	Africa	67,673,031
17	Turkey	Asia	67,308,928
18	Iran	Asia	66,622,704
19	Thailand	Asia	62,354,402
20	United Kingdom	Europe	59,778,002
21	France	Europe	59,765,983
22	Italy	Europe	57,715,625
23	Congo, Democratic Republic of the	Africa	55,225,478
24	Ukraine	Europe	48,396,470
25	Korea, South (Republic of)	Asia	48,324,000
26	South Africa	Africa	43,647,658
27	Myanmar	Asia	42,238,224
28	Colombia	South America	41,008,227
29	Spain	Europe	40,077,100
30	Poland	Europe	38,625,478
31	Argentina	South America	37,812,817
32	Tanzania	Africa	37,187,939
33	Sudan	Africa	37,090,298

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
34	Algeria	Africa	32,277,942
35	Canada	North America	31,902,268
36	Morocco	Africa	31,167,783
37	Kenya	Africa	31,138,735
38	Peru	South America	27,949,639
39	Afghanistan	Asia	27,755,775
40	Nepal	Asia	25,873,917
41	Uzbekistan	Asia	25,563,441
42	Uganda	Africa	24,699,073
43	Venezuela	South America	24,287,670
44	Iraq	Asia	24,001,816
45	Saudi Arabia	Asia	23,513,330
46	Malaysia	Asia	22,662,365
47	Taiwan	Asia	22,548,009
48	Romania	Europe	22,317,730
49	Korea, North (Democratic People's Republic of)	Asia	22,224,195
50	Ghana	Africa	20,244,154
51	Mozambique	Africa	19,607,519
52	Sri Lanka	Asia	19,576,783
53	Australia	Australia	19,546,792
54	Yemen	Asia	18,701,257
55	Syria	Asia	17,155,814
56	Côte d'Ivoire	Africa	16,804,784
57	Kazakhstan	Asia	16,741,519
58	Madagascar	Africa	16,473,477
59	Cameroon	Africa	16,184,748
60	Netherlands	Europe	16,067,754
61	Chile	South America	15,498,930
62	Ecuador	South America	13,447,494
63	Guatemala	North America	13,314,079
64	Cambodia	Asia	12,775,324
65	Burkina Faso	Africa	12,603,185

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
66	Zimbabwe	Africa	11,376,676
67	Mali	Africa	11,340,480
68	Cuba	North America	11,224,321
69	Malawi	Africa	10,701,824
70	Serbia and Montenegro	Europe	10,656,929
71	Greece	Europe	10,645,343
72	Niger	Africa	10,639,744
73	Angola	Africa	10,593,171
74	Senegal	Africa	10,589,571
75	Belarus	Europe	10,335,382
76	Belgium	Europe	10,274,595
77	Czech Republic	Europe	10,256,760
78	Portugal	Europe	10,084,245
79	Hungary	Europe	10,075,034
80	Zambia	Africa	9,959,037
81	Tunisia	Africa	9,815,644
82	Chad	Africa	8,997,237
83	Sweden	Europe	8,876,744
84	Dominican Republic	North America	8,721,594
85	Bolivia	South America	8,445,134
86	Austria	Europe	8,169,929
87	Azerbaijan	Asia	7,798,497
88	Guinea	Africa	7,775,065
89	Somalia	Africa	7,753,310
90	Bulgaria	Europe	7,621,337
91	Rwanda	Africa	7,398,074
92	Switzerland	Europe	7,301,994
93	Haiti	North America	7,063,722
94	Benin	Africa	6,787,625
95	Tajikistan	Asia	6,719,567
96	Honduras	North America	6,560,608
97	El Salvador	North America	6,353,681
98	Burundi	Africa	6,373,002

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
99	Israel	Asia	6,029,529
100	Paraguay	South America	5,884,491
101	Laos	Asia	5,777,180
102	Sierra Leone	Africa	5,614,743
103	Slovakia	Europe	5,422,366
104	Denmark	Europe	5,368,854
105	Libya	Africa	5,368,585
106	Jordan	Asia	5,307,470
107	Togo	Africa	5,285,501
108	Finland	Europe	5,183,545
109	Papua New Guinea	Asia	5,172,033
110	Nicaragua	North America	5,023,818
111	Georgia	Asia	4,960,951
112	Kyrgyzstan	Asia	4,822,166
113	Turkmenistan	Asia	4,688,963
114	Norway	Europe	4,525,116
115	Eritrea	Africa	4,465,651
116	Singapore	Asia	4,452,732
117	Moldova	Europe	4,434,547
118	Croatia	Europe	4,390,751
119	Bosnia and Herzegovina	Europe	3,964,388
120	Puerto Rico	North America	3,957,988
121	New Zealand	Asia	3,908,037
122	Ireland	Europe	3,883,159
123	Costa Rica	North America	3,834,934
124	Lebanon	Asia	3,677,780
125	Central African Republic	Africa	3,642,739
126	Lithuania	Europe	3,601,138
127	Albania	Europe	3,544,841
128	Uruguay	South America	3,386,575
129	Armenia	Europe	3,330,099
130	Liberia	Africa	3,288,198
131	Congo, Republic of the	Africa	2,958,448

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
132	Panama	North America	2,882,329
133	Mauritania	Africa	2,828,858
134	Mongolia	Asia	2,694,432
135	Jamaica	North America	2,680,029
136	Oman	Asia	2,713,462
137	United Arab Emirates	Asia	2,445,989
138	Latvia	Europe	2,366,515
139	Kuwait	Asia	2,111,561
140	Lesotho	Africa	2,207,954
141	Bhutan	Asia	2,094,176
142	Macedonia, The Former Yugoslav Republic of	Europe	2,054,800
143	Slovenia	Europe	1,932,917
144	Namibia	Africa	1,820,916
145	Botswana	Africa	1,591,232
146	Estonia	Europe	1,415,681
147	Gambia, The	Africa	1,455,842
148	Guinea-Bissau	Africa	1,345,479
149	Gabon	Africa	1,233,353
150	Mauritius	Africa	1,200,206
151	Trinidad and Tobago	South America	1,163,724
152	Swaziland	Africa	1,123,605
153	East Timor	Asia	952,618
154	Fiji	Asia	856,346
155	Qatar	Asia	793,341
156	Cyprus	Asia	767,314
157	Guyana	South America	698,209
158	Bahrain	Asia	656,397
159	Comoros	Africa	614,382
160	Equatorial Guinea	Africa	498,144
161	Solomon Islands	Asia	494,786
162	Djibouti	Africa	472,810
163	Luxembourg	Europe	448,569
164	Suriname	South America	436,494



## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
165	Cape Verde	Africa	408,760
166	Malta	Europe	397,499
167	Brunei Darussalam	Asia	350,898
168	Maldives	Asia	320,165
169	Bahamas, The	North America	300,529
170	Iceland	Europe	279,384
171	Barbados	North America	276,607
172	Belize	North America	262,999
173	Vanuatu	Asia	196,178
174	Samoa	Asia	178,631
175	São Tomé and Príncipe	Africa	170,372
176	Saint Lucia	North America	160,145
177	Micronesia, Federated States of	Asia	135,869
178	Saint Vincent and the Grenadines	North America	116,394
179	Tonga	Asia	106,137
180	Kiribati	Asia	96,335
181	Grenada	North America	89,211
182	Seychelles	Africa	80,098
183	Marshall Islands	Asia	73,630
184	Dominica	North America	70,158
185	Andorra	Europe	68,403
186	Antigua and Barbuda	North America	67,448
187	Saint Kitts and Nevis	North America	38,736
188	Liechtenstein	Europe	32,842
189	Monaco	Europe	31,987
190	San Marino	Europe	27,730
191	Palau	Asia	19,409
192	Nauru	Asia	12,329
193	Tuvalu	Asia	11,146
194	Holy See	Europe	900
195	Antarctica	Antarctica	No permanent population

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA

All measurements are approximate and are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
1	Pacific Ocean	60,060,000	155,557,000
2	Atlantic Ocean	29,638,000	76,762,000
3	Indian Ocean	26,469,000	68,556,000
4	Southern Ocean	7,848,000	20,327,000
5	Arctic Ocean	5,427,000	14,056,000
6	Coral Sea	1,850,000	4,791,000
7	Arabian Sea	1,492,000	3,864,000
8	South China Sea (Nan Hai)	1,423,000	3,685,000
9	Weddell Sea	1,080,000	2,796,000
10	Caribbean Sea	1,063,000	2,753,000
11	Mediterranean Sea	971,000	2,515,000
12	Tasman Sea	900,000	2,331,000
13	Bering Sea	890,000	2,305,000
14	Bay of Bengal	839,000	2,173,000
15	Sea of Okhotsk	614,000	1,590,000
16	Gulf of Mexico	596,000	1,544,000
17	Gulf of Guinea	592,000	1,533,000
18	Barents Sea	542,000	1,405,000
19	Norwegian Sea	534,000	1,383,000
20	Gulf of Alaska	512,000	1,327,000
21	Hudson Bay	476,000	1,233,000
22	Greenland Sea	465,000	1,205,000
23	Bellinghausen Sea	430,000	1,110,000
24	Amundsen Sea	400,000	1,036,000
25	Arafura Sea	400,000	1,036,000
26	Philippine Sea	400,000	1,036,000
27	Sea of Japan	378,000	979,000
28	Mozambique Channel	376,000	975,000
29	Ross Sea	370,000	958,000
30	East Siberian Sea	361,000	936,000
31	Scotia Sea	347,000	900,000

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA *(continued)*

All measurements are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
32	Kara Sea	341,000	883,000
33	Labrador Sea	309,000	800,000
34	East China Sea (Dong Hai / Tung Hai)	290,000	752,000
35	Solomon Sea	278,000	720,000
36	Laptev Sea	270,000	700,000
37	Baffin Bay	268,000	695,000
38	Banda Sea	268,000	695,000
39	Drake Passage	240,000	620,000
40	Timor Sea	237,000	615,000
41	Andaman Sea	232,000	601,000
42	North Sea	232,000	601,000
43	Davis Strait	230,000	596,000
44	Chukchi Sea	225,000	582,000
45	Great Australian Bight	187,000	484,000
46	Beaufort Sea	184,000	476,000
47	Celebes Sea	182,000	472,000
48	Black Sea	178,000	461,000
49	Red Sea	175,000	453,000
50	Java Sea	167,000	433,000
51	Sulu Sea	162,000	420,000
52	Yellow Sea (Huang Hai)	161,000	417,000
53	Baltic Sea	147,000	382,000
54	Gulf of Carpentaria	120,000	310,000
55	Molucca Sea	119,000	307,000
56	Persian Gulf	93,000	241,000
57	Gulf of Thailand	92,000	239,000
58	Gulf of St. Lawrence	92,000	239,000
59	Bismarck Sea	87,000	225,000
60	Gulf of Aden	85,000	220,000
61	Makassar Strait	75,000	194,000
62	Ceram Sea	72,000	187,000

# APPENDIX E

## E OCEAN DEPTH

All measurements are approximate.

RANK	NAME	OCEAN	DEPTH (FT)	DEPTH (M)
1	Mariana Trench	Pacific	38,635	11,784
2	Philippine Trench	Pacific	37,720	11,505
3	Tonga Trench	Pacific	37,166	11,336
4	Izu Trench	Pacific	36,850	11,239
5	Kermadec Trench	Pacific	34,728	10,592
6	Kuril Trench	Pacific	34,678	10,577
7	New Britain Trench	Pacific	31,657	9,655
8	Puerto Rico Trench	Atlantic	31,037	9,466
9	Bonin Trench	Pacific	29,816	9,094
10	Japan Trench	Pacific	29,157	8,893
11	South Sandwich Trench	Atlantic	28,406	8,664
12	Palau Trench	Pacific	27,972	8,531
13	Peru-Chile Trench	Pacific	27,687	8,445
14	Yap Trench	Pacific	27,552	8,403
15	Aleutian Trench	Pacific	26,775	8,166
16	Roanoke Gap	Atlantic	26,542	8,095
17	Cayman Trench	Atlantic	26,519	8,088
18	New Hebrides Trench	Pacific	25,971	7,921
19	Ryukyu Trench	Pacific	25,597	7,807
20	Java Trench	Indian	24,744	7,547
21	Diamantina Trench	Indian	24,249	7,396
22	Mid America Trench	Pacific	22,297	6,801
23	Brazil Basin	Atlantic	22,274	6,794
24	Ob Trench	Indian	21,785	6,644
25	Vema Trench	Indian	19,482	5,942
26	Agulhas Basin	Indian	19,380	5,911
27	Ionian Basin	Mediterranean Sea	17,306	5,278
28	Eurasia Basin	Arctic	16,122	4,917

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
1	Greenland	North America	Atlantic Ocean	840,000	2,175,600
2	New Guinea	Oceania	Pacific Ocean	305,000	790,000
3	Borneo	Asia	South China Sea	285,000	737,000
4	Madagascar	Africa	Indian Ocean	226,657	587,040
5	Baffin	North America	Baffin Bay	196,000	507,000
6	Sumatra	Asia	Andaman Sea	164,000	425,000
7	Honshu	Asia	Pacific Ocean	88,000	228,000
8	Great Britain	Europe	North Sea	84,400	219,000
9	Victoria	North America	Viscount Melville Sound	83,900	217,000
10	Ellesmere	North America	Arctic Ocean	75,800	196,000
11	Sulawesi (Celebes)	Asia	Celebes Sea	67,400	174,000
12	South Island (New Zealand)	Oceania	Pacific Ocean	58,200	151,000
13	Java	Asia	Indian Ocean	50,000	129,000
14	North Island (New Zealand)	Oceania	Pacific Ocean	44,200	114,000
15	Newfoundland	North America	Atlantic Ocean	42,000	109,000
16	Cuba	North America	Caribbean Sea	40,500	105,000
17	Luzon	Asia	Pacific Ocean	40,400	105,000
18	Iceland	Europe	Atlantic Ocean	39,769	103,000
19	Mindanao	Asia	Pacific Ocean	36,500	94,600
20	Ireland	Europe	Atlantic Ocean	32,500	84,100
21	Hokkaido	Asia	Pacific Ocean	30,100	78,000
22	Sakhalin	Asia	Sea of Okhotsk	29,500	76,400
23	Hispaniola	North America	Atlantic Ocean	29,200	75,600
24	Banks	North America	Arctic Ocean	27,000	70,000
25	Sri Lanka	Asia	Indian Ocean	25,332	65,610
26	Tasmania	Australia	Indian Ocean	24,900	64,400
27	Devon	North America	Baffin Bay	21,300	55,200
28	Novaya Zemlya	Europe	North Kara Sea	18,900	48,900
29	Grande de Tierra del Fuego	South America	Atlantic Ocean	18,700	48,400
30	Marajo	South America	Atlantic Ocean	18,500	48,000
31	Alexander	Antarctica	Bellingshausen Sea	16,700	43,200
32	Axel Heiberg	North America	Arctic Ocean	16,700	43,200
33	Melville	North America	Viscount Melville Sound	16,300	42,100

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA (continued)

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
34	Southampton	North America	Hudson Bay	15,900	41,200
35	West Spitsbergen	Europe	Arctic Ocean	15,300	39,500
36	New Britain	Oceania	Bismarck Sea	14,600	37,800
37	Taiwan	Asia	Pacific Ocean	13,892	35,980
38	Kyushu	Asia	Pacific Ocean	13,800	35,700
39	Hainan	Asia	South China Sea	13,100	34,000
40	Prince of Wales	North America	Viscount Melville Sound	12,900	33,300
41	Novaya Zemlya	Europe	Barents Sea	12,800	33,300
42	Vancouver	North America	Pacific Ocean	12,100	31,300
43	Timor	Asia	Timor Sea	10,200	26,300
44	Sicily	Europe	Mediterranean	9,810	25,400
45	Somerset	North America	Lancaster Sound	9,570	24,800
46	Sardinia	Europe	Mediterranean	9,190	23,800
47	Bananal	South America	Araguaia River	7,720	20,000
48	Halmahera	Asia	Molucca Sea	6,950	18,000
49	Shikoku	Asia	Pacific Ocean	6,860	17,800
50	Ceram	Asia	Banda Sea	6,620	17,200
51	New Caledonia	Oceania	Coral Sea	6,470	16,700
52	Bathurst	North America	Viscount Melville Sound	6,190	16,000
53	Prince Patrick	North America	Arctic Ocean	6,120	15,800
54	North East Land	Europe	Barents Sea	5,790	15,000
55	Flores	Asia	Flores Sea	5,520	14,300
56	Oktyabrskoy Revolyutsii	Asia	Arctic Ocean	5,470	14,170
57	Sumbawa	Asia	Indian Ocean	5,160	13,400
58	King William	North America	Queen Maud Gulf	5,060	13,100
59	Samar	Asia	Pacific Ocean	5,050	13,100
60	Negros	Asia	Sulu Sea	4,900	12,700
61	Palawan	Asia	South China Sea	4,550	11,800
62	Kotelnyy	Asia	Arctic Ocean	4,500	11,700
63	Panay	Asia	Sulu Sea	4,450	11,500
64	Bangka	Asia	Java Sea	4,370	11,320
65	Ellef Ringnes	North America	Arctic Ocean	4,360	11,300
66	Bolshevik	Asia	Arctic Ocean	4,350	11,270
67	Sumba	Asia	Indian Ocean	4,310	11,200

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
68	Bylot	North America	Baffin Bay	4,270	11,100
69	Jamaica	North America	Caribbean Sea	4,243	10,990
70	Dolak	Asia	Arafura Sea	4,160	10,800
71	Hawaii	Oceania	Pacific Ocean	4,040	10,500
72	Viti Levu	Oceania	Pacific Ocean	4,010	10,400
73	Cape Breton	North America	Atlantic Ocean	3,980	10,300
74	Bougainville	Oceania	Pacific Ocean	3,880	10,000
75	Mindoro	Asia	South China Sea	3,760	9,730
76	Prince Charles	North America	Foxe Basin	3,680	9,520
77	Kodiak	North America	Pacific Ocean	3,670	9,510
78	Cyprus	Asia	Mediterranean	3,571	9,250
79	Komsomolets	Asia	Arctic Ocean	3,480	9,010
80	Buru	Asia	Banda Sea	3,470	9,000
81	Corsica	Europe	Mediterranean	3,370	8,720
82	Puerto Rico	North America	Atlantic Ocean	3,350	8,680
83	New Ireland	Oceania	Pacific Ocean	3,340	8,650
84	Disco	North America	Davis Strait	3,310	8,580
85	Chiloe	South America	Pacific Ocean	3,240	8,390
86	Crete	Europe	Mediterranean	3,190	8,260
87	Anticosti	North America	Gulf of St. Lawrence	3,070	7,940
88	Wrangel	Asia	Chukchi Sea	2,820	7,300
89	Leyte	Asia	Visayan Sea	2,780	7,210
90	Zealand	Europe	Baltic Sea	2,710	7,020
91	Cornwallis	North America	Barrow Strait	2,700	7,000
92	Wellington	South America	Trinidad Gulf	2,610	6,750
93	Iturup (Etorofu)	Asia	Pacific Ocean	2,600	6,720
94	Prince of Wales	North America	Pacific Ocean	2,590	6,700
95	Graham	North America	Pacific Ocean	2,460	6,360
96	East Falkland	South America	Atlantic Ocean	2,440	6,310
97	Melville	Asia	Timor Sea	2,400	6,220
98	Novaya Sibir	Asia	East Siberian Sea	2,390	6,200
99	Kerguelen	Antarctica	Indian Ocean	2,320	6,000
100	Andros	North America	Grand Bahama Bank	2,300	5,960

## APPENDIX G

### G DESERTS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (SQ MI)	AREA (SQ KM)
1	Sahara	Africa	Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Sudan, and Tunisia	3,475,000	9,000,000
2	Arabian*	Asia	Saudi Arabia, Kuwait, Qatar, the United Arab Emirates, Oman, Yemen, Jordan, Syria, Iraq	900,000	2,330,000
3	Gobi	Asia	China, Mongolia	500,000	1,300,000
4	Kalahari	Africa	Botswana, Namibia, South Africa	360,000	930,000
5	Great Victoria	Australia	Australia	134,652	348,750
6	Taklimakan (Takla Makan)	Asia	China	125,000	320,000
7	Sonoran	North America	United States of America, Mexico	120,000	310,000
8	Kara-Kum	Asia	Kazakhstan, Turkmenistan	115,830	300,000
9	Kyzyl Kum	Asia	Kazakhstan, Uzbekistan	115,000	297,850
10	Namib	Africa	Namibia, South Africa	110,000	285,000
11	Great Sandy	Australia	Australia	103,185	267,250
12	Somali	Africa	Somalia	100,000	260,000
13	Thar	Asia	India, Pakistan	90,000	233,000
14	Tanami	Australia	Australia	71,235	184,500
15	Atacama	South America	Chile, Peru	70,000	180,000
16	Simpson	Australia	Australia	68,150	176,500
17	Gibson	Australia	Australia	60,230	156,000
18	Little Sandy	Australia	Australia	43,050	111,500

\* Two deserts are commonly referred to by this name. This entry refers to the deserts of the Arabian Peninsula and not the Arabian Desert of Egypt, which is part of the Sahara.



## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT

All measurements are approximate.  
Note that many mountains have multiple peaks, which will appear separately in the table.

#### AFRICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Kibo (Mt. Kilimanjaro)	Tanzania	19,341	5,895
2	Mawensi (Mt. Kilimanjaro)	Tanzania	17,100	5,210
3	Batian (Mt. Kenya)	Kenya	17,058	5,203
4	Nelion (Mt. Kenya)	Kenya	17,020	5,190
5	Margherita Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,756	5,110
6	Alexandra Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,700	5,094
7	Albert Peak (Mt. Stanley)	Dem. Rep. of the Congo	16,690	5,090
8	Savoia Peak (Mt. Stanley)	Uganda	16,330	4,981
9	Elena Peak (Mt. Stanley)	Uganda	16,300	4,972
10	Elizabeth Peak (Mt. Stanley)	Uganda	16,170	4,932
11	Phillip Peak (Mt. Stanley)	Uganda	16,140	4,923
12	Moebius Peak (Mt. Stanley)	Uganda	16,130	4,920
13	Vittorio Emanuele (Mt. Speke)	Uganda	16,040	4,892
14	Ensonga (Mt. Speke)	Uganda	15,960	4,868
15	Johnston (Mt. Speke)	Uganda	15,860	4,834
16	Edward (Mt. Baker)	Uganda	15,890	4,846
17	Umberto (Mt. Emin)	Dem. Rep. of the Congo	15,740	4,798
18	Semper (Mt. Baker)	Uganda	15,730	4,795
19	Kraepelin (Mt. Emin)	Dem. Rep. of the Congo	15,720	4,791
20	Iolanda (Mt. Gessi)	Dem. Rep. of the Congo	15,470	4,751
21	Bottego (Mt. Gesi)	Dem. Rep. of the Congo	15,418	4,699
22	Sella (Mt. Luigi)	Dem. Rep. of the Congo	15,178	4,626
23	Ras Deshen	Ethiopia	15,157	4,620
24	Weismann (Mt. Luigi)	Dem. Rep. of the Congo	15,157	4,620
25	Okusoma (Mt. Luigi)	Dem. Rep. of the Congo	15,020	4,578

#### ANTARCTICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Vinson	Antarctica	16,860	5,142
2	Tyree	Antarctica	16,290	4,968
3	Shinn	Antarctica	15,750	4,800
4	Gardner	Antarctica	15,370	4,690
5	Epperly	Antarctica	15,100	4,600

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Everest (Zhumulangma Feng)	Nepal, China	29,030	8,850
2	K2	China, Pakistan	28,251	8,611
3	Kanchenjunga	India, Nepal	28,169	8,586
4	Lhotse	China, Nepal	27,890	8,500
5	Makalu	China, Nepal	27,824	8,481
6	Kanchenjunga, south peak	India, Nepal	27,800	8,479
7	Kanchenjunga, west peak	India, Nepal	27,620	8,424
8	Lhotse Shar	China, Nepal	27,500	8,388
9	Dhaulagiri	Nepal	26,813	8,172
10	Man slu	Nepal	26,775	8,155
11	Cho Oyu	China, Nepal	26,750	8,150
12	Nanga Parbat I	Pakistan	26,660	8,130
13	Masherbrum I	Pakistan	26,610	7,810
14	Annapurna I	Nepal	26,500	8,080
15	Gasherbrum I	Pakistan	26,470	8,070
16	Broad, highest peak	Pakistan	26,400	8,050
17	Gasherbrum II	Pakistan	26,360	8,030
18	Gosainthan	China	26,290	8,010
19	Broad, middle peak	Pakistan	26,250	8,000
20	Gasherbrum III	Pakistan	26,090	7,950
21	Annapurna II	Nepal	26,040	7,940
22	Gasherbrum IV	Pakistan	26,000	7,930
23	Gyachung Kang	China, Nepal	25,990	7,927
24	Nanga Parbat II	Pakistan	25,950	7,910
25	Kangbachen	India, Nepal	25,930	7,909
26	Man slu, east pinnacle	Nepal	25,900	7,900
27	Distaghil Sar	Pakistan	25,870	7,890
28	Nuptse	Nepal	25,850	7,880
29	Himachuh	Nepal	25,800	7,860
30	Khiangyang Kish	Pakistan	25,760	7,850

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
31	Ngojumba Ri	China, Nepal	25,720	7,847
32	Dakura	Nepal	25,710	7,842
33	Masherbrum II	Pakistan	25,660	7,826
34	Nanda Devi, west peak	India	25,650	7,823
35	Nanga Parbat III	Pakistan	25,650	7,823
36	Rakaposhi	Pakistan	25,550	7,793
37	Batura Mustagh I	Pakistan	25,540	7,790
38	GasherbrumV	Pakistan	25,500	7,770
39	Kamet	China, India	25,440	7,760

#### EUROPE

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	El'brus (Elborus), west peak	Russia	18,481	5,633
2	El'brus (Elborus), east peak	Russia	18,360	5,590
3	Shkhara	Georgia, Russia	17,064	5,205
4	Dykh, west peak	Russia	17,050	5,200
5	Dykh, east peak	Russia	16,900	5,150
6	Koshtan	Russia	16,880	5,148
7	Pushkina	Russia	16,730	5,100
8	Kazbek, east peak	Georgia	16,526	5,040
9	Dzhangi	Georgia	16,520	5,039
10	Katyn	Georgia, Russia	16,310	4,975
11	Shota Rustaveli	Georgia, Russia	16,270	4,962
12	Mizhirgi, west peak	Russia	16,170	4,932
13	Mizhirgi, east peak	Russia	16,140	4,923
14	Kundyum-Mizhirgi	Russia	16,010	4,880
15	Gestola	Georgia, Russia	15,930	4,860
16	Tetnuld	Georgia, Russia	15,920	4,850
17	Mont Blanc, main peak	France, Italy	15,772	4,810
18	Dzhimariy	Georgia	15,680	4,780
19	Adish	Georgia, Russia	15,570	4,749
20	Courmayer (Mont Blanc)	France, Italy	15,577	4,748
21	Ushba	Georgia	15,450	4,710

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### NORTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	McKinley (Denali), south peak	U.S.A.	20,323	6,194
2	Logan, central peak	Canada	19,550	5,959
3	Logan, west peak	Canada	19,470	5,930
4	McKinley (Denali), north peak	U.S.A.	19,470	5,930
5	Logan, east peak	Canada	19,420	5,920
6	Pico de Orizaba	Mexico	18,701	5,700
7	Logan, north peak	Canada	18,270	5,570
8	Saint Elias	U.S.A., Canada	18,010	5,490
9	Popocatepetl	Mexico	17,887	5,452
10	Foraker	U.S.A.	17,400	5,300
11	Ixtacihuatl	Mexico	17,342	5,286
12	Queen	Canada	17,300	5,270
13	Lucania	Canada	17,150	5,230
14	King	Canada	16,970	5,170
15	Steele	Canada	16,640	5,070
16	Bona	U.S.A.	16,500	5,033
17	Blackburn, highest peak	U.S.A.	16,390	5,000
18	Blackburn, southeast peak	U.S.A.	16,290	4,968
19	Sanford	U.S.A.	16,240	4,950
20	Wood	Canada	15,880	4,840

#### OCEANIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Puncak Jaya	Indonesia	16,503	5,033
2	Daam	Indonesia	16,150	4,926
3	Pilimsit	Indonesia	15,750	4,800
4	Trikora	Indonesia	15,580	4,752
5	Mandala	Indonesia	15,420	4,700

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### OCEANIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
6	Wisnumurti	Indonesia	15,080	4,590
7	Yamin	Indonesia	14,860	4,530
8	Wilhelm	Papua New Guinea	14,793	4,509
9	Kubor	Papua New Guinea	14,300	4,360
10	Herbert	Papua New Guinea	14,000	4,270

#### SOUTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Aconcagua	Argentina	22,835	6,960
2	Ojos del Salado, southeast peak	Argentina, Chile	22,573	6,880
3	Bonete	Argentina	22,550	6,870
4	Tupungato	Argentina, Chile	22,310	6,800
5	Pissis	Argentina	22,240	6,780
6	Mercedario	Argentina	22,210	6,770
7	Huascarán, south peak	Peru	22,204	6,768
8	Llullaillaco	Argentina, Chile	22,100	6,730
9	Libertador	Argentina	22,050	6,720
10	Ojos del Salado, northwest peak	Argentina, Chile	22,050	6,720
11	Gonzalez, highest peak	Argentina, Chile	21,850	6,664
12	Huascarán, north peak	Peru	21,840	6,661
13	Muerto	Argentina, Chile	21,820	6,655
14	Yerupaja, north peak	Peru	21,760	6,630
15	Incahuasi	Argentina, Chile	21,700	6,610
16	Galan	Argentina	21,650	6,600
17	Tres Cruces	Argentina, Chile	21,540	6,560
18	Gonzalez, north peak	Argentina, Chile	21,490	6,550
19	Sajama	Bolivia	21,463	6,542
20	Yerupaja, south peak	Peru	21,380	6,510
21	Chimborazo	Ecuador	20,681	6,267

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Tupungato	South America	Chile	22,310	6,800
2	Tipas	South America	Argentina	21,845	6,660
3	Cerro el Condor	South America	Argentina	21,425	6,532
4	Antofalfo	South America	Argentina	20,008	6,100
5	Guallatiri	South America	Chile	19,882	6,060
6	Lascar	South America	Chile	19,652	5,990
7	Cotopaxi	South America	Ecuador	19,344	5,896
8	Kilimanjaro	Africa	Tanzania	19,341	5,895
9	El Misti	South America	Peru	19,031	5,801
10	Pico de Orizaba	North America	Mexico	18,701	5,700
11	Tolima	South America	Colombia	18,425	5,616
12	Popocatepetl	North America	Mexico	17,887	5,452
13	Yucamani	South America	Peru	17,860	5,444
14	Sangay	South America	Ecuador	17,159	5,230
15	Tungurahua	South America	Ecuador	16,684	5,085
16	Cotacachi	South America	Ecuador	16,250	4,939
17	Purace	South America	Colombia	15,604	4,756
18	Klyuchevskaya	Asia	Russia	15,584	4,750
19	Kronotskaya	Asia	Russia	15,580	4,749
20	Shiveluch	Asia	Russia	15,580	4,749
21	Pichincha	South America	Ecuador	15,173	4,625
22	Karasimbi	Africa	Dem. Rep. of the Congo	14,873	4,507
23	Rainier	North America	USA	14,410	4,395
24	Wrangell	North America	USA (Alaska)	14,163	4,317
25	Colima	North America	Mexico	13,993	4,265
26	Tajumulco	North America	Guatemala	13,845	4,220
27	Mauna Kea	North America	USA (Hawaii)	13,796	4,205
28	Mauna Loa	North America	USA (Hawaii)	13,680	4,170
29	Cameroon	Africa	Cameroon	13,353	4,070
30	Tacana	North America	Guatemala	13,300	4,053
31	Kerintji	Asia	Indonesia	12,483	3,805
32	Erebus	Antarctica	Antarctica	12,448	3,794
33	Fuji	Asia	Japan	12,388	3,776
34	Fuego	North America	Guatemala	12,346	3,763

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
35	Agua	North America	Guatemala	12,307	3,751
36	Rindjani	Asia	Indonesia	12,224	3,726
37	Pico de Teide	Africa	Spain (Canary Is.)	12,198	3,718
38	Tolbachik	Asia	Russia	12,077	3,682
39	Semeru	Asia	Indonesia	12,060	3,676
40	Ichinskaya	Asia	Russia	11,800	3,621
41	Atitlan	North America	Guatemala	11,650	3,551
42	Torbert	North America	USA (Alaska)	11,450	3,480
43	Nyirangongo	Africa	Dem. Rep. of the Congo	11,365	3,465
44	Kroyaks kaya	Asia	Russia	11,336	3,456
45	Irazu	South America	Costa Rica	11,260	3,432
46	Slamet	Asia	Indonesia	11,247	3,428
47	Spurr	North America	USA (Alaska)	11,137	3,385
48	Lautaro	South America	Chile	11,120	3,380
49	Sumbing	Asia	Indonesia	11,060	3,371
50	Raung	Asia	Indonesia	10,932	3,332
51	Etna	Europe	Italy	10,902	3,323
52	Baker	North America	USA	10,778	3,285
53	Lassen	North America	USA	10,492	3,187
54	Dempo	Asia	Indonesia	10,390	3,158
55	Sundoro	Asia	Indonesia	10,367	3,151
56	Agung	Asia	Indonesia	10,337	3,142
57	Prahu	Asia	Indonesia	10,285	3,137
58	Llaima	South America	Chile	10,245	3,125
59	Redoubt	North America	USA (Alaska)	10,197	3,108
60	Tjiremai	Asia	Indonesia	10,098	3,078
61	One-Take	Asia	Japan	10,056	3,067
62	Nyamulagira	Africa	Dem. Rep. of the Congo	10,026	3,056
63	Iliamna	North America	USA (Alaska)	10,016	3,053
64	Ardjuno-Welirang	Asia	Indonesia	9,968	3,038
65	San Pedro	North America	Guatemala	9,902	3,020
66	Gede	Asia	Indonesia	9,705	2,958
67	Zhupanovsky	Asia	Russia	9,705	2,958
68	Apo	Asia	Philippines	9,692	2,954

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
69	Merapi	Asia	Indonesia	9,551	2,911
70	Marapi	Asia	Indonesia	9,479	2,891
71	Geureudong	Asia	Indonesia	9,459	2,885
72	Bezymianny	Asia	Russia	9,449	2,882
73	Shishaldin	North America	USA (Alaska)	9,372	2,856
74	Tambora	Asia	Indonesia	9,350	2,850
75	Villarrica	South America	Chile	9,318	2,840
76	Fogo	Africa	Cape Verde	9,281	2,829
77	Ruapehu	Oceania	New Zealand	9,175	2,796
78	Peuetsagoe	Asia	Indonesia	9,115	2,780
79	Paricutin	North America	Mexico	9,100	2,775
80	Big Ben	Antarctica	Heard Island (dependency of Australia)	9,006	2,745
81	Balbi	Oceania	Papua New Guinea	8,999	2,743
82	Avachinskaya	Asia	Russia	8,987	2,741
83	Melbourne	Antarctica	Antarctica	8,957	2,732
84	Poas	North America	Costa Rica	8,872	2,704
85	Papandajan	Asia	Indonesia	8,744	2,665
86	Piton de la Faournaise	Africa	Reunion (dependency of France)	8,626	2,631
87	Pacaya	North America	Guatemala	8,367	2,552
88	Mt. St. Helens	North America	USA	8,366	2,550
89	Asama	Asia	Japan	8,300	2,530
90	Pavlof	North America	USA (Alaska)	8,261	2,518
91	Veniaminof	North America	USA (Alaska)	8,220	2,507
92	Mayon	Asia	Philippines	8,077	2,462
93	Sinabung	Asia	Indonesia	8,066	2,460
94	Yake Dake	Asia	Japan	8,049	2,455
95	Tandikat	Asia	Indonesia	7,993	2,438
96	Canalaon	Asia	Philippines	7,984	2,435
97	Shoshuenco	South America	Chile	7,941	2,422
98	Idjen	Asia	Indonesia	7,823	2,386
99	Izalco	North America	El Salvador	7,828	2,386
100	Karthala	Africa	Comoros	7,746	2,361



## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
1	Nile	Africa	Egypt, Sudan, Uganda	4,160	6,693
2	Amazon	South America	Brazil, Colombia, Peru, Venezuela	3,900	6,280
3	Mississippi-Missouri	North America	U.S.A.	3,860	6,211
4	Chang Jiang (Yangtze or Yangtse)	Asia	China	3,434	5,525
5	Ob'-Irtysh	Asia	Kazakhstan, Russia	3,335	5,380
6	Paraná	South America	Argentina, Brazil, Paraguay	3,030	4,870
7	Huang He (Huang-ho or Yellow)	Asia	China	2,903	4,671
8	Irtysh	Asia	Kazakhstan, Russia	2,760	4,441
9	Lena	Asia	Russia	2,734	4,400
10	Amur	Asia	China, Russia	2,719	4,350
11	Congo (Zaire)	Africa	Angola, Dem. Rep. of the Congo, Rep. of the Congo	2,700	4,344
12	Mackenzie	North America	Canada	2,635	4,290
13	Mekong River (Lan ts'ang Chiang or Lancang Jiang)	Asia	Cambodia, China, Laos, Myanmar, Thailand, Vietnam	2,600	4,200
14	Niger	Africa	Benin, Guinea, Mali, Niger, Nigeria	2,594	4,184
15	Yenisey	Asia	Russia	2,566	4,129
16	Missouri	North America	U.S.A.	2,466	3,968
17	Mississippi	North America	U.S.A.	2,348	3,787
18	Volga	Europe	Russia	2,293	3,689
19	Ob'	Asia	Russia	2,270	3,650
20	Euphrates	Asia	Iraq, Syria, Turkey	2,235	3,596
21	Purus	South America	Brazil, Peru	2,100	3,380
22	Madeira	South America	Brazil	2,013	3,241
23	Lower Tunguska	Asia	Russia	2,000	3,220
24	Indus	Asia	Pakistan	1,988	3,200
25	São Francisco	South America	Brazil	1,988	3,199
26	Yukon	North America	Canada, U.S.A.	1,980	3,180
27	Rio Grande	North America	Mexico, U.S.A.	1,885	3,034

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
28	Brahmaputra (Jamuna)	Asia	Bangladesh, China, India	1,800	2,900
29	Danube	Europe	Austria, Bulgaria, Croatia, Germany, Hungary, Romania, Ukraine, Slovakia, Serbia-Montenegro	1,775	2,857
30	Salween	Asia	China, Myanmar	1,770	2,849
31	Darling	Australia	Australia	1,702	2,739
32	Tocantins	South America	Brazil	1,677	2,698
33	Nelson	North America	Canada	1,660	2,671
34	Vilyuy	Asia	Russia	1,650	2,650
35	Zambezi	Africa	Angola, Mozambique, Namibia, Zambia, Zimbabwe	1,650	2,650
36	Murray	Australia	Australia	1,609	2,589
37	Paraguay	South America	Argentina, Brazil, Paraguay	1,584	2,549
38	Amu Dar'ya	Asia	Afghanistan, Tajikistan, Turkmenistan, Uzbekistan	1,580	2,540
39	Kolyma	Asia	Russia	1,562	2,513
40	Ganges	Asia	Bangladesh, India	1,560	2,510
41	Ishim	Asia	Kazakhstan, Russia	1,520	2,450
42	Ural	Asia	Kazakhstan, Russia	1,510	2,430
43	Japurá	South America	Brazil, Colombia	1,500	2,414
44	Arkansas	North America	U.S.A.	1,460	2,350
45	Colorado	North America	U.S.A.	1,450	2,330
46	Dnieper	Europe	Belarus, Russia, Ukraine	1,420	2,290
47	Negro	South America	Brazil, Colombia, Venezuela	1,400	2,250
48	Ubangi	Africa	Central African Rep., Dem. Rep. of the Congo, Rep. of the Congo	1,400	2,253
49	Aldan	Asia	Russia	1,390	2,240
50	Columbia-Snake	North America	Canada, U.S.A.	1,390	2,240
51	Syr Dar'ya	Asia	Kazakhstan, Kyrgyzstan, Uzbekistan	1,370	2,200

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
52	Araguaia	South America	Brazil	1,366	2,198
53	Olenek	Asia	Russia	1,350	2,170
54	Irrawaddy	Asia	Myanmar	1,350	2,170
55	Kasai	Africa	Angola, Dem. Rep of the Congo	1,338	2,153
56	Ohio-Allegheny	North America	U.S.A.	1,310	2,109
57	Tarim	Asia	China	1,300	2,090
58	Orange	Africa	Lesotho, Namibia, South Africa	1,300	2,090
59	Orinoco	South America	Venezuela	1,281	2,061
60	Shabeelle	Africa	Ethiopia, Somalia	1,250	2,011
61	Xingu	South America	Brazil	1,230	1,979
62	Columbia	North America	Canada, U.S.A.	1,214	1,953
63	Mamoré	South America	Bolivia	1,200	1,931
64	Tigris	Asia	Iraq, Turkey	1,180	1,900
65	Northern Dvina	Europe	Russia	1,160	1,870
66	Don	Europe	Russia	1,153	1,860
67	Angara	Asia	Russia	1,151	1,852
68	Kama	Europe	Russia	1,120	1,800
69	Indigirka	Asia	Russia	1,112	1,789
70	Pechora	Europe	Russia	1,112	1,789
71	Limpopo	Africa	Botswana, South Africa, Mozambique	1,100	1,770
72	Sénégal	Africa	Guinea, Mali, Mauritania, Senegal	1,015	1,663
73	Salado	South America	Argentina	1,110	1,770
74	Guaporé	South America	Bolivia, Brazil	1,087	1,749
75	Tobol	Asia	Kazakhstan, Russia	1,042	1,677
76	Snake	North America	U.S.A.	1,038	1,670
77	Red	North America	U.S.A.	1,018	1,638
78	Churchill	North America	Canada	1,000	1,613
79	Jubba	Africa	Ethiopia, Somalia	1,000	1,613
80	Okavango	Africa	Angola, Botswana	1,000	1,613
81	Pilcomayo	South America	Argentina, Bolivia, Paraguay	1,000	1,613
82	Uruguay	South America	Uruguay	1,000	1,613

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
1	Angel (upper falls)	South America	Venezuela	2,648	807
2	Utigord	Europe	Norway	2,625	800
3	Monge	Europe	Norway	2,539	774
4	Mtarazi (Mutarazi)	Africa	Mozambique, Zimbabwe	2,500	760
5	Itatinga	South America	Brazil	2,060	628
6	Cuquenán (Kukenaam)	South America	Guyana, Venezuela	2,000	610
7	Kahiwa	North America	U.S.A. (Hawaii)	1,750	533
8	Tysse (Tusse)	Europe	Norway	1,749	533
9	Maradalsfos	Europe	Norway	1,696	517
10	Ribbon	North America	U.S.A.	1,612	491
11	Roraima	South America	Guyana	1,500	457
12	Della	North America	Canada	1,445	440
13	Yosemite, Upper	North America	U.S.A.	1,430	436
14	Gavarnie	Europe	France	1,385	422
15	Tugela (highest falls in chain)	Africa	South Africa	1,350	411
16	Krimml	Europe	Austria	1,250	380
17	Silver Strand	North America	U.S.A.	1,170	357
18	Basaseachic	North America	Mexico	1,020	311
19	Staubbach	Europe	Switzerland	980	299
20	Vettis	Europe	Norway	902	275
21	King George VI	South America	Guyana	850	260
22	Wallaman	Oceania	Australia	850	260
23	Takakkaw	North America	Canada	838	254
24	Hunlen	North America	Canada	830	253
25	Jog (Gersoppa)	Asia	India	830	253

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
26	Skykje	Europe	Norway	820	250
27	Sutherland, Upper	Oceania	New Zealand	815	248
28	Sutherland, Middle	Oceania	New Zealand	751	229
29	Kaieteur	South America	Guyana	741	226
30	Wollomombi	Oceania	Australia	726	220
31	Kalambo	Africa	Tanzania, Zambia	704	215
32	Fairy	North America	U.S.A.	700	213
33	Feather	North America	U.S.A.	640	195
34	Maletsunyane	Africa	Lesotho	630	192
35	Bridalveil	North America	U.S.A.	620	189
36	Multnomah	North America	U.S.A.	620	189
37	Panther	North America	Canada	600	183
38	Voringfoss	Europe	Norway	597	182
39	Nevada	North America	U.S.A.	594	181
40	Angel, Lower	South America	Venezuela	564	172
41	Augrabies (Aughrabies)	Africa	South Africa	480	146
42	Tully	Oceania	Australia	450	137
43	Helmcken	North America	Canada	450	137
44	Nachi	Asia	Japan	430	131
45	Tequendama	South America	Colombia	427	130
46	Bridal Veil	North America	U.S.A.	400	122
47	Illilouette	North America	U.S.A.	370	113
48	Yosemite, Lower	North America	U.S.A.	320	98
49	Twin	North America	Canada	260	80

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
1	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	143,000	371,000
2	Superior	North America	Canada, U.S.A.	31,820	82,732
3	Victoria	Africa	Uganda, Tanzania, Kenya	26,828	69,484
4	Aral Sea	Asia	Kazakhstan, Uzbekistan	24,900	64,500
5	Huron	North America	Canada, U.S.A.	23,000	59,570
6	Michigan	North America	U.S.A.	22,400	58,020
7	Tanganyika	Africa	Burundi, Dem. Republic of the Congo, Tanzania, Zambia	12,700	32,020
8	Baikal	Asia	Russia	12,160	31,500
9	Great Bear	North America	Canada	12,095	31,328
10	Great Slave	North America	Canada	11,030	28,570
11	Erie	North America	Canada, U.S.A.	9,920	25,690
12	Winnipeg	North America	Canada	9,420	24,390
13	Malawi	Africa	Malawi, Mozambique, Tanzania,	8,680	22,490
14	Ontario	North America	Canada, U.S.A.	7,440	19,240
15	Balkhash	Asia	Kazakhstan	7,030	18,200
16	Ladoga	Russia	Russia	7,000	18,130
17	Maracaibo	South America	Venezuela	5,020	13,010
18	Chad	Africa	Cameroon, Chad, Niger, Nigeria	4,000–10,000	10,360–25,900
19	Embalse del Río Negro	South America	Uruguay	4,000	10,360
20	Patos	South America	Brazil	3,920	10,153
21	Onega	Europe	Russia	3,750	9,720
22	Eyre	Australia	Australia	3,668	9,500
23	Volta	Africa	Ghana	3,276	8,485
24	Titicaca	South America	Bolivia, Peru	3,200	8,288
25	Nicaragua	South America	Nicaragua	3,150	8,160
26	Athabasca	North America	Canada	3,060	7,940
27	Reindeer	North America	Canada	2,570	6,650

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
28	Smallwood Reservoir	North America	Canada	2,500	6,460
29	Turkana (Rudolf)	Africa	Ethiopia, Kenya	2,473	6,405
30	Issyk Kul	Asia	Kyrgyzstan	2,360	6,100
31	Torrens	Australia	Australia	2,230	5,780
32	Albert	Africa	Dem. Republic of the Congo, Uganda	2,160	5,590
33	Vanern	Europe	Sweden	2,160	5,580
34	Netilling	North America	Canada	2,140	5,540
35	Winnipegosis	North America	Canada	2,070	5,370
36	Nasser	Africa	Egypt, Sudan	2,026	5,248
37	Bangweulu	Africa	Zambia	1,930	5,000
38	Chott el Djerid	Africa	Tunisia	1,930	5,000
39	Urmia	Asia	Iran	1,879	4,868
40	Nipigon	North America	Canada	1,870	4,850
41	Gairdner	Australia	Australia	1,840	4,770
42	Manitoba	North America	Canada	1,800	4,660
43	Kyoga	Africa	Uganda	1,710	4,430
44	Khanka	Asia	China, Russia	1,700	4,400
45	Saimaa	Europe	Finland	1,700	4,403
46	Mweru	Africa	Dem. Republic of the Congo	1,680	4,350
47	Great Salt	North America	U.S.A.	1,680	4,350
48	Qinghai (Koko)	Asia	China	1,625	4,209
49	Woods	North America	Canada	1,580	4,100
50	Taymyr	Asia	Russia	1,540	3,990
51	Nasser	Africa	Egypt	1,522	3,942
52	Orumiyeh	Asia	Iran	1,500	3,880
53	Dubawnt	North America	Canada	1,480	3,830
54	Van	Asia	Turkey	1,430	3,710
55	Tana	Africa	Ethiopia	1,390	3,600
56	Peipus	Europe	Estonia, Russia	1,386	3,555
57	Uvs	Asia	Mongolia	1,300	3,366

## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
1	Baikal	Asia	Russia	5,315	1,621
2	Tanganyika	Africa	Burundi, Tanzania, Dem. Congo (ROC), Zambia	4,825	1,471
3	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	3,363	1,025
4	Malawi	Africa	Malawi, Tanzania, Mozambique	2,316	706
5	Issyk Kul	Asia	Kyrgyzstan	2,303	702
6	Great Slave	North America	Canada	2,015	614
7	Matana	Asia	Indonesia	1,936	590
8	Crater	North America	U.S.A.	1,932	589
9	Toba	Asia	Indonesia	1,736	529
10	Hornindals	Europe	Norway	1,686	514
11	Sarez	Asia	Tajikistan	1,657	505
12	Tahoe	North America	U.S.A.	1,645	501
13	Chelan	North America	U.S.A.	1,605	489
14	Kivu	Africa	Rwanda, Congo (DROC)	1,575	480
15	Quesnel	North America	Canada	1,560	475
16	Sals	Europe	Norway	1,522	464
17	Adams	North America	Canada	1,500	457
18	Mjøsa	Europe	Norway	1,473	449
19	Manapuri	Oceania	New Zealand	1,453	443
20	Poso	Asia	Indonesia	1,444	440
21	Nahuel Huapi	South America	Argentina	1,437	438
22	Dead Sea	Asia	Israel, Jordan	1,421	433
23	Tazawa	Asia	Japan	1,394	425
24	Great Bear	North America	Canada	1,356	413
25	Como	Europe	Italy	1,352	412
26	Superior	North America	Canada, U.S.A.	1,333	406
27	Hawea	Asia	New Zealand	1,286	392
28	Wakatipu	Asia	New Zealand	1,240	378



## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH *(continued)*

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
29	Suldals	Europe	Norway	1,234	376
30	Maggiore	Europe	Italy, Switzerland	1,221	372
31	Fyres	Europe	Norway	1,211	369
32	Chilko	North America	Canada	1,200	366
33	Pend Oreille	North America	U.S.A.	1,200	366
34	Shikotsu	Asia	Japan	1,191	363
35	Powell	North America	Canada	1,174	358
36	Llanquihue	South America	Chile	1,148	350
37	Garda	Europe	Italy	1,135	346
38	Towada	Asia	Japan	1,096	334
39	Wanaka	Asia	New Zealand	1,086	325
40	Bandak	Europe	Norway	1,066	325
41	Telestskoya	Asia	Russia	1,066	325
42	Eutsuk	North America	Canada	1,060	323
43	Atitlan	North America	Guatemala	1,050	320
44	Lunde	Europe	Norway	1,030	314
45	Geneva	Europe	France, Switzerland	1,017	310
46	Morar	Europe	Scotland	1,017	310
47	Kurile	Asia	Russia	1,004	306
48	Walker	North America	U.S.A.	1,000	305
49	Titicaca	South America	Bolivia, Peru	997	304
50	Argentino	South America	Argentina	984	300
51	Iliamna	North America	U.S.A.	980	299
52	Tyrifjorden	Europe	Norway	968	295
53	Lugano	Europe	Italy, Switzerland	945	288
54	Takla	North America	Canada	941	287
55	Ohrid	Europe	Albania, Serbia-Montenegro	938	286
56	Atlin	North America	Canada	930	283
57	Nuyakuk	North America	U.S.A.	930	283
58	Michigan	North America	U.S.A.	923	285
59	Harrison	North America	Canada	916	279
60	Te Anau	Oceania	New Zealand	906	276

# Seven Wonders of the Ancient World

## **1** **The pyramids of Egypt**

Constructed between 2700 and 2500 B.C., the pyramids are the last surviving structures of the Seven Wonders of the Ancient World. The largest of the pyramids, which rises over 137 meters (450 feet), was built as a tomb to house the body of Pharaoh Khufu. Historians believe that it must have taken over twenty years to build with over 100,000 slave laborers.

## **2** **The gardens of Semiramis at Babylon**

The existence of these gardens is reputed, but according to fable they existed around 600 B.C. They are said to have been outside on a brick terrace 23 meters (75 feet) above the ground, encompassing an area of 37 square meters (400 square feet).

## **3** **The statue of Zeus at Olympia**

Constructed around 450 B.C. by the sculptor Phidias, this 12-meter (40-foot) high statue is of an ivory Zeus wearing a robe of gold, seated atop a throne. In his right hand was Nike, his messenger and a symbol of victory, in his left hand was the scepter signifying his rule over the gods and humankind, and atop his head was a wreathed crown.

## **4** **The temple of Artemis at Ephesus**

Built around 550 B.C. to celebrate the goddess of the hunt, this temple was one of the largest in ancient times. Beneath its tile-covered roof were rows of columns believed to be more than 12 meters (40 feet) high, leading to a marble sanctuary. The original temple was destroyed by fire in 356 B.C., but another temple was built on the same foundation. This temple was also burned, but the foundation still remains. Remnants of the second temple can be found at London's British Museum.

## **5** **The mausoleum at Halicarnassus**

Located in southwestern Turkey, this enormous white marble tomb was constructed to house the body of Mausolus, a king of Persian Empire. It was constructed around 350 B.C. by the Greek architects Satyrus and Pythius and became so well known that the term mausoleum was created to signify any large tomb. An earthquake in the 15<sup>th</sup> century caused significant damage to the tomb, which was eventually disassembled. Several of its exterior sculptures can be seen in London's British Museum.

## **6** **The Colossus at Rhodes**

Constructed around 200 B.C. by the Greek sculptor Chares, this 36-meter (120-foot) bronze statue was meant to honor the sun god Helios and celebrate the unity of the city-states of Rhodes. The statue was hollow, supported by stone blocks and iron bars inside its frame. It was destroyed by an earthquake only fifty-six years after its completion.

## **7** **The Pharos (lighthouse) of Alexandria or the Walls of Babylon**

This lighthouse, completed near 270 B.C., was, at the time, one of the tallest buildings in the known world. Standing over 122 meters (400 feet) high, it guided sailors to the shores of Alexandria, then ruled by King Ptolemy II.

# Seven Wonders of the Natural World

## **1** **Grand Canyon**

Created after millions of years of erosion from the Colorado River and its tributaries, this Arizona landmark is visited by millions of tourists each year.

## **2** **Paricutin Volcano**

Although it is not one of the largest volcanoes in Mexico, Paricutin has taken a place on the list of natural wonders following its birth in 1943. The eruption spanned ten years and covered about 2.6 square meters (10 square miles). No one was killed from the lava and ash, but it destroyed agricultural land and seriously affected the lives of those living nearby.

## **3** **The Harbor at Rio de Janeiro**

Located on the east coast of Brazil, the harbor overlooks the Guanabara Bay and the Atlantic Ocean on one side, and mountains on the other. Discovered by Portuguese navigators in 1502, this area houses a huge carnival each year.

## **4** **Northern Lights**

The northern lights, or aurora borealis, have fascinated people for centuries. Seen as souls, heavenly signs, or even messages from the dead, these shimmering light displays are caused by the interaction of solar winds with Earth's magnetic field. A similar phenomenon occurs in the southern hemisphere as well, but only the northern lights are classified as a natural wonder.

## **5** **Mt. Everest**

Formed from the collision of Asia and India over 60 million years ago, the Himalayas house Everest, the tallest mountain on Earth. Located in Nepal near the Tibetan border, this snowy peak has fascinated and challenged many climbers and non-climbers alike.

## **6** **Victoria Falls**

The largest waterfalls in the world, Victoria Falls has a drop of more than 99 meters (325 feet). Flowing from the Zambezi River, the falls were named for Queen Victoria by David Livingstone in 1855, when he became the first European to gaze upon them.

## **7** **The Great Barrier Reef**

The Great Barrier Reef extends over 1,998 kilometers (1,242 miles) on the northeast coast of Australia. The reef is quite delicate, being comprised of the skeletons of generations of marine life that lived just under the water's surface. The area is home to exotic coral, which is greatly affected by any human or natural interference, and a wide variety of marine life

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Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

**Junior  
Worldmark  
Encyclopedia of  
Physical  
Geography**

**VOLUME 2**

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**Congo, Democratic Republic of the  
to India**

**Karen Ellicott and Susan B. Gall,  
Editors**



## JUNIOR WORLDMARK ENCYCLOPEDIA OF PHYSICAL GEOGRAPHY

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Benin  
Botswana  
Burkina Faso  
Burundi  
Cameroon  
Cape Verde  
Chad  
Comoros  
Congo, Democratic Republic of the  
Congo, Republic of  
Côte d'Ivoire  
Djibouti  
Egypt  
Equatorial Guinea  
Eritrea  
Ethiopia  
Gabon  
Gambia, The  
Ghana  
Guinea  
Guinea-Bissau  
Guyana  
Kenya  
Lesotho  
Liberia  
Libya  
Madagascar  
Malawi  
Mali  
Mauritania  
Mauritius  
Morocco  
Mozambique  
Namibia  
Niger  
Nigeria  
Rwanda  
São Tomé and Príncipe  
Senegal  
Seychelles  
Sierra Leone  
Somalia  
South Africa  
Sudan  
Swaziland  
Tanzania

Togo  
Tunisia  
Uganda  
Zambia  
Zimbabwe

## **Asia**

Afghanistan  
Armenia  
Azerbaijan  
Bahrain  
Bangladesh  
Bhutan  
Brunei  
Cambodia  
China  
Cyprus  
East Timor  
Georgia  
India  
Indonesia  
Iran  
Iraq  
Israel  
Japan  
Jordan  
Kazakhstan  
Korea, North (Democratic People's Republic of)  
Korea, South (Republic of)  
Kuwait  
Kyrgyzstan  
Laos  
Lebanon  
Malaysia  
Mongolia  
Myanmar  
Nepal  
Oman  
Pakistan  
Philippines  
Qatar  
Russia  
Saudi Arabia  
Singapore  
Sri Lanka  
Syria  
Taiwan  
Tajikistan  
Thailand

---

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# COUNTRIES OF THE WORLD, BY CONTINENT

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Turkey  
Turkmenistan  
United Arab Emirates  
Uzbekistan  
Vietnam  
Yemen

## Australia

Australia

## Europe

Albania  
Andorra  
Austria  
Belarus  
Belgium  
Bosnia and Herzegovina  
Bulgaria  
Croatia  
Czech Republic  
Denmark  
Estonia  
Finland  
France  
Germany  
Greece  
Hungary  
Iceland  
Ireland  
Italy  
Latvia  
Liechtenstein  
Lithuania  
Luxembourg  
Macedonia  
Malta  
Moldova  
Monaco  
Netherlands  
Norway  
Poland  
Portugal  
Romania  
Russia  
San Marino  
Serbia and Montenegro  
Slovakia  
Slovenia  
Spain  
Sweden  
Switzerland  
Ukraine  
United Kingdom  
Vatican City

## North America

Antigua and Barbuda  
Bahamas  
Barbados  
Belize  
Canada  
Costa Rica  
Cuba  
Dominica  
Dominican Republic  
Ecuador  
El Salvador  
Guatemala  
Haiti  
Honduras  
Jamaica  
Mexico  
Nicaragua  
Panama  
Puerto Rico  
Saint Kitts and Nevis  
Saint Lucia  
Saint Vincent and the Grenadines  
United States of America

## Oceania

Note: The island nations lying in the Pacific Ocean are not part of any continent.

Fiji  
Kiribati  
Marshall Islands  
Micronesia  
Nauru  
New Zealand  
Palau  
Papua New Guinea  
Samoa  
Solomon Islands  
Tonga  
Tuvalu  
Vanuatu

## South America

Argentina  
Bolivia  
Brazil  
Chile  
Colombia  
Paraguay  
Peru  
Suriname  
Trinidad and Tobago  
Uruguay  
Venezuela

# Reader's Guide

*Junior Worldmark Encyclopedia of Physical Geography* presents a comprehensive survey of the physical geography of 192 countries of the world plus Taiwan, Antarctica, and Puerto Rico.

The entries are arranged alphabetically by country in five volumes. Following the format of other popular titles in the *Junior Worldmark* series, information in each entry is presented in a consistent format, allowing student researchers to find information and compare countries quickly and easily.

A topographic map—with notable mountain ranges and peaks, lakes, rivers, deserts, and coastal areas labeled—accompanies each entry. In addition, more than 200 photographs illustrate the varied landscapes found in the countries of the world. Adding further interest are the “Did You Know?” boxes appearing in the entries, noting interesting or unusual geographic features or facts or explaining regional geographic references.

## Organization

Each volume begins with the contents listed for that volume, followed by a cumulative table of contents for all five volumes in the set. To help researchers who wish to identify a country within one of the world's continents, a finder table—Countries of the World by Continent—appears at the front of each volume. Words to Know, a glossary of terms related to geography, completes the front matter. Entries for individual countries follow. Although all numbered rubrics are included in every entry, entries vary in length depending primarily on the geographic complexity of the country's land area.

Each entry begins with a list of key facts about the physical characteristics of the country; measurements are provided in both metric and English units. Student researchers should be reminded that geography is an imprecise science, and measurements of geographical features may vary from source to source.

## Key Facts

### ■ Official name

The countries of the world are referred to by a common name; the more formal official name is listed here.

### ■ Area

The country's area, usually including islands, is provided in square kilometers and square miles.

### ■ Highest point on mainland

The height, in meters and feet, is given for the highest point on the mainland portion of the country. For most countries, this is also the highest point anywhere in the country.

### ■ Highest point in territory

For some countries with islands and territories, the highest point not on the mainland is provided in meters and feet.

### ■ Lowest point on land

The elevation, in meters and feet, for the lowest point on the mainland portion of the country is provided.

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## READER'S GUIDE

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### ■ Hemispheres

The country's hemispheres (Northern, Southern, Eastern, and Western) help the researcher locate the country on the globe.

### ■ Time zone

The time zone of the country's capital is provided, with the time related to Greenwich Mean Time (GMT). For some large countries, more than one time zone may be listed.

### ■ Longest distances

Measurements in kilometers and miles of the country's widest points from north to south and east to west are given. For some countries, longest distances may be measured on a slight diagonal (northwest to southeast, for example).

### ■ Land boundaries

The total distance making up the country's borders with other nations is provided in kilometers and miles, followed by the border distances with the individual neighboring countries.

### ■ Coastline

Coastline measurements, in kilometers and miles, are approximate. Coastline measurements are likely to vary from source to source.

### ■ Territorial sea limits

The territory extending into the ocean over which the country claims control or jurisdiction. Territorial sea limits are given in kilometers and nautical miles, and generally govern activities such as fishing and mineral rights.

*The first four numbered rubrics offer a general overview of the country.*

### 1 🌐 LOCATION AND SIZE

This section gives the reader an overview of where the country lies and provides its relation to the bodies of water around it. Also included is information about whether the country is divided into states, provinces, or other internal administrative units.

### 2 🌐 TERRITORIES AND DEPENDENCIES

Many countries exercise jurisdiction over territories—often islands—that are not part of the mainland. This section lists any such territories and dependencies.

### 3 🌐 CLIMATE

The general climate of the country is described, with a table providing seasonal temperature ranges included for many countries. General information about rainfall and snow patterns is also included here.

### 4 🌐 TOPOGRAPHIC REGIONS

An overview of the general topography (shape of the country's land surface) is provided, with key features (mountain ranges, plateaus, deserts, valleys, lakes, rivers) noted.

*The next eight numbered rubrics—5 through 12—describe specific geographic features. All entries include all eight headings. Since all countries do not include every geographic feature, individual entries note the absence of specific features.*

### 5 🌐 OCEANS AND SEAS

The oceans and seas bounding the country are listed. Subheadings describe specific features of the country and its coastal areas. Subheads are used in entries as appropriate and may include:

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# READER'S GUIDE

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## Seacoast and Undersea Features

Includes discussion of nearby undersea features of note, such as deep ocean trenches or coral reefs.

## Sea Inlets and Straits

Includes major bays, gulfs, sounds, channels, straits, and other sea inlets that characterize the coastal areas.

## Islands and Archipelagos

Major islands and island chains are described here.

## Other Coastal Features

Includes notable peninsulas, isthmuses, and describes the type and quality of the coastal areas.

## 6 INLAND LAKES

Major and significant lakes are included. When a lake straddles a border between two countries, it is covered in both entries. Major man-made reservoirs are also included in this section in some entries.

## 7 RIVERS AND WATERFALLS

Describes important rivers, giving length and general characteristics. Also includes major waterfalls.

## 8 DESERTS

Arid and semi-arid flatland regions are described.

## 9 FLAT AND ROLLING TERRAIN

Areas that range from flat and treeless to rounded terrain are described.

## 10 MOUNTAINS AND VOLCANOES

Mountain peaks, including volcanoes, are described here, typically in the context of a mountain range.

## 11 CANYONS AND CAVES

Notable canyons and cave systems are described.

## 12 PLATEAUS AND MONOLITHS

Regions of high elevation but with relatively flat terrain and monoliths (huge stone outcroppings) are described here.

*The final two numbered rubrics describe notable man-made features, and provide resources for further study. Supplementing the Further Reading suggestions provided in each entry is the Selected Sources for Further Study that appears in the back of each volume.*

## 13 MAN-MADE FEATURES

Notable man-made features—such as dams, canals, major bridges, tunnels, and other structures—that affect a country's geography are described.

## 14 FURTHER READING

This section lists selected books and Web sites that provide more information on the country's geography.

## Additional Features

Additional reference materials appear at the back of each volume. Researchers looking for comparative information on some of the world's key geographic features can refer to a series of Appendixes. These provide the following rankings: continents by area;

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## READER'S GUIDE

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countries by area; countries by population; oceans and seas by area; oceans by depth; islands by area; deserts by area; mountain peaks by height; volcanoes by height; rivers by length; waterfalls by height; lakes by area; and lakes by depth. The seven wonders of the ancient world and seven wonders of the natural world are described in the final two appendixes. Lastly, a listing of selected references for the further study of physical geography completes the backmatter. Volume 5 contains a cumulative general index to all five volumes. Topographic world maps appear on each volume's endsheets.

### Photographs

The photographs in *Junior Worldmark Encyclopedia of Physical Geography* were assembled

with assistance from ARAMCO; Raoul Russo, UNESCO imaging; Marcia L. Schiff, AP/Wide World Photos; Maura Malone, EPD Photos; and Mimi Dornack, National Geographic Imaging.

### Comments and Suggestions

We welcome your comments and suggestions for features to be included in future editions. Please write: Editors, *Junior Worldmark Encyclopedia of Physical Geography*, U•X•L, 27500 Drake Road, Farmington Hills, Michigan 48331-3535; call toll-free: 1-800-877-4253; fax to (248) 699-8097; or send e-mail via <http://www.gale.com>.



# Words to Know

## A

**aboriginal** ④ Something that is the first or earliest known of its type in a country or region, such as an aboriginal forest.

**aborigines** ④ The first known inhabitants of a country and their descendants.

**acid rain** ④ Rain (or snow) that has become slightly acidic by mixing with industrial air pollution.

**alluvial plain** ④ Flatlands containing deposits of alluvium.

**alluvium** ④ Clay, silt, sand, or gravel deposited by running water, such as a stream or river.

**Antarctic Circle** ④ (also called South **Frigid Zone**) The parallel of latitude approximately 66°33' south and the region that lies between this latitude and the south pole; the region surrounding Antarctica.

**aquatic** ④ Of or relating to the water, particularly the animals and plants that live there.

**aqueduct** ④ A pipe or channel, usually man-made, that carries water from a remote source. Also, a bridge-like structure that carries water over obstacles.

**aquifer** ④ An underground layer of porous rock, sand, or gravel that holds water.

**arable land** ④ Land that is naturally suitable for cultivation by plowing and is used for growing crops.

**archipelago** ④ A group of islands or a body of water containing many islands.

**Arctic** ④ Relating to the northernmost part of the Earth that lies within and around the Arctic Circle. Also, **arctic**: anything that is frigidly and invariably cold.

**Arctic Circle** ④ (also called the North **Frigid Zone**) The parallel of latitude approximately 66°33' north and the region that lies between this latitude and the north pole.

**arid** ④ Extremely dry, particularly applied to regions of low rainfall where there is little natural vegetation and agriculture is difficult.

**artesian well** ④ A type of well where underground pressure forces water to overflow up to the surface.

**atmosphere** ④ The air surrounding the Earth's surface.

**atoll** ④ An island consisting of a strip or ring of coral surrounding a central lagoon.

**avalanche** ④ A swift sliding of snow or ice down a mountain.

## B

**badlands** ④ Eroded and barren land.

**Balkan Peninsula** ④ The southernmost peninsula of Europe, which is surrounded by the Adriatic, Ionian, Aegean, and Black seas

**Balkan States** ④ (also called The Balkans) Those countries that lie on or near the Balkan Peninsula; includes Albania, Bulgaria, continental Greece, southeast Romania, European Turkey, Serbia and Montenegro, Slovenia, Croatia, Bosnia and Herzegovina, and Macedonia.

**Baltic States** ④ The countries of Estonia, Latvia, and Lithuania. These independent countries were once provinces of Russia and all border on the Baltic Sea.

**barren land** ④ Unproductive land that is partly or entirely treeless.

**barrier island** ④ An island parallel to the shore that was formed by wave and tidal action and protects the shore from rough ocean waves.

**barrier reef** ④ A coral reef that lies parallel to the coast, often forming a lagoon along the shore.

**basalt** ④ Black or nearly black dense rock, usually formed by the solidification of magma or from some other high-temperature geological event.

**basin** ④ A depression on land or on the ocean floor. Usually relatively broad and gently sloped, as compared to a trench, canyon, or crater.

**bay** ④ A wide inlet of a sea or a lake.

**bayou** ④ A stagnant or slow-moving body of water.

**beach** ④ An area of sediment deposited along the shoreline of a large body of water through the action of waves and the process of erosion.

**bedrock** ④ Solid rock lying under loose earth.

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## WORDS TO KNOW

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**bight** ④ A bend in a coastline that forms an open bay.

**bluff** ④ Elevated area with a broad, steep cliff face.

**bog** ④ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter.

**bora** ④ A very cold wind blowing from the north in the Adriatic Sea region.

**broadleaf forest** ④ A forest composed mainly of broadleaf (deciduous) trees, as opposed to a coniferous forest.

**butte** ④ An elevated, flat-topped area, similar to but smaller than a plateau or mesa.

### C

**caldera** ④ A crater formed by the eruption of a volcano.

**canal** ④ An artificial waterway constructed to connect two bodies of water or for irrigation of farmland.

**canyon** ④ A deep gorge cut by a river, usually found in arid regions and often surrounded by plateaus.

**cape** ④ A part of the coast that protrudes into a body of water.

**Caribbean** ④ The region that includes the Caribbean Sea, its islands, and the Central or South American coastal areas of the sea.

**catchment** ④ Area that collects water.

**cave** ④ Hollow man-made or natural passages in the Earth with an opening to the surface.

**cay (or key)** ④ A small, low-lying island or reef formed by coral or sand.

**Caucasus** ④ Region between the Black and Caspian seas that forms the traditional boundary between Europe and Asia; includes the countries of Georgia, Azerbaijan, and Armenia, as well as parts of southwestern Russia.

**Central America** ④ A region of southern North America that extends from the southern border of Mexico to the northern border of Colombia; includes the countries of Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama

**channel** ④ A narrow body of water that connects two larger areas of water; an area where water flows through a narrow restricted path.

**cliff** ④ A high, vertical face of rock.

**climate** ④ Weather conditions pertaining to a specific area.

**cloud forest** ④ A tropical forest that is covered in clouds throughout most of the year, usually located on mountain peaks.

**coast** ④ Typically, the land that borders an ocean or sea.

**coastal** ④ Relating to the area along the coast.

**coastal plain** ④ A fairly level area of land along the coast of a land mass.

**coniferous forest** ④ A forest consisting mainly of evergreen trees such as pine, fir, and cypress trees.

**conifers** ④ Trees and plants that have needle-like, or scale-like, leaves and also produce cones; evergreens.

**contiguous** ④ Sharing an edge or boundary or connected without any breaks, as in *the 48 contiguous states*.

**continent** ④ One of the seven major land masses of Earth.

**continental climate** ④ A climate typical of the interior of a continent. Particulars can vary widely depending on the region, but in general, areas with a continental climate have greater variations in daily and seasonal temperatures than areas with a maritime climate.

**continental divide** ④ An extensive elevated region of land that separates the drainage basins of a continent so that the rivers on either side of the divide flow in opposite directions.

**continental shelf** ④ A shallow submarine plain extending from the coast of a continent into the sea and varying in width; typically the shelf ends in a steep slope to the ocean floor.

**coral reef** ④ A ridge in warm water areas of the ocean made up of the limestone and calcium deposits of coral animals.

**cordillera** ④ A continuous ridge, range, or chain of mountains; part of the principal mountain system of a continent or country.

**crater** ④ A bowl-shaped depression on the surface of the Earth, generally with relatively deep, steep, sides. The most common type of crater is a caldera, formed by volcanic eruption. Other craters are created by explosions or by impact, such as from a meteoroid.

**cyclone** ④ A violent rotating wind storm, particularly one that originates in the southwestern Pacific or the Indian Ocean. Cyclones rotate counterclockwise in the northern hemisphere and clockwise in the southern hemisphere.

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## WORDS TO KNOW

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### D

- dam** ④ A structure built across a river that restricts its flow, causing a reservoir to form behind it. Dams are often used to generate hydropower.
- deciduous** ④ Relates to trees or shrubs that shed their leaves on a regular basis, as opposed to those that retain them (coniferous).
- deforestation** ④ The removal or clearing of a forest, usually to enable the land to be used for another purpose, such as agriculture or settlements.
- delta** ④ Triangular-shaped deposits of soil formed at the mouths of large rivers. They are formed out of the silt carried by the river and have the effect of forcing the river to split into distributary channels, sometimes over a very wide area.
- depression** ④ Any place where the Earth's surface is lower than the surrounding terrain.
- desert** ④ Any dry land area with little precipitation and sparse vegetation; often a sandy region but also includes areas of permanent cold that are generally lacking plant life.
- desertification** ④ The process where land that supports vegetation gradually becomes desert as a result of climatic changes, land mismanagement, or both.
- dike** ④ An artificial riverbank built up to control the flow of water.
- discontiguous** ④ Not connected to or sharing a boundary with.
- distributary** ④ A stream that branches off from a river and never rejoins it, flowing independently into another body of water.
- doldrums** ④ An area near the equator characterized by variable winds and periods of calm.
- dormant volcano** ④ A volcano that has not exhibited any signs of activity for an extended period of time.
- dune** ④ A mound or ridge of loose, wind-blown sand.

### E

- Earth** ④ Fifth-largest planet in the solar system; its orbit is third from the sun, its circumference is 40,064 kilometers (24,900 miles) at the equator and 40,000 kilometers (24,860 miles) when measured around the poles. The diameter at the equator is 12,753 kilometers (7,926 miles) and, from pole to pole, 12,711 kilometers (7,900 miles).

**earthquake** ④ Shaking or other movement of the earth that is caused by tectonic shifts or volcanic activity.

**East Asia** ④ A subregion of Asia that includes the countries of China, Mongolia, Korea, and the islands of Taiwan and Japan.

**easterlies** ④ Winds or air currents blowing more or less consistently from east to west.

**Eastern Europe** ④ A geopolitical term that usually refers to those countries in the east of Europe that were once allied with the Soviet Union under the Warsaw Pact (1955-1991). Today, the independent countries of the region include: Albania, Bulgaria, Czech Republic, Slovakia, Hungary, Croatia, Slovenia, Bosnia and Herzegovina, Poland, Romania, Serbia and Montenegro, and Macedonia.

**Eastern Hemisphere** ④ The half of the Earth's surface that extends east of the Prime Meridian to the 180th meridian.

**eddy** ④ An air or water current that follows a course different from that of the main flow and usually has a swirling circular motion.

**El Niño** ④ The warming of the ocean off the west coast of South America that causes a change in climate elsewhere in the world, especially in North America. El Niño conditions have occurred about every four to twelve years.

**enclave** ④ A country or portion of a country that lies entirely within the boundaries of one other country. Also, a culturally distinct community within a country.

**endangered species** ④ A plant or animal species that is at risk of becoming extinct.

**endemic** ④ Anything that is native to, unique to, or characteristic of a specific place or region.

**equator** ④ An imaginary line running around the middle of the Earth halfway between the North and South Poles. Identified as 0° latitude, it divides the Northern and Southern Hemispheres.

**erosion** ④ Changes in the shape of the Earth's surface as a result of damage from wind, water, or ice.

**escarpment** ④ (also called scarp land) A steep slope that separates areas of different elevations.

**estuary** ④ The region where a river and a large lake or sea meet so that their waters gradually blend into each other.

**Eurasia** ④ The land mass that contains the continents of Europe and Asia.

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## WORDS TO KNOW

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**exclave** ④ Part of a country that is separated from the larger, main portion of the country by foreign territory.

### F

**Far East** ④ Traditionally, those countries that are a part of East Asia and the easternmost portion of Siberia. Often, the term includes the countries of Southeast Asia as well.

**fault** ④ (also called a fault line) A fracture in the Earth's crust where the rock formation splits, allowing the opposing sides to shift. Most commonly found along the boundaries between tectonic plates, the shifting sometimes causes earthquakes.

**fen** ④ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter and is fed by surrounding soils and groundwater. Fens are similar to bogs but have higher nutrient levels.

**fjord** ④ A relatively narrow arm of the sea that indents deeply into the land, with generally steep slopes or cliffs on each side.

**flood** ④ The flow of excessive quantities of water over land that is generally above water.

**flood plain** ④ An area of low-lying land bordering a stream of water where floods, and the resulting deposits of alluvium, occur frequently.

**Frigid Zone** ④ Either of the extreme north and south latitude zones of the Earth. The North Frigid Zone lies between the North Pole and the Arctic Circle. The South Frigid Zone lies between the South Pole and the Antarctic Circle. The climate of these regions is characterized by extreme cold throughout the year.

### G

**game reserve** ④ An area of land reserved for wild animals that are hunted for sport or for food.

**geopolitical** ④ Refers to the relationship between geographic, political (or governmental), and cultural aspects of a nation or region.

**geothermal energy** ④ Energy derived from the heat that constantly and naturally radiates out from the center of the Earth. Also used to describe the radiation itself.

**geyser** ④ A hot spring that periodically erupts through an opening in the surface of the Earth, spewing boiling water and steam.

**glacier** ④ A large body of ice that moves along the Earth's surface.

**gorge** ④ A deep, narrow passage with steep, rocky walls.

**grassland** ④ An area where the vegetation is mostly grasses and other grass-like plants, often providing a transition between forests and deserts.

**Greenwich Mean Time** ④ The time at Greenwich, England, in the United Kingdom. This time is used as a basis for calculating time throughout most of the world. It is also called universal time, and is abbreviated GMT.

**groundwater** ④ Water located below the earth's surface, providing a source for wells and springs.

**gulf** ④ A large inlet of a sea or ocean that is partially enclosed by land, such as by capes or peninsulas.

**Gulf Stream** ④ Warm ocean current flowing from roughly the Gulf of Mexico northeast along the coast of North America, then east toward Europe.

### H

**harbor** ④ A protected inlet along the shore of a sea or lake that is deep enough for ships to anchor.

**hardpan** ④ A layer of hardened clay soil, usually underlying a thin layer of topsoil.

**hardwoods** ④ Deciduous trees, such as cherry, oak, maple, and mahogany, that produce very hard, durable, and valuable lumber.

**harmattan** ④ An intensely dry, dusty wind felt along the coast of Africa between Cape Verde and Cape Lopez. It prevails at intervals during the months of December, January, and February.

**headland** ④ Slightly elevated land lying along or jutting into a body of water.

**headstream** ④ Stream that forms the source of a river.

**headwater** ④ Source of a stream or river.

**heath** ④ Uncultivated land with low shrubs.

**hemisphere** ④ Any half of the globe. The Northern and Southern Hemispheres are divided by the equator while the Eastern and Western Hemispheres are divided by the Prime Meridian and 180° longitude.

**hill** ④ A rounded area of elevation rising more or less prominently above the surrounding, flatter landscape. Hills are generally no more than 300 meters (1,000 feet) high.

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## WORDS TO KNOW

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**Humboldt Current** ☉ A cold ocean current that runs north from Antarctica along the west coast of South America, primarily from June to November.

**hurricane** ☉ A tropical storm originating in the Atlantic or Pacific Oceans, generally with winds over 74 miles per hour.

**hydropower** ☉ (also called hydroelectric power) Electricity generated by the flow of water through the turbines of river dams.

### I

**iceberg** ☉ A massive block of floating ice that has broken off of a glacier or an ice shelf through a process known as calving.

**ice caps** ☉ Ice sheets covering less than 50,000 square kilometers (19,000 square miles). They form primarily in polar and sub-polar regions, generally occupying high and relatively flat regions.

**ice shelves** ☉ Sheets of ice that extend from the edge of a continent over the surface of the ocean, with ocean water flowing beneath them. They typically range from approximately 200–1000 meters (500–3,500 feet) thick. The Arctic Ocean is partly covered by ice shelves and the continent of Antarctica is almost completely surrounded by them.

**indigenous** ☉ A native species; vegetation that originates from or occurs naturally within a particular region.

**Indochina** ☉ A subregion that includes the peninsular countries of southeast Asia that lie between India and China, including: Vietnam, Laos, Cambodia, Thailand, Myanmar (Burma), and the mainland territory of Malaysia. The term indicates that the culture in these countries has been influenced by both Indian and Chinese traditions.

**inlet** ☉ Any water filled indentation along a coast or shore, such as a bay or gulf; a narrow passage through which water from an ocean or other large body of water passes, usually into a bay or lagoon.

**International Date Line** ☉ An arbitrary, imaginary line at about 180° longitude that designates where one day begins and another ends.

**island** ☉ A land mass entirely surrounded by water.

**isthmus** ☉ A narrow strip of land that connects two larger bodies of land such as two continents, a continent and a peninsula, or two parts of

an island. An isthmus is bordered by water on two sides.

### K

**karst** ☉ An area of limestone characterized by caverns and rock formations that are caused by erosion and underground streams.

**key.** See *cay*.

### L

**Labrador Current** ☉ A North Atlantic current that flows southward from polar waters along the east coast of Canada.

**lagoon** ☉ A shallow body of water, often connected with or barely separated from a nearby ocean or sea by coral reefs or sandbars.

**lake** ☉ A large inland body of standing water.

**landlocked country** ☉ A country that does not have direct access to an ocean; a country that is completely surrounded by other countries.

**landslide** ☉ A flow of muddy soil or loose rock that is usually triggered by heavy rainfall in areas where the terrain is steep.

**Latin America** ☉ A geopolitical term that relates to the countries that are south of the United States in the Western Hemisphere, particularly countries where the Latin-based languages (or Romance languages) of Spanish, Portuguese, and French are spoken.

**latitude** ☉ (also called parallel) An imaginary line running around the Earth parallel to the equator. The equator is at 0° latitude and divides the Earth into two sets of lines of latitude, north and south. Each set covers 90°.

**lava** ☉ Molten rock (magma) that has been poured out on the Earth's surface, usually through a volcano.

**leeward** ☉ The direction identical to that of the prevailing wind.

**littoral** ☉ A coastal region or shore; or, the area between the high water and low water marks of a shore or coastal region.

**loam** ☉ Light soil consisting of clay, silt, and sand.

**loess** ☉ A windblown accumulation of fine yellow clay or silt.

**longitude** ☉ (also called meridian) An imaginary line that extends along the surface of the Earth directly from one pole to another. The Earth is divided into 360 degrees of longitude, with 0° being designated as the Prime Meridian.

## WORDS TO KNOW

### M

- Maghreb** ☉ Region in northwest Africa made up of Algeria, Morocco, and Tunisia.
- magma** ☉ Molten rock beneath the Earth's surface that has been melted by the heat of the Earth's interior. When magma breaches the Earth's surface it is known as lava.
- mangrove** ☉ A tree that abounds on tropical shores in both hemispheres. It is characterized by its numerous roots that arch out from its trunk and descend from its branches. Mangroves form thick, dense growths along the tidal mud, covering areas that are hundreds of miles long.
- marine life** ☉ The life that exists in or is formed by the seas and oceans.
- maritime climate** ☉ The climate and weather conditions typical of areas bordering large bodies of water. Generally, areas close to water have more even temperatures than areas with a continental climate.
- marsh** ☉ An area of soggy land, usually covered wholly or in part by shallow water and containing aquatic vegetation.
- massif** ☉ The central part of a mountain or the dominant part of a range of mountains.
- mean temperature** ☉ The air temperature unit measured by adding the maximum and minimum daily temperatures together and dividing the sum by two; an average temperature.
- Mediterranean** ☉ The region surrounding the Mediterranean Sea.
- Mediterranean climate** ☉ A wet-winter, dry-summer climate with a moderate annual temperature range, as is typically experienced by countries along the Mediterranean Sea.
- meridian.** *See* **longitude.**
- mesa** ☉ An isolated, elevated, flat-topped area of land, typically larger than a butte but smaller than a plateau.
- Mesopotamia** ☉ The name means, "between rivers," and refers to the territory between and around the Tigris and Euphrates rivers (currently a part of Iraq). This area has been nicknamed "The Cradle of Civilization" because it was home to the ancient empires of Babylon, Sumer, and Assyria, among others. The Tigris and Euphrates are also two of the four rivers mentioned in the Biblical story of Eden.
- Middle East** ☉ A geopolitical term that designates those countries of southwest Asia and northeast Africa that stretch from the Mediterranean Sea to the borders of Pakistan and Afghanistan, including the Arabian Peninsula. This area was considered to be the midpoint between Europe and East Asia, usually called the Far East. The term is sometimes used to include all the countries of that general region that are primarily Islamic.
- mistral** ☉ In southern France, a cold, dry, northerly wind.
- moist tropical climate** ☉ A weather pattern typical to the tropics, known for year-round high temperatures and large amounts of rainfall.
- monolith** ☉ A large, natural rock formation, usually one that is isolated from other areas of high elevations; a large, stone block, column, or figure.
- monsoon** ☉ Seasonal change in the wind direction of Southeastern Asia, leading to wet and dry seasons. A monsoon develops when there is a significant difference in air temperatures over the ocean and the land.
- moor** ☉ A poorly drained open area containing peat and heath.
- moraine** ☉ A deposit of rocky earth deposited by a glacier.
- mountain** ☉ A lofty elevation of land, generally higher than 300 meters (1,000 feet), but varying greatly depending on the surrounding terrain, with little surface area at its peak; commonly formed in a series of ridges or in a single ridge known as a mountain range.

### N

- nature preserve** ☉ An area (often a park) where one or more specific species of plants and/or animals are protected from harm, injury, or destruction.
- Northern Hemisphere** ☉ The northern half of the Earth's surface, as measured from the equator to the North Pole.

### O

- oasis** ☉ Originally, a fertile spot in the Libyan Desert where there is a natural spring or well and vegetation; now refers to any fertile tract in the midst of a wasteland.
- ocean** ☉ The entire body of saltwater that covers almost three-fourths of the Earth's surface; any of the five principal divisions of the ocean.

## WORDS TO KNOW

**Oceania** ④ Oceania is a term that refers to the islands in the region that covers the central and south Pacific and its adjacent seas; sometimes includes Australia, New Zealand, and the Malay Archipelago (an large group of islands off the southeast coast of Asia).

### P

**pampas** ④ Grass-covered plain of South America.

**panhandle** ④ A long narrow strip of land projecting like the handle of a frying pan.

**parallel.** *See* **latitude.**

**peneplain** ④ A flat land surface that has been subjected to severe erosion.

**peninsula** ④ A body of land surrounded by water on three sides.

**permafrost** ④ A frozen layer of soil that never thaws.

**petroglyph** ④ Ancient carvings or line drawings created on the surface of rocks by prehistoric peoples; often found in caves.

**plain** ④ An expansive area free of major elevations and depressions.

**plateau** ④ A relatively flat area of an elevated area of land.

**plate tectonics** ④ A set of theories about the Earth's structure used by many geologists to explain why land masses and oceans are arranged as they are and why seismic activity occurs. According to plate tectonics the Earth's surface, including the bottom of the oceans, rests on a number of large tectonic plates. These plates are slowly moving over the interior layers of the Earth. Where they grind against each other, earthquakes and other seismic activity occurs, and the shape of the land gradually changes.

**polar circle** ④ (also called the polar region) A circular region around the North and South Poles that separates the frigid polar zones from the temperate zones. The Earth has two polar circles, the Arctic Circle in the north and the Antarctic Circle in the south.

**polar climate** ④ A humid, severely cold climate controlled by arctic-like air masses, with no warm or summer season.

**polder** ④ A low land area reclaimed from a body of water and protected by dikes or embankments.

**pole (geographic pole)** ④ The extreme northern and southern points of the Earth's axis, where the axis intersects the spherical surface. The

geographic North Pole is located at 90°N latitude/0° longitude. The geographic South Pole is located at 90°S latitude/0° longitude.

**pole (magnetic pole)** ④ Either of two points on the Earth's surface, close to the geographic North Pole and South Pole, where the magnetic field is most intense. The North Magnetic Pole is located at 78°N latitude/104°W longitude in the Queen Elizabeth Islands of northern Canada. The South Magnetic Pole is located at 66°S latitude/139°E longitude on the Adélie Coast of Antarctica.

**pond** ④ A small body of still, shallow water.

**prairie** ④ An area of level grassland that occurs in temperate climate zones.

**Prime Meridian** ④ The meridian designated as 0° longitude that runs through Greenwich, England, site of the Royal Observatory. All other longitudes are measured from this point.

### R

**rainforest** ④ A dense forest of tall trees with a high, leafy canopy where the annual rainfall is at least 254 centimeters (100 inches) per year.

**rain shadow** ④ An area that receives very little precipitation due to natural barriers, such as mountains, which keep rain clouds from covering the region.

**Ramsar** ④ The Ramsar Convention on Wetlands of International Importance is an international organization concerned with the preservation and protection of major wetland environments throughout the world.

**ravine** ④ A steep, narrow valley or gorge, usually containing the channel for a stream.

**reef** ④ String of rocks or coral formations, usually on a sandy bottom, that are barely submerged.

**reforestation** ④ Systematically replacing forest trees that were lost due to fire or logging.

**reservoir** ④ A lake that was formed artificially by a dam.

**Ring of Fire** ④ The region of seismic activity roughly outlined by a string of volcanoes that encircles the Pacific Ocean.

**river** ④ A substantial stream of water following a clear channel as it flows over the land.

**riverine** ④ Related to a river or the banks of a river.

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## WORDS TO KNOW

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### S

**Sahel** ☉ Sahel is an Arabic word meaning “shore.” It refers to the 5,000 kilometer (3,125 mile) stretch of savanna that is the shore or edge of the Sahara desert. The Sahel spreads west to east from Mauritania and Senegal to Somalia.

**salinization** ☉ An accumulation of soluble salts in soil. This condition is common in irrigated areas with desert climates, where water evaporates quickly in poorly drained soil due to high temperatures. Severe salinization renders soil poisonous to most plants.

**salt pan** ☉ (also salt flat) An area of land in a sunny region that is periodically submerged in shallow water, usually due to tides or seasonal floods. The sun causes the shallow water to evaporate and leave the salt it contained behind on the ground.

**sand bar** ☉ A deposit of sedimentary material that lies in the shallow water of a river, lake, or sea.

**savanna** ☉ (also spelled savannah) A treeless or near treeless plain of a tropical or subtropical region dominated by drought-resistant grasses.

**Scandinavia** ☉ The region of northwestern Europe that lies on the peninsula bordered by the Atlantic Ocean, the Baltic Sea, and the Gulf of Bothnia. Even though Norway and Sweden are the only two countries that lie directly on this peninsula, the countries of Denmark, Iceland and Finland are usually considered to be Scandinavian countries in a cultural context.

**sea** ☉ A body of salt water that is connected to (and therefore a part of) the ocean; sometimes, a name given to a large lake.

**sea level** ☉ The level of the ocean’s surface, specifically the average between the levels at high tide and low tide. Sea level is often designated as 0 meters (0 feet) and is used as the baseline for measuring elevations and depressions on land and on the ocean floor.

**seasonal** ☉ Dependant on the season. The flow of rivers and volume of lakes often varies greatly between seasons, as can vegetation.

**seasons** ☉ Regular variations in weather patterns that occur at the same times every year.

**sedimentary rock** ☉ Rock, such as sandstone, shale, and limestone, formed from the hardening of material deposits.

**seismic activity** ☉ Relating to or connected with an earthquake or earthquakes in general.

**semiarid** ☉ A climate where water and rainfall is relatively scarce but not so rare as to prohibit the growth of modest vegetation. Semiarid areas are often found around arid deserts and semiarid land is sometimes called a desert itself.

**shoal** ☉ A shallow area in a stream, lake, or sea, especially a sand bank that lies above water at low tide or during dry periods.

**shore** ☉ Typically, the land that borders a lake or river; may also be used to designate the land bordering an ocean or sea.

**sierra** ☉ A rugged, jagged, irregular chain of hills or mountain.

**silt** ☉ Fine, gravel-like, inorganic material, usually sand and coarse clay particles, that is carried by the flow of a river and deposited along its banks. Silt is generally very fertile soil.

**skerry** ☉ A rocky island.

**slough** ☉ A marshy pond that occurs in a river inlet.

**softwoods** ☉ Coniferous trees with a wood density that is relatively softer than the wood of those trees referred to as hardwoods.

**sound** ☉ A wide expanse of water, usually separating a mainland from islands or connecting two large bodies of water; often lies parallel to the coastline.

**South Asia** ☉ A subregion of Asia that includes the countries of Afghanistan, Pakistan, India, Bangladesh, and Nepal.

**Southeast Asia** ☉ A subregion of Asia that lies between India on the west, China to the north, and the Pacific Ocean to the east. The region includes the Indochina Peninsula of the South China Sea, the Malay Peninsula, and the Indonesian and Philippine Archipelagos. The countries of Southeast Asia are: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

**Southern Hemisphere** ☉ The southern half of the Earth’s surface between the equator and the South Pole.

**Southwest Asia** ☉ A subregion of Asia that includes Turkey and extends southward through the Arabian Peninsula. Iran can also be included in the region.

**spring** ☉ Water flowing from the ground through a natural opening.

**stalactites** ☉ Deposits of calcium carbonate formed in a cavern or cave that hang down from the ceiling like icicles.



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## WORDS TO KNOW

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**stalagmites** ④ Deposits of calcium carbonate formed in a cavern or cave that rise up from the floor like cones or columns.

**steppe** ④ A flat, mostly treeless, semiarid grassland, marked by extreme seasonal and daily temperature variations. Although sometimes used to describe other areas, the term applies primarily to the plains of southeastern Europe and Central Asia.

**strait** ④ Narrow body of water connecting two larger bodies of water.

**stream** ④ Any flowing water that moves generally downhill from elevated areas towards sea level.

**subarctic climate** ④ A high latitude climate. The continental subarctic climate has very cold winters; short, cool summers; light precipitation; and moist air. The marine subarctic climate is a coastal and island climate with polar air masses causing high levels of precipitation and extreme cold.

**subcontinent** ④ A land mass of great size, but smaller than any of the continents; a large subdivision of a continent.

**subtropical climate** ④ A middle latitude climate dominated by humid, warm temperatures and heavy rainfall in summer, with cool winters and frequent cyclonic storms.

### T

**taiga** ④ An area of open forest made up of coniferous trees.

**tectonic** ④ Relating to the structure of the Earth's crust.

**tectonic plate** ④ According to the theory of plate tectonics, the outer layer of the Earth consists of a series of large plates of rock called tectonic plates. The largest plates have entire oceans or continents on their surface.

**Temperate Zone** ④ The parts of the Earth lying between the Tropics and the polar circles. The North Temperate Zone is the area between the Tropic of Cancer and the Arctic Circle. The South Temperate Zone is the area between the Tropic of Capricorn and the Antarctic Circle. Temperate zones are marked by the greatest seasonal variations in temperature; however, temperatures and rainfall tend to stay within a moderate range, without extremes.

**terraces** ④ Successive areas of flat lands.

**terrain** ④ General characteristics of the Earth's surface in a region, including its characteristic vegetation.

**tidal bore** ④ A distinctive type of wave that travels up a shallow river or estuary on the incoming tide. It is a dramatic phenomenon that occurs in few places in the world; the incoming tidal waters flow against the river's current.

**tidal wave.** *See* **tsunami.**

**tide** ④ The rise and fall of the surface of a body of water caused by the gravitational attraction of the sun and moon.

**timber line** ④ The point of high elevation on a mountain above which the climate is too severe to support trees.

**topography** ④ The surface features of a region; also, the study of such features.

**tornado** ④ A violent, whirling wind storm that forms a funnel-shaped cloud and moves in a path over the surface of the Earth.

**Torrid Zone** ④ The part of the Earth's surface that lies between the Tropic lines, so named for the warm, humid, character of its climate.

**trade winds** ④ Winds that consistently blow from the northeast and southeast toward the equator.

**trench** ④ A steep-sided depression in the ocean floor where the water is very deep.

**tributary** ④ Any stream that flows into another larger stream.

**tropical monsoon climate** ④ One of the tropical rainy climates; it is sufficiently warm and rainy to produce tropical rainforest vegetation, but also has a winter dry season.

**Tropic of Cancer** ④ A latitudinal line located 23°27' north of the equator, the highest point on the globe at which the sun can shine directly overhead.

**Tropic of Capricorn** ④ A latitudinal line located 23°27' south of the equator, the lowest point on the globe at which the sun can shine directly overhead.

**tsunami** ④ A powerful, massive, and destructive ocean wave caused by an undersea earthquake or volcanic eruption.

**tundra** ④ A nearly level, treeless area whose climate and vegetation are characteristically arctic due to its position near one of the poles; the subsoil is permanently frozen.

**typhoon** ④ Violent hurricane occurring in the region of the South China Sea, usually in the period from July through October.

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## WORDS TO KNOW

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### U

**UNESCO** ☉ The United Nations Educational, Scientific, and Cultural Organization. An international organization promoting peace and security around the world through education, science, culture, and communication.

### V

**valley** ☉ An elongated depression through which a stream of water usually flows, typically an area that lies between mountains, hills, and/or other uplands.

**vegetation** ☉ Plants, including trees, shrubs, grasses, and other plants.

**volcano** ☉ A hole or opening through which molten rock and superheated steam erupt from the interior of the Earth. Also, a mountain created by the accumulation of these ejected materials.

### W

**wadi** ☉ Dry stream bed, usually in a desert region in southwest Asia or north Africa.

**waterfall** ☉ A steep, natural descent of water flowing over a cliff or precipice to a lower level.

**watershed** ☉ An area of shared water drainage, where all the rainfall drains into a common river or lake system.

**waves** ☉ The alternate rise and fall of ridges of water, generally produced by the action between the wind and the surface of a body of water.

**weather** ☉ Atmospheric conditions at a given place and time.

**Western Europe** ☉ A geopolitical term that usually refers to those countries of Europe that are allies of the United States and Canada under the North Atlantic Treaty Organization (NATO, established 1949). The original European countries in NATO were Belgium, France, Great Britain, Italy, Luxembourg, the Netherlands, and Portugal. Today, Western European countries also include Germany, Spain, Ireland, and Austria. Though Denmark is geographically part of Europe, it is culturally considered as part of Scandinavia.

**Western Hemisphere** ☉ The half of the Earth's surface that lies west of the Prime Meridian to 180° longitude.

**West Indies** ☉ The islands lying between North America and South America made up of the Greater Antilles (Cuba, Haiti, Dominican Republic, Jamaica, and Puerto Rico), the Lesser Antilles (Virgin Islands, Trinidad and Tobago, Barbados), and the Bahamas.

**wildlife sanctuary** ☉ An area of land set aside for the protection and preservation of animals and plants.

**windward** ☉ Facing into the prevailing wind, or lying closest to the direction from which the wind is blowing.

Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

# Congo (DROC)

- **Official name:** Democratic Republic of the Congo
- **Area:** 2,345,410 square kilometers (905,562 square miles)
- **Highest point on mainland:** Margherita Peak (5,110 meters/16,765 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Eastern, Northern, and Southern
- **Time zones:** In Kinshasa, 1 P.M. = noon GMT; in Lubumbashi, 2 P.M. = noon GMT
- **Longest distances:** 2,276 kilometers (1,414 miles) from south-southeast to north-northwest; 2,236 kilometers (1,389 miles) from east-northeast to west-southwest
- **Land boundaries:** 10,744 kilometers (6,672 miles) total boundary length; Angola 2,511 kilometers (1,559 miles); Burundi 233 kilometers (145 miles); Central African Republic 1,577 kilometers (979 miles); Republic of the Congo 2,410 kilometers (1,497 miles); Rwanda 217 kilometers (135 miles); Sudan 624 kilometers (390 miles); Tanzania 473 kilometers (295 miles); Uganda 765 kilometers (459 miles); Zambia 1,930 kilometers (1,199 miles)
- **Coastline:** 37 kilometers (23 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The Democratic Republic of the Congo (DROC, formerly known as Zaire) is located along the equator in Central Africa, north of Angola and Zambia. It shares borders with nine countries. With a total area of about 2,345,410 square kilometers (905,562 square miles), it is the third-largest country in Africa and is slightly less than one-fourth the size of the United States. The DROC is divided into ten provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

DROC has no outside territories or dependencies.

## 3 🌐 CLIMATE

The climate in the DROC is basically tropical, with temperatures that vary widely depending on elevation and latitude. In the equator region, it is hot and very humid and the temperature does not go below 20°C (68°F). It is cooler and less humid in the southern highlands and cooler and wetter in the eastern highlands and mountains. The average temperature in the central region is 25°C (77°F), while on the coastline the temperature is generally around 26°C (79°F).

There are two rainy seasons and two dry seasons in each year. North of the equator, the rainy seasons are from April to June and September to October, and the dry seasons are

# CONGO (DROC)



from November to March and July to August. South of the equator, the cycle is reversed. Annual rainfall is about 130-200 centimeters (51-79 inches).

## 4 TOPOGRAPHIC REGIONS

Nearly the entire country is within a region known as the Congo River Basin, which is

further divided into four major geographic regions within the DROC. The core region is the Central Congo Basin, a depression often referred to as the cuvette. The northern uplands and southern uplands are high plains on either side of the cuvette, and along the eastern border there are high mountains associated with the Great Rift Valley (or East African Rift).

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## CONGO (DROC)

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EPD/Robert J. Groelsema

*The Ruwenzori Mountains are the highest mountains in the Democratic Republic of the Congo.*

### **5** 🌐 **OCEANS AND SEAS**

#### **Seacoast and Undersea Features**

The DROC claims a very narrow border of coastline (37 kilometers/23 miles) along the Atlantic Ocean, north of the Congo River.

#### **Sea Inlets and Straits**

DROC has no major sea inlets or straits.

#### **Islands and Archipelagos**

There are no coastal islands, but countless alluvial islands are found throughout the river systems and interspersed along the Congo River between Kisangani and Mbandaka. Idjwi Island is located on Lake Kivu.

#### **Coastal Features**

There are no significant geographic features on DROC's narrow coastline.

### **6** 🌐 **INLAND LAKES**

The DROC is home to several of the Great Lakes of Africa, which fill basins in the western branch of the Great Rift Valley along the eastern border of the country. The northernmost of these Great Lakes is Lake Albert, which has more fish than any other lake in Africa. To the south lies Lake Edward, which drains its waters into Lake Albert through the Semliki River. These two lakes belong to the Nile Basin.

Farther south, Lake Kivu, the highest of the Great Lakes, is situated at an altitude of 1,470 meters (4,851 feet) and is connected to Lake Tanganyika by the Ruzizi River. Lake Tanganyika is the largest lake in the DROC. It covers an area that is 650 kilometers (408 miles) long and 80 kilometers (50 miles) wide and is the second-deepest lake in the world. It drains

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## CONGO (DROC)

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its waters into the Congo River through the Lukuga River. The southernmost lake of the Great Lakes chain (except for Lake Malawi, which is outside of the DROC) is Lake Mweru. Lake Mweru straddles the border between DROC and Zambia and is drained by the Luvua River, a tributary of the Lualaba and Congo Rivers.

Other DROC lakes include Tumba and Mai-Ndombe in the western part of the country. Their shores are generally swampy. Another swampy depression surrounds Lake Upemba on the southeastern plateau of the same name. Malebo Pool is a lake formed by the widening of the Congo River. It is located in the Lower Congo River region, and the capitals of both the DROC and the Republic of Congo are located on its shores.

### 7 🌐 RIVERS AND WATERFALLS

The Congo River is the longest river in the DROC, the second-longest river in Africa, and the sixth-longest river in the world, with a total length of about 4,344 kilometers (2,700 miles). The Congo River begins with its main tributary, the Lualaba River, close to the Zambian border. It then flows north and is navigable between Bukama to Kongolo. Along this stretch it receives many tributaries. The most important of these are the Luvua and Luapula Rivers, which drain waters from Lakes Bangwelo (in Zambia) and Mweru, and the Lukuga River, which drains waters from Lakes Tanganyika and Kivu.

Past Kongolo there are waterfalls which block river traffic. North of this, the river is again navigable between Kasongo and Kibombo, has another waterfall, and is once again navigable between Kindu and Ubundu. Beyond that point, navigation is stopped by the Boyoma (Stanley) Falls, located directly upstream of Kisangani. After Kisangani, the river is considered to be the Congo River proper,

and is known as the Upper Congo (Haut-Congo). It also changes direction, gradually curving west and then southwest.

The Congo River and its tributaries have historically provided vital transportation routes for commercial trade. The waterway is also an important source of hydroelectric power.

### 8 🌐 DESERTS

There are no desert regions in the DROC.

### 9 🌐 FLAT AND ROLLING TERRAIN

Only about 7 percent of the land in DROC is considered to be permanent pasture.

The largest region of the DROC is the Central Congo Basin, a depression often referred to as the *cuvette* (which means “saucer” or “shallow bowl”). It has an area of roughly 800,000 square kilometers (312,000 square miles) and covers about a third of the country’s territory. The DROC’s portion of the equatorial rainforest is located in this region. A substantial proportion of the forest within the *cuvette* is swamp, and still more of it consists of a mixture of marshy and firm land grasslands.

The Great Rift Valley is a lengthy depression that stretches from north to south across most of eastern Africa and into Asia. It is the result of volcanic and tectonic activity along the East African Rift. In the DROC, Lakes Albert, Edward, Kivu, and Tanganyika occupy most of the bottom of this valley. On either side of the valley are mountain ranges.

### 10 🌐 MOUNTAINS AND VOLCANOES

There are many mountain ranges comprising the chain that borders the Great Rift Valley in the DROC. In the north are the Blue Mountains around Lake Albert. They reach heights of up to 2,000 meters (6,600 feet) and separate the Congo and Nile River basins.

## CONGO (DROC)

The Ruwenzori Mountains between Lakes Albert and Edward are the highest mountain range in the country and include Albert Peak (5,100 meters/16,830 feet) and Margherita Peak (5,110 meters/16,765 feet). Margherita, the highest point in the DROC, is perpetually covered by snow despite being located practically on the equator.

To the south are the Ngoma Mountains, which extend to the Lukuga River. Their highest point is at Sambrini Peak (2,250 meters/7,425 feet). The Mitumba Mountains, with heights of up to 2,200 meters (7,260 feet), border Lake Tanganyika in the extreme southeast.

On the far side of the country, near the Atlantic shore, are the Mayumbe Mountains, part of the Crystal Mountain range. These are old mountains, strongly attacked by erosion, that now resemble a hilly plateau.

The Virunga Mountains, between Lake Kivu and Lake Edward, consist of a series of volcanoes, including the active volcanoes of Karisimbi, Nyamulagira, and Nyiragongo. Nyiragongo is about 3,465 meters (11,365 feet) high and has erupted about thirty-five times since 1882, making it one of Africa's most active volcanoes. Its most recent eruption began January 17, 2002, with a lava flow that filled the streets of the city of Goma with pumice several feet thick. Other volcanoes such as Mikeno, Visoke, and Sabinio are now dormant.

### 11 CANYONS AND CAVES

There are no other significant canyons or caves in the DROC.

### 12 PLATEAUS AND MONOLITHS

Most of the DROC could be considered to be a low plateau, dropping in elevation only as it nears the Atlantic Ocean, and rising to mountains in the east. The southeastern part of the country was once all mountainous, but the effect of erosion has leveled much of these mountains.

## DID YOU KNOW?

On January 17, 2002, lava from Nyiragongo flowed on the eastern and southern flanks of the volcano at a rate of 1.2 to 1.8 kilometers/hour (0.7 to 1 mile/hour) toward Goma. As lava several feet thick flowed down city streets, four hundred thousand people were evacuated for three days and fourteen villages were damaged by the lava flows.

The result is Upemba, a hilly plateau with an altitude greater than 1,500 meters (4,950 feet).

### 13 MAN-MADE FEATURES

The Congo River supplies massive amounts of water that is harnessed by dams, such as the Inga and Mobayi-Bongo Dams, to be converted to hydroelectric power. Dams help generate nearly all of the electricity in the Democratic Republic of the Congo.

### 14 FURTHER READING

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# Congo (ROC)

- **Official name:** Republic of the Congo (ROC)
- **Area:** 342,000 square kilometers (132,047 square miles)
- **Highest point on mainland:** Mount Berongou (903 meters/2,963 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Eastern, Northern, and Southern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,287 kilometers (800 miles) from north-northeast to south-southwest; 402 kilometers (250 miles) from east-southeast to west-northwest
- **Land boundaries:** 5,504 kilometers (3,420 miles) total boundary length; Cameroon 523 kilometers (325 miles); Central African Republic 467 kilometers (290 miles); Democratic Republic of the Congo 2,410 kilometers (1,498 miles); Angola 201 kilometers (125 miles); Gabon 1,903 kilometers (1,182 miles)
- **Coastline:** 169 kilometers (105 miles)
- **Territorial sea limits:** 363 kilometers (200 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The Republic of the Congo (ROC) is located along the equator in West Africa, between Angola and Gabon and bordering the South Atlantic Ocean. It also shares borders with Cameroon and Central African Republic to the north and the Democratic Republic of the Congo (DROC) to the east. With an area of 342,000 square kilometers (132,047 square miles), ROC is slightly smaller than the state of Montana. The country is divided into nine regions and one commune.

## 2 🌐 TERRITORIES AND DEPENDENCIES

ROC has no outside territories or dependencies.

## 3 🌐 CLIMATE

ROC has a tropical climate characterized by constantly high temperatures and humidity. At Brazzaville in the south, the average daily maximum temperature is 30°C (86°F) and the average minimum temperature is 20°C (68°F). At Souanke, in the far north, the extremes are 29°C (84°F) and 18°C (64°F).

There are two wet and two dry seasons. In the south there is a rainy season from October to December, a short dry season in January, another rainy season from March to June, and a long dry season from June to October. In the north, the seasons are reversed. Annual rainfall varies from 105 centimeters (41 inches) at Pointe-Noir in the southwest,

# CONGO (ROC)



to 185 centimeters (73 inches) at Impfondo in the northeast. The equator region receives rain throughout the year.

## 4 TOPOGRAPHIC REGIONS

The country may be divided into four topographical regions. The coastal plain stretches northeast until it reaches the forested Mayombe Escarpment. The escarpment borders a vast plateau region to the north and east, sometimes called the Central Highlands. Still farther northeast lies an expansive lowland area that includes a good part of the Congo Basin.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

ROC has a coastline of 169 kilometers (105 miles) along the Atlantic Ocean.

### Sea Inlets and Straits

ROC's coastline has no major harbors or ports.

### Islands and Archipelagos

There are no coastal islands, though many alluvial islands are found throughout the river systems, especially the Congo and Ubangi Rivers and their tributaries.

### Coastal Features

The coastal region is a vast, dry plain that is virtually treeless except in scattered areas. It stretches for about 160 kilometers (100 miles) along the south Atlantic coast and reaches inland approximately 64 kilometers (40 miles). The Antarctic (Benguela) Current, flowing from the south, enhances the formation of sand spits along the coastal plain. In addition to mangrove-fringed lagoons, lakes and rivers dot this region, with accompanying marshland and heavy vegetation in low-lying areas.

## 6 INLAND LAKES

The Stanley Pool (Malebo Pool) is a lake formed by the widening of the Congo River. It lies between the borders of the ROC and the Democratic Republic of the Congo and covers an area that is about 35 kilometers (22 miles) long and 23 kilometers (14 miles) wide. The capital cities of both the ROC and the DROC are located on the shores of Stanley Pool.

## 7 RIVERS AND WATERFALLS

The Congo River is the longest river in the ROC, the second-longest river in Africa, and the sixth-longest river in the world, with a total length of about 4,344 kilometers (2,700 miles). It covers a stretch of 800 kilometers

## CONGO (ROC)



EPD/R. Ruggiero

*Tiger fish caught in the Sangha River near the ROC border with Cameroon.*

(496 miles) along the eastern border with the Democratic Republic of the Congo (DROC). It is formed by the waters of the Upper Congo (Lualaba River) and its tributary, the Luava River, both of which begin at the southeast border of the DROC.

The Congo River and its tributaries historically have provided vital transportation routes for commercial trade. The Congo River is also an important source for hydroelectric power.

The ROC rivers of Likoula, Sangha, and Ubangi (Oubangui) are all tributaries of the Congo River. Located in the northern part of the country, these are also the major rivers that make up the Congo Basin lowland region,

which covers an area of about 155,400 square kilometers (60,000 square miles). It consists of flat, swampy valleys and low divides descending east and southeast from the western hills to the Congo River. Seasonal flooding occurs throughout the regions, with some areas existing as permanent wetlands.

The Niari and Kouilou Rivers in the southern coastal plain also create wetlands in that region.

### **8** 🌐 **DESERTS**

There are no desert regions in the ROC.

### **9** 🌐 **FLAT AND ROLLING TERRAIN**

Only about 29 percent of the land in the ROC is considered to be permanent pasture.

The Niari Valley, north of the Niari River, was originally covered with tall grasses and savannah, but has been extensively cleared for agriculture and industry.

Inland from the seacoast and from the lower reaches of the Crystal Mountains (on the Gabon border), the land rises somewhat abruptly to a series of eroded hills and sharp ridges known as the Mayombe Escarpment. Ridge peaks reach elevations of about 487 to 610 meters (1,600 to 2,000 feet). Deep gorges have been cut in these ridges by the swift Kouilou River and its tributaries.

### **10** 🌐 **MOUNTAINS AND VOLCANOES**

Mount Berongou, ROC's highest point, is located in the upper reaches of the Crystal Mountains on the border with Gabon. It rises to about 903 meters (2,963 feet).

### **11** 🌐 **CANYONS AND CAVES**

ROC has no major canyons or caves.

### **12** 🌐 **PLATEAUS AND MONOLITHS**

The Central Highlands encompass the area generally known as the Batéké Plateau and

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## CONGO (ROC)

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EPD/Robert J. Groelsema

*The Congo River, formerly known as the Zaire River, is the second-longest river in Africa.*

extend for approximately 129,500 square kilometers (50,000 square miles) over the south-central portion of the country. This region is characterized predominantly by rounded, low hills of less than 305 meters (1,000 feet) elevation and by scattered rolling plains. In the northern part of this sector, however, toward the lower Gabon border, the hills are steeper, and crests rise as high as 823 meters (2,700 feet) above sea level. Deep valleys separate individual plateaus; these ravines carry the eastward-flowing tributaries of the Congo River. Savannah and grasslands cover much of the central plateau plains.

### **13** 🌐 **MAN-MADE FEATURES**

Hydroelectricity, harnessed through dams built on the ROC's rivers, are a primary source of power for the nation. Two of the most significant hydroelectric dams are built on the Bouenza and Djoué Rivers.

### **14** 🌐 **FURTHER READING**

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(accessed March 18, 2003).

# Costa Rica

- **Official name:** Republic of Costa Rica
- **Area:** 51,100 square kilometers (19,730 square miles)
- **Highest point on mainland:** Cerro Chirripó (3,810 meters/2,500 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 6 A.M. = noon GMT
- **Longest distances:** 464 kilometers (288 miles) from north to south and 274 kilometers (170 miles) from east to west
- **Land boundaries:** 639 kilometers (399 miles) total boundary length; Nicaragua 309 kilometers (193 miles); Panama 330 kilometers (206 miles)
- **Coastline:** Total: 1290 kilometers (805 miles); Caribbean Sea 212 kilometers (132 miles); Pacific Ocean 1,016 kilometers (633 miles); Cocos Island (Isla de Coco) 62 kilometers (40 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Costa Rica is located in Central America, which is between the North and South American continents. Nicaragua lies to the north, the Caribbean Sea to the east, Panama to the southeast, and the Pacific Ocean to the southwest and west. With an area of about 51,100 square kilometers (19,730 square miles), it is the second-smallest Central American country, slightly smaller than the state of West Virginia. Costa Rica is divided into seven provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Cocos Island is a dependency of Costa Rica. It is located approximately 480 kilometers (300 miles) off the Pacific coast.

## 3 🌐 CLIMATE

Most of Costa Rica has two seasons: the wet season from May to November (winter months) and the dry season from December to April (summer months). Although the country lies completely within the tropics,

elevation plays a role in the variations of its climate. Temperature is also determined by proximity to the coasts. The area known as the *tierra caliente* (hot country) in the coastal and northern plains, experiences daytime temperatures between 29 and 32°C (85 to 90°F). The *tierra templada* (temperate country), including the central valleys and plains, has average daytime temperatures from 24 to 27°C (75 to 80°F). The *tierra fría* (cold country) composes the land above 1,524 meters (5,000 feet) and has daytime temperatures from 24 to 27°C (75 to 80°F), but nighttime temperatures of 10 to 13°C (50 to 55°F).

The tierra caliente is characterized by heavy rains; the tierra templada receives regular rains from April through November; and the tierra fría is less rainy but more windy than the temperate regions. The average rainfall for Costa Rica is more than 250 centimeters (100 inches). Natural disasters that befall the country include occasional earthquakes, hurricanes along Atlantic coast, frequent flooding of

# COSTA RICA



lowlands at the beginning of the rainy season, landslides, and volcanic eruptions.

## 4 🌐 TOPOGRAPHIC REGIONS

The landscape of Costa Rica varies from seasonally snow-capped mountains to seasonal marshlands to lush rain forests. The central highlands extend from northwest to southeast.

The Atlantic and Pacific coastal lowlands are low, swampy, and heavily forested.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Costa Rica is bordered on the east by the Pacific Ocean and on the west by the Caribbean

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# COSTA RICA

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Sea. The country sits at the boundary where the Cocos Plate in the Pacific—a piece of Earth's crust about 510 kilometers (316 miles) wide—meets the tectonic plate underlying the Caribbean Sea. The Cocos Plate moves east at a rate of about 10 centimeters (4 inches) per year, causing occasional earthquakes in the country.

## Sea Inlets and Straits

Though there are a number of small inlets along the shore of the Pacific Ocean, the two major ones are the Nicoya Gulf (Golfo de Nicoya) in the north and the Dulce Gulf (Golfo Dulce) in the south.

## Islands and Archipelagos

Cocos Island is an uninhabited dependency of Costa Rica. This volcanic island, located about 480 kilometers (300 miles) southwest of Costa Rica in the Pacific Ocean, is covered with tropical rainforests.

There are a number of small sedimentary islands within the Nicoya Gulf, several of which are protected as wildlife refuges for roosting and nesting birds. Caño Island, located near the mouth of the Nicoya Gulf, is a 300-hectare (740-acre) wildlife refuge island that is covered with tropical rainforest and surrounded by coral platforms.

## Coastal Features

Along the coasts, mainly where the rivers empty into the ocean, there are extensive mangrove forests and swamps. The rest of the coastline offers numerous beaches. The Caribbean coast of Costa Rica is flat and open, with gray or black sand beaches, while the Pacific coast is irregular with hilly or mountainous peninsulas, coastal lowlands, bays, and deep gulfs.

## 6 INLAND LAKES

With a surface area of about 85 square kilometers (33 square miles), the man-made Lake Arenal is the largest lake in Costa Rica. It is located in the northern part of the country near the Arenal volcano in the Arenal National Park.

Lake Cachí is another man-made lake located at the eastern end of the Reventazón River (Río Reventazón).

Lake Hule, south of San Miguel, is a natural lake set in a dormant volcanic crater. Lake Caño Negro is a seasonal lake (appearing during the wet season) near Costa Rica's northern border that is fed by the fresh waters of the Frío River (Río Frío).

## 7 RIVERS AND WATERFALLS

The longest river in Costa Rica is the San Juan. It flows from Lake Nicaragua in Nicaragua along the border with Costa Rica to the Caribbean Sea, covering a total length of about 220 kilometers (140 miles). Tributaries to the San Juan rise in the volcanic highlands of Costa Rica. Although the San Juan River lies within Nicaraguan territory, Costa Rica has, by treaty, full rights of navigation.

The San Carlos and Chirripó Rivers, located near the border with Nicaragua, commonly flood during the wet season, turning the surrounding landscape into swampy marshlands.

## 8 DESERTS

There are no desert regions in Costa Rica.

## 9 FLAT AND ROLLING TERRAIN

The northern lowlands are broad and flat and, in some areas, they are cut off from the highlands by a virtually impassible hardwood forest. The region is made up of two separate llanuras (low-lying plains), the Llanura de los Guatusos in the west and the San Carlos Plains (Llanura de San Carlos) farther east. The

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# COSTA RICA

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EPD/Saxifraga/Jan van der Straaten

*The Irazu volcano (3,432 meters/11,260 feet) is the highest active volcano in Costa Rica. It lies at the center of Irazu Volcano National Park, established in 1955.*

llanuras make up one-fifth of Costa Rica's land area, and extend along the entire length of the San Juan River.

The Caribbean lowlands are covered with tropical evergreen rainforest. The Pacific lowland forests are typically dry, particularly in the northwest.

The most important area of Costa Rica is the Meseta Central. It contains two upland basins separated by low volcanic hills and is home to half of the population. Located in the temperate country, it lies between the Cordillera Central to the north and low mountains and hills to the south. The land surface of the Meseta is generally level or rolling, which is acceptable for agriculture.

The General Valley, drained by the General River, lies between the Cordillera de Talaman-

ca to the north and the coastal mountains of the southwest. Almost as large as the Meseta Central, the General Valley is a relatively isolated structural depression that ranges in elevation from 183 to 1,066 meters (600 to 3,500 feet). River flood plains, terraces, rolling hills, and savannas dominate the landscape.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Extending north and south throughout the center of Costa Rica are several distinct mountain ranges called "cordilleras." The Cordillera de Guanacaste, Cordillera Central, Cordillera de Tilarán, and Cordillera de Talamanca are all part of the Andean-Sierra Madre chain that runs along the western shore of the Americas.

The Cordillera de Guanacaste is volcanic in origin and stretches for 112 kilometers (70 miles) from the western border with Nicaragua to the Cordillera Central. The highest



# COSTA RICA

peak in the Guanacaste chain is the Miravalles volcano at 2,024 meters (6,640 feet).

To the southeast, the Cordillera de Tilarán is home to the Arenal volcano, one of the world's most active volcanoes. To the east lies Cordillera Central, which contains four volcanoes and the Meseta Central (which is also home to the capital city). Cordillera de Talamanca rises in the south, housing the country's highest point, Cerro Chirripó.

Lying at the heart of one of the most active volcanic regions on Earth, Costa Rica is home to seven active volcanoes, and sixty dormant or extinct ones. The active volcanoes of Irazú, Poás, Barba, and Turrialba rise near the capital city of San José. The remaining active to semi-active volcanoes are: Arenal, Miravalles, and Rincon de la Vieja.

## 11 🌐 CANYONS AND CAVES

The Caves of Venado are located south of Arenal Lake and Volcano. These seven-million-year-old caves were formed as water currents penetrated through the surrounding limestone rocks. About 2.5 kilometers (1.5 miles) in length, the caves contain at least four different species of bats and numerous types of spiders, many of which are endemic to the area.

About forty caves are located within the Barra Honda National Park in northern Costa Rica. The largest is Santa Ana Cave at 240 meters (787 feet) deep. The most popular among tourists are La Terciopelo, La Trampa, and La Santa Ana. These caverns house a large number of stalagmites, stalactites, pillars, cave earsls, helicities, and other rock formations. The Barra Honda National Park was created specifically to protect these natural wonders.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no plateau regions in Costa Rica.

## DID YOU KNOW?

Cloud forests—lush forests at high elevations where the heavy mist and clouds almost always hang in the air—occur on Costa Rica's mountaintops. Monte Verde Biological Cloud Forest Preserve covers twenty-six thousand acres of forest, and houses two thousand plant species, four hundred bird species, and one hundred different animal species.

## 13 🌐 MAN-MADE FEATURES

The man-made Lake Arenal was formed by construction of the Sangregado dam, located at the southeast end of the lake. The hydroelectric power created by this dam accounts for about 33 percent of Costa Rica's total electrical capacity.

Lake Cachí Dam, located at the eastern end of the Reventazón River, supplies hydroelectric power to San José, the capital city.

## 14 🌐 FURTHER READING

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# Côte d'Ivoire

- **Official name:** Republic of Côte d'Ivoire (formerly known as Ivory Coast)
- **Area:** 322,460 square kilometers (124,502 square miles)
- **Highest point on mainland:** Mount Nimba (1,752 meters/5,748 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** Noon = noon GMT
- **Longest distances:** 808 kilometers (502 miles) from southeast to northwest, 780 kilometers (485 miles) from northeast to southwest
- **Land boundaries:** 3,110 kilometers (1,932 miles) total boundary length; Burkina Faso 584 kilometers (363 miles); Ghana 668 kilometers (415 miles); Guinea 610 kilometers (379 miles); Liberia 716 kilometers (445 miles); and Mali 532 kilometers (330 miles)
- **Coastline:** 515 kilometers (322 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Côte d'Ivoire is located in West Africa between Ghana and Liberia, with a southern border on the Gulf of Guinea of the Atlantic Ocean. With a total area of about 322,460 square kilometers (124,502 square miles), it is slightly larger than the state of New Mexico. The country is divided into fifty departments.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Côte d'Ivoire has no outside territories or dependencies.

## 3 🌐 CLIMATE

Côte d'Ivoire has a warm, humid climate that transitions from equatorial to tropical. Temperatures average between 25°C (75°F) and 32°C (90°F), with extremes of 10°C (50°F) to 40°C (104°F) depending on the time of year and the area of the country.

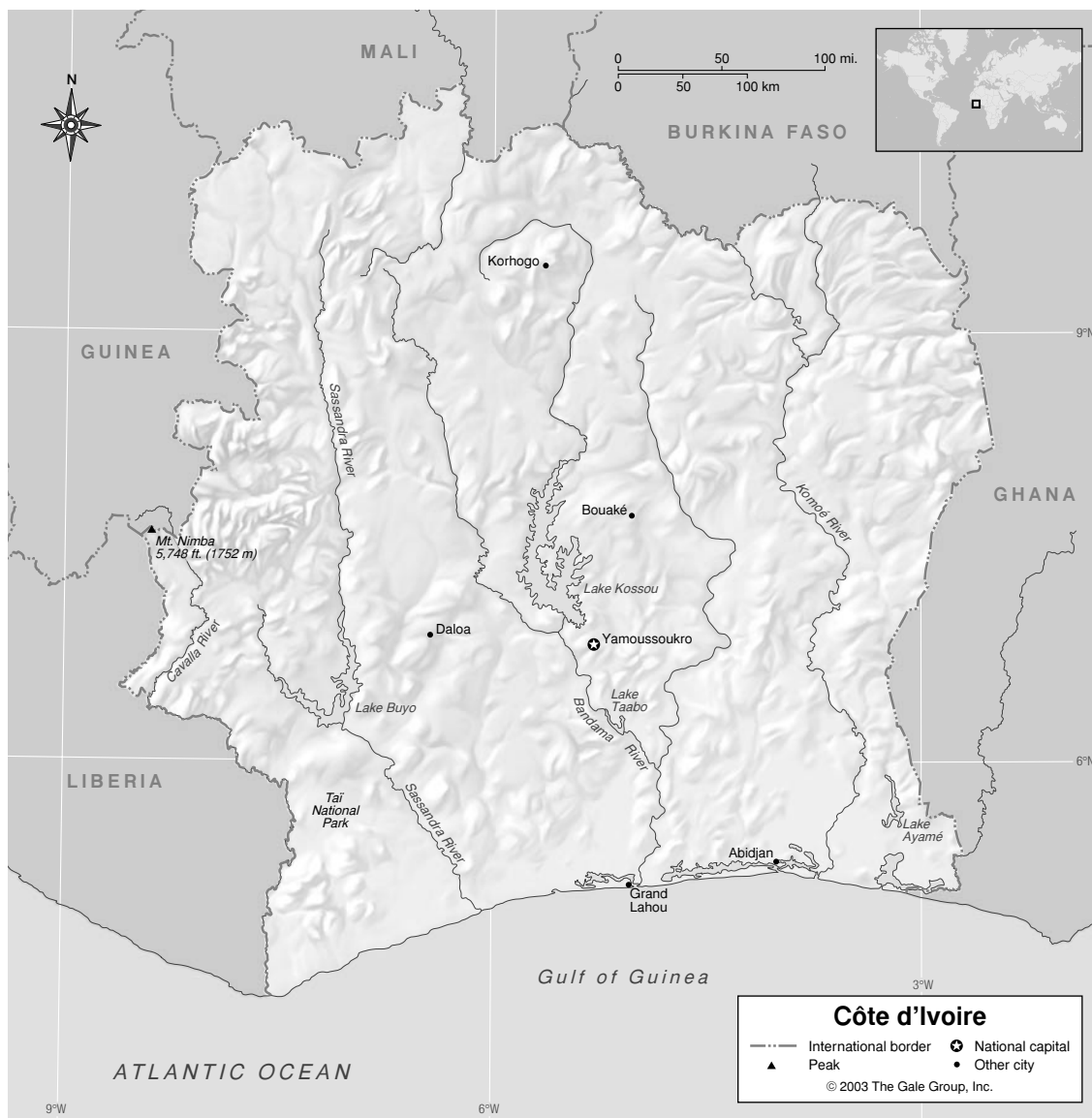
In the north, heavy rains occur between June and October, averaging 110 centime-

ters (43 inches) annually. Along the equatorial coast and the southwest, some rain falls in most months, but precipitation is heaviest between May and September, with average rainfall of 110 to 200 centimeters (43 to 87 inches) annually. The major dry season lasts from December to April.

## 4 🌐 TOPOGRAPHIC REGIONS

The Guinea Highlands, in the northern half of the country (from Man to Odienné), have peaks greater than 1,000 meters (3,280 feet) high. The country's remaining terrain, however, is made up of a vast plateau that tilts gently toward the Atlantic Ocean. The land is generally divided into three main regions based on the difference in natural vegetation. The Lagoon Region runs parallel to the coastline, the Dense Forest Region crosses the middle of the country, and the Savannah Woodland Region lies to the north.

# CÔTE D'IVOIRE



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Côte d'Ivoire borders the Gulf of Guinea (a part of the Atlantic Ocean) in the southern portion of the country.

### Sea Inlets and Straits

A series of lagoons lie along the coastline, interspersed by sandbars, mudbanks, and small wooded islands. Most of these lagoons are narrow, salty, and shallow; they run parallel to the coastline, linked to one another by small watercourses or canals.

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# CÔTE D'IVOIRE

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EPD/Joe Filscher

*The landscape of Côte d'Ivoire features palm and baobab trees.*

## Coastal Features

The area along the coast, from the Ghana border to the mouth of the Sassandra River, is known as the Lagoon Region. Directly at the coast, smooth, steep beaches are pounded by heavy surf, particularly in July and November. Behind the beaches, the sandy soil supports a luxuriant growth of coconut palm and salt-resistant coastal shrubs.

## 6 🌐 INLAND LAKES

The four largest lakes are Kossou Lake in the central part of the nation, Taabo Lake to the south of Kossou Lake, Buyo Lake in the southwest, and Ayamé Lake in the southeast near the border with Ghana.

Lake Kossou is the largest of these, covering an area of about 1,600 square kilome-

ters (618 square miles). All four of them are man-made lakes.

## 7 🌐 RIVERS AND WATERFALLS

Côte d'Ivoire has four main rivers that run roughly parallel from the north to the south. They are the Cavally (on the border with Liberia), Sassandra, Bandama, and Komoé; the longest of these is the Bandama, which runs about 800 kilometers (500 miles). The waterways are navigable for only short distances from the coast. Rocky ledges and numerous rapids prevent passage even of small canoes. Seasonal flooding has caused obstacles in east-to-west travel across the country; building and maintaining bridges and roads over the main rivers would be very expensive.

## 8 🌐 DESERTS

There are no desert regions in Côte d'Ivoire.

## 9 🌐 FLAT AND ROLLING TERRAIN

The Savannah Woodland Region in the north consists of open, grassy woodland scattered with a few trees and shrubs. Moving south, larger areas of trees are found, particularly along the rivers, as one enters the area known as the Dense Forest Region. This region stretches across the center of the country from Liberia to Ghana and, west of Fresco, continues south to the ocean.

## 10 🌐 MOUNTAINS AND VOLCANOES

The only mountain masses in the country are along the western border and in the northwest, where some of the higher peaks exceed 914 meters (3,000 feet) in elevation. Mount Nimba is the country's highest peak (1,752 meters/5,748 feet). It is located in the western corner, where the country borders both Liberia and Guinea.

## 11 🌐 CANYONS AND CAVES

There are no significant caves or canyons in Côte d'Ivoire.

## 12 🌐 PLATEAUS AND MONOLITHS

Viewed as a whole, almost all of the country is little more than a wide plateau, sloping gradually southward to the sea.

## 13 🌐 MAN-MADE FEATURES

Large dams were built in the 1960s and 1970s in an effort to control the flow of the major rivers and offer a better system of irrigation for the surrounding areas. The major dams are: Buyo Dam on the Sassandra River, Kossou and Taabo Dams on the Bandama, and Ayamé Dam on the small Bia River in the southeast corner of the country. All of these dams have created namesake reservoirs or lakes.

## DID YOU KNOW?

Two parks in Côte d'Ivoire—Comoé National Park and Taï National Park—have been designated World Heritage Sites by the United Nations agency called UNESCO. Comoé (Komoé) is located in the far eastern part of the country surrounding the Komoé River. This parkland, covering one of the largest protected areas in West Africa, support a diverse population of plant life. Taï.

## 14 🌐 FURTHER READING

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# Croatia

- **Official name:** Republic of Croatia
- **Area:** 56,542 square kilometers (21,831 square miles)
- **Highest point on mainland:** Mt. Dinara (1,830 meters/6,004 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 7 P.M. = noon GMT
- **Longest distances:** 499 kilometers (310 miles) from north to south; 463 kilometers (288 miles) from east to west
- **Land boundaries:** 2,028 kilometers (1,260 miles) total boundary length; Bosnia and Herzegovina 932 kilometers (579 miles); Hungary 329 kilometers (204 miles); Slovenia 501 kilometers (311 miles); Yugoslavia 266 kilometers (165 miles)
- **Coastline:** 5,835 kilometers (3,626 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Croatia is located in southeastern Europe between Slovenia and Bosnia and Herzegovina, bordering the Adriatic Sea. The country also shares boundaries with Hungary and Yugoslavia. With an area of about 56,542 square kilometers (21,831 square miles), the country is slightly smaller than the state of West Virginia. Croatia is divided administratively into twenty counties and one city.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Croatia has no outside territories or dependencies.

## 3 🌐 CLIMATE

The climate in Croatia is predominantly temperate. In Zagreb, the average daily high temperature in July is 27°C (80°F), while in January it falls to 2°C (35°F). The overall average annual temperature in Zagreb is 11.6°C (52.9°F). The Adriatic coast has a more moderate, Mediterranean climate. The average annual temperatures for the cities of Split and Dubrovnik are 16.6°C (61.9°F) and 17.1°C

(62.8°F), respectively. The prevailing northeast winds include the maestral (mistral), which mitigates the heat in the summer, and the cold, dry bora.

Zagreb's annual precipitation is 924 centimeters (36 inches). The winter averages 49 days with a snow cover of greater than 1 centimeter (0.4 inch). The narrow Adriatic coastal belt has very dry summers. Neither Split nor Dubrovnik typically experiences snow accumulation in the winter; and each city averages more than one hundred sunny days per year. Split averages 94 centimeters (37 inches) of precipitation annually. Dubrovnik has an annual precipitation of about 102 centimeters (40 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Croatia sprawls along the eastern side of the Adriatic Sea, on the western side of the Balkan Peninsula. Its long coastal region stretches from the Istria Peninsula in the north to the Gulf of Kotor (Boka Kotorska) in the south,

# CROATIA



becoming increasingly narrow. For a short distance, a branch of neighboring nation Bosnia and Herzegovina interrupts the Croatian coast. In the north, between Bosnia and Herzegovina and Slovenia, Croatia extends inland as far as the Danube River.

Croatia has three main geographic types: the Pannonian and Peri-Pannonian Plains of eastern and northwestern Croatia, the hilly and mountainous central area, and the Adriatic coastal area that extends down to Dalmatia in the south.

Tectonic fault lines are widespread in north central Croatia and also run through the Dinaric Alps down to Dalmatia. These structural seams in the earth's crust periodically shift, causing earth tremors and occasional destructive earthquakes.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Croatia borders the Adriatic Sea, an arm of the Mediterranean Sea located between Italy and the Balkan Peninsula. Off Croatia's coast in the north near Slovenia, the Adriatic Sea is very shallow, only reaching a depth of 23 meters (75 feet) in the Gulf of Venice. The waters off southern Croatia, however, reach to depths of more than 1,200 meters (3,900 feet).

### Sea Inlets and Straits

Kvarner Bay is located in the north by the Istria Peninsula. The Gulf of Kotor marks the far southern coast.

### Islands and Archipelagos

Croatia has a total of 1,185 islands, only 66 of which are inhabited. Croatia's coastal islands are mountainous, since they are extensions of the Dinaric Alps. The largest islands are Krk (406 square kilometers/157 square miles), Cres (406 square kilometers/157 square miles), Brač (395 square kilometers/153 square miles), Pag (300 square kilometers/116 square miles), and Korčula (285 square kilometers/110 square miles).

### Coastal Features

Rocks, rather than sandy beaches, cover most of Croatia's coast. The coal mines, on the Istria Peninsula in the north, are one of Croatia's main energy resources. The southern half of Croatia's coastline is called Dalmatia, the ancient Roman name for this region.

## 6 🌐 INLAND LAKES

Croatia's largest lake is Vrana, near Biograd, which has a surface area of only 30 square kilometers (11.6 square miles). The Plitvička Lakes are a string of sixteen lakes located within the national park of the same name.

# CROATIA

## 7 🌐 RIVERS AND WATERFALLS

In the coastal region, many short rivers and streams run quickly down the steep mountains into the Adriatic Sea. Among the largest of these are the Krka and the Rasa. The Neretva River enters from Bosnia and Herzegovina in south Dalmatia and flows through the country for just a short distance.

In the interior east, rivers are wider and calmer. Blocked from the Adriatic by the Dinaric Alps, they flow east towards the Danube River and, ultimately, into the Black Sea. The largest of these rivers form Croatia's borders in this region. The Drava and Mura Rivers make up almost all of the northwest border with Hungary. The Sava River, after flowing across the country from Slovenia, forms the southern border with Bosnia and Herzegovina. The Kupa and Una are tributaries of the Sava. The country's longest river is the Danube River in the east, at 2,850 kilometers (1,771 miles) long. The Danube is the second-longest river in Europe and flows between Croatia and Yugoslavia. Both the Sava and the Drava are tributaries of the Danube.

Croatia's most notable waterfall is the series of cascades between the Plitvička Lakes. The tallest has a vertical drop of 72 meters (275 feet). Croatia's interior area also has fourteen thermal springs, including seven mineral springs.

## 8 🌐 DESERTS

There are no desert regions in Croatia.

## 9 🌐 FLAT AND ROLLING TERRAIN

Occupying the east and northeast region is the Pannonian Plain, a lowland that is the most fertile farmland in the country. The plain was once occupied by an ancient sea, which was gradually filled by silt until it formed a nutrient-rich basin, marked by low hills and broad flood plains. The



EPD/Saxifraga/Janus Verkerk

*Croatia's Plitvička Lakes National Park in the Dinaric Alps near the border with Bosnia and Herzegovina.*

plains of Slavonia extend through the eastern arm of Croatia near Yugoslavia.

## 10 🌐 MOUNTAINS AND VOLCANOES

Much of Croatia lies at an altitude of over 500 meters (1,640 feet). The Dinaric Alps, near the border with Bosnia and Herzegovina, contain Croatia's highest peak: Mt. Dinara (1,830 meters/6,004 feet). These mountains run across the central region of the country, forming the boundary between the coastal area and the eastern plains and extending southeastward along the border with Bosnia and Herzegovina.



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# CROATIA

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Subsidiary ranges of the Dinaric Alps in Croatia include the Velika Kapela, Plješevica, and Velebit Mountains, with the high peaks of Kame Plješevica (1657 meters/5,437 feet), Velika Kapela (1,533 meters/5,030 feet), and Risnjak (1,528 meters/5,013 feet). In eastern Croatia are the Psunj Mountains, Papuk Mountains, and Zagorje Hills.

The limestone ranges of the Dinaric Alps are frequently referred to as karst or karstland, and are distinctive because water seeping through the soluble limestone has formed underground drainage channels. This leaves the mountains dry and rocky, with their surface pockmarked by depressions and caves.

## 11 🌐 CANYONS AND CAVES

Archaeologists have unearthed cave bear and Neanderthal fossils from Veternica Cave in northern Croatia. This karst cave has a large chamber about seventy meters from the entrance that is often used as a concert site. Located just north of Zagreb, the cave also is sometimes called the Zagreb Underground.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no major plateau regions in Croatia.

## 13 🌐 MAN-MADE FEATURES

There are no major man-made structures affecting the geography of Croatia.

## DID YOU KNOW?

**P**litvička Lakes National Park is a UNESCO Natural World Heritage Site. The forests of the park serve as home to a number of bears, wolves, and rare species of birds. The park also contains beautiful lakes, waterfalls, and caves, which were formed by water flowing through and around the natural limestone hills.

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# Cuba

- **Official name:** Republic of Cuba
- **Area:** 110,860 square kilometers (42,803 square miles)
- **Highest point on mainland:** Pico Turquino (2,005 meters/6,578 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 7 A.M. = noon GMT
- **Longest distances:** 89 kilometers (55 miles) from north to south; 1,223 kilometers (760 miles) from east to west
- **Land boundaries:** None
- **Coastline:** 3,735 kilometers (2,017 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The long, narrow island of Cuba has a shape that has been compared to a cigar caught between the fingers of Florida and the Yucatán Peninsula. It is flanked by Jamaica on the south, Hispaniola on the southeast, and the Bahamas on the northeast. Slightly smaller than the state of Pennsylvania, Cuba extends some 1,200 kilometers (746 miles) from Cape Maisí on the east to Cape San Antonio on the west, about the distance from New York to Chicago. The largest of the West Indian islands, its territory almost equals that of all the other islands combined. In addition to the main island, the Cuban archipelago includes the Isla de la Juventud (Isle of Pines) near the south coast in the Gulf of Batabanó plus over one thousand coastal cays and islets.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Cuba has no territories or dependencies.

## 3 🌐 CLIMATE

Cuba has a pleasant subtropical climate strongly influenced by gentle northeast trade winds, which shift slightly to the east

in the summer. The island's long, tapered shape allows the moderating sea breezes to cool all regions, and there are no pronounced seasonal variations in temperature. July and August are the warmest months, and February is the coolest. The wet summer season is between May and October, and the drier winter season runs from November through April. Annual rainfall averages over 180 centimeters (70 inches) in the mountains, 90 to 140 centimeters (35 to 55 inches) in the lowlands, and 65 centimeters (26 inches) at Guantanamo Bay. On average, rain falls on Cuba 85 to 100 days per year with three-quarters of it falling during the wet season. The humidity varies between 75 percent and 95 percent year-round. The eastern coast is subject to hurricanes from August to October, and the country averages about one hurricane every year. Droughts are also common.

SEASON	MONTHS	AVERAGE TEMPERATURE
Summer	May to September	27°C (81°F)
Winter	November to March	22°C (72°F)

# CUBA



## 4 🌐 TOPOGRAPHIC REGIONS

Well over half of the terrain consists of flat or rolling plains with a great deal of rich soil well suited to the cultivation of sugarcane, the dominant crop. There are rugged hills and mountains in the southeast, and the most extensive mountainous zone of Cuba lies near its eastern extremity. Smaller mountain zones with lower elevations occur near the midsection and in the far west.

## 5 🌐 OCEANS AND SEAS

Cuba is cradled between the Caribbean Sea to its south, the North Atlantic Ocean to its northeast, and the Gulf of Mexico to its northwest.

### Seacoast and Undersea Features

Cuba is surrounded by coral reefs.

### Sea Inlets and Straits

Cuba is separated from Florida to the north by the Straits of Florida, and from Hispaniola

to the southeast by the narrow Windward Passage. Off the central northern coast, the sea-lane of the Old Bahama Channel at some points is only ten miles wide as it passes between the Cuban shelf and the shallows of the Great Bahama Bank. The Gulf of Batabanó borders the northwestern end of Cuba's Caribbean coast.

### Islands and Archipelagos

The 220-square-kilometer (570-square-mile) Isla de la Juventud is the westernmost island in a chain of smaller islands, the Archipiélago de los Canarreos, which extends 110 kilometers (68 miles) across the Gulf of Batabanó. The extreme northwestern coast of Cuba is flanked by the Archipiélago de los Colorados. Offshore to the north of Sagua la Grande lie the islands of the Archipiélago de Sabana. East of those islands, stretching around the coast from Morón to Neuyitas, is the Archipiélago de Camagüey, the largest of the archipelagos that surround

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# CUBA

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EPD/Saxifraga/Wiel Poelmans

*El Yunque, just north of Guantánamo in eastern Cuba.*

Cuba. Overall, about 4,200 coral cays and islets surround Cuba, most of them low-lying and uninhabited.

## Coastal Features

Except for near its western tip, a wealth of excellent harbors indent Cuba's shoreline. The coastline includes more than 289 natural beaches. In the north, the beaches tend to be longer and whiter with rolling surf and undertow, while the southern beaches are darker, feature sea urchins, and are rockier or more swampy. While rugged beaches comprise most of the northern coast, swamps still occur there, as well as on the Isla de la Juventud.

Cuba's coastline is indented by some of the world's finest natural harbors. There are about two hundred in all, and many are shaped like pouches or bottlenecks, with narrow entrances that broaden into spacious deepwater an-

chorages. Ports on the north coast with these kinds of harbors include Mariel, Havana, and Nueyitas. South coast bottleneck ports include Guantánamo, Santiago de Cuba, and Crenfuegos. The principal open bay ports, Cárdenas and Matanzas, are located on the north coast.

## 6 🌐 INLAND LAKES

There are no large lakes in Cuba, but many coastal swamplands extend throughout the country. Zapata Swamp, the largest on the island, covers more than 4,403 square kilometers (1,700 square miles) on the Zapata Peninsula.

## 7 🌐 RIVERS AND WATERFALLS

About two hundred rivers run northward or southward from an interior watershed and are predominantly short and rapid. They provide good drainage but are not generally suitable for navigation.

## 8 🌐 DESERTS

There are no deserts on Cuba.

## 9 🌐 FLAT AND ROLLING TERRAIN

Almost two-thirds of the Cuban landscape consists of flatlands and rolling plains. Cattle graze on these fertile flatlands, and sugarcane, coffee, and tobacco are grown there. Three-fourths of the national territory consists of grasslands, hills, and the lower and gentler mountain slopes.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Oriental, Central, and Occidental Mountains cover 25 percent of the country. The loftiest mountain system is the Sierra Maestra; it is the steepest of the Cuban ranges, and its peaks include the country's highest summit: Pico Turquino, at 2,005 meters (6,578 feet). The southeastern tip of the island is mostly mountainous and includes such ranges as the Sierra de Nipe, the Sierra de Nicaro, the Sierra del Cristal, and the Cuchillas de Toa. The Escambray Mountains are the principal mountains of central Cuba. They are located in the southern part of that region, and are separated by the Agabama River into two ranges: the Sierra de Trinidad in the west and the Sierra de Sancti Spíritus in the east. The principal ranges of the western highlands are the Sierra del Rosario and the Sierra de los Organos.

## 11 🌐 CANYONS AND CAVES

The limestone formations known as karst are most characteristic of the western highlands, where they form numerous sinkholes and underground caverns.

## 12 🌐 PLATEAUS AND MONOLITHS

Situated in Cuba's western highlands, known collectively as the Cordillera de Guaniguanico, are limestone formations weathered into strange shapes. Ranks of tall, erosion-resistant

## DID YOU KNOW?

**D**esembarco del Granma National Park, a park in southwest Cuba near Cabo Cruz, features dramatic cliffs lining the shore of the Atlantic Ocean, as well as limestone terraces uplifted by geological forces.

limestone columns resembling organ pipes gave the Sierra de los Organos its name.

## 13 🌐 MAN-MADE FEATURES

Cuba's infrastructure includes such impressive engineering feats as: the Havana Sewer Tunnel (1912); the Carretera Central (Central Road) (1931), a 1,139-kilometer (708-mile) thoroughfare that spans the island from west to east; the Bay Tunnel (1958), which expanded access to eastern Havana by allowing travel under Havana Bay; and the Viaducto de La Farola (La Farola Viaduct) (1965) connecting Guantánamo and Baracoa.

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# Cyprus

- **Official name:** Republic of Cyprus
- **Area:** 9,250 square kilometers (3,571 square miles)
- **Highest point on mainland:** Mount Olympus (1,951 meters/6,401 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 227 kilometers (141 miles) from east-northeast to west-southwest; 97 kilometers (60 miles) from south-southeast to north-northwest
- **Land boundaries:** None
- **Coastline:** 648 kilometers (403 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The largest Mediterranean island after Sicily and Sardinia, Cyprus is located in the extreme northeastern corner of the Mediterranean Sea. It is 71 kilometers (44 miles) south of Turkey, 105 kilometers (65 miles) west of Syria, and 370 kilometers (230 miles) north of Egypt. Its average width is between 56 kilometers and 72 kilometers (35 miles and 45 miles). The long, narrow Karpas peninsula in the east, combined with the broader shape of the rest of the island, has led people to compare the island's shape to that of a skillet or frying pan.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Cyprus claims no territories or dependencies.

## 3 🌐 CLIMATE

The climate is Mediterranean, with sharply defined seasons. There are hot, dry summers between June and September; rainy winters from November to March; and short, changeable spring and autumn seasons in between. Annual rainfall averages around 50 centimeters (20 inches). Precipitation is highest in the area of Nicosia and lowest on Mount Olympus in the Troodos Mountains.

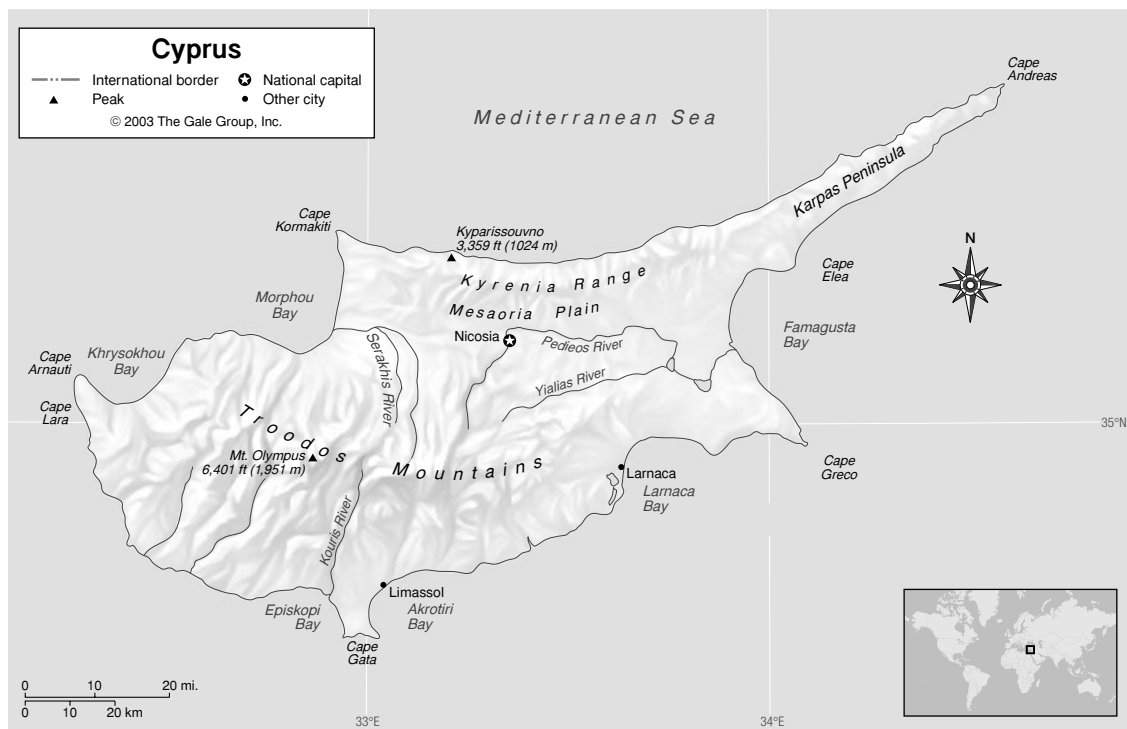
SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	June to September	21°C (70°F) to 37°C (98°F)
Winter	November to March	5°C (41°F) to 15°C (59°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Two mountain ranges and the central plain between them, called the Mesaoria, dominate the topography of Cyprus. The Troodos Mountains cover most of the southern and western parts of the country, accounting for roughly half its total area—including the southwestern Nicosia District, all of the Paphos and Limasol districts except their coastal plains, and the western Larnaca District. The narrow Kyrenia Range, extending along the northern coastline, occupies a far smaller area, with lower elevations.

Since 1974, Cyprus has been divided into autonomous northern and southern sectors, separated by what is known as the Green Line. The Turkish sector north of the line, whose self-proclaimed government is recognized only by Turkey, comprises 37 percent of the

# CYPRUS



island. The Greek sector, whose government is recognized internationally, takes up 59 percent. The remainder belongs to a buffer zone controlled by the United Nations.

## 5 OCEANS AND SEAS

Cyprus is located at the far northeastern corner of the Mediterranean Sea.

## Seacoast and Undersea Features

Cyprus has no notable coastal or undersea features.

## Sea Inlets and Straits

Cyprus has a number of bays, including Famagusta Bay and Larnaca Bay in the east, the Akrotiri and Episkopi bays to the south, and the Khrysokhou and Morphou bays to the northwest.

## Islands and Archipelagos

At the northeasternmost tip of Cyprus are the small islands of Cape Andreas known as the Klidhes.

## Coastal Features

Cyprus's coastline is rocky and heavily indented, with a number of bays and capes. Capes include Apostolos Andreas to the northeast, Elea and Greco to the east (enclosing Famagusta Bay), Gata to the south, Lara to the west, and Arnauti and Kormakiti to the northwest. The coast is fringed with sandy beaches.

## 6 INLAND LAKES

Cyprus has few permanent lakes. Two large saltwater lagoons near Larnaca and Limassol on the southern coast dry up every summer and are filled by the winter rains.

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# CYPRUS

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EPD Photos

*Cyprus's Petra tou Romiou is the legendary birthplace of Aphrodite, goddess of love and beauty.*

## **7** 🌐 **RIVERS AND WATERFALLS**

A network of rivers flows in all directions down the Troodos Mountains. Even the largest of these, the Pedieos, is a winter river that becomes a dry course in the summer. So do Cyprus's other major rivers, including the Kouris, the Serakhis, and the Yialias, which, like the Pedieos, flows eastward to Famagusta Bay.

## **8** 🌐 **DESERTS**

There are no desert areas on Cyprus.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The name of the Mesaoria Plain, which means "Between the Mountains," describes its location between the island's northern and southern mountain ranges. It stretches from Morphou Bay in the west to Famagusta Bay in

the east. This flat, low expanse is the country's agricultural heartland and home to the capital city of Nicosia. Coastal lowlands, varying in width, surround the island.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The jagged slopes of the narrow Kyrenia Range stretch along the country's northern border for some 161 kilometers (100 miles), giving way to foothills as they extend into the Karpas Peninsula in the east. This mountain range is also known as the Pentadaktylos range, because its most famous peak has a five-fingered shape. Its highest peaks, including St. Hilarion and Buffavento, are barely half as high as Mount Olympus, the country's highest point, located in the Troodos mountains to the south. The rugged Troodos mountain range is the single



most conspicuous feature of Cyprus's landscape. Secondary ranges and spurs veer off at many angles. Mount Olympus is centrally located in the heart of these mountains, which extend across the southwestern portion of Cyprus from the Akamas Peninsula at the island's northwestern tip. To the southwest, the mountains descend in a series of stepped foothills to the coastal plain.

## 11 CANYONS AND CAVES

There are no notable caves or canyons in Cyprus.

## 12 PLATEAUS AND MONOLITHS

There are no notable plateaus in Cyprus.

## 13 MAN-MADE FEATURES

There are no man-made features affecting the geography of Cyprus.

## 14 FURTHER READING

### Books

Bulmer, Robert. *Essential Cyprus*. Lincolnwood, IL: Passport Books, 1998.

## DID YOU KNOW?

Cyprus has been an independent nation only since 1960 when it gained its independence from the British Crown. It is the youngest state in the Mediterranean region.

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### Web Sites

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Turkish Republic of Northern Cyprus home page. <http://www.trncwashdc.org/> (accessed June 26, 2003).

# Czech Republic

- **Official name:** The Czech Republic
- **Area:** 78,866 square kilometers (30,450 square miles)
- **Highest point on mainland:** Mount Snezka (1,602 meters/5,256 feet)
- **Lowest point on land:** Elbe River (115 meters/377 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2:00 P.M.= noon GMT
- **Longest distances:** 494 kilometers (307 miles) from east to west; 269 kilometers (167 miles) from north to south
- **Land boundaries:** 1,881 kilometers (1,169 miles) total boundary length; Austria 362 kilometers (225 miles); Germany 646 kilometers (401 miles); Poland 658 kilometers (409 miles); Slovakia 215 kilometers (134 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Located in the heart of Central Europe, the landlocked Czech Republic is one of two nations that were formed after the breakup of Czechoslovakia in 1993. With an area of 78,866 square kilometers (30,450 square miles), it is slightly smaller than the state of South Carolina.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The Czech Republic has no territories or dependencies.

## 3 🌐 CLIMATE

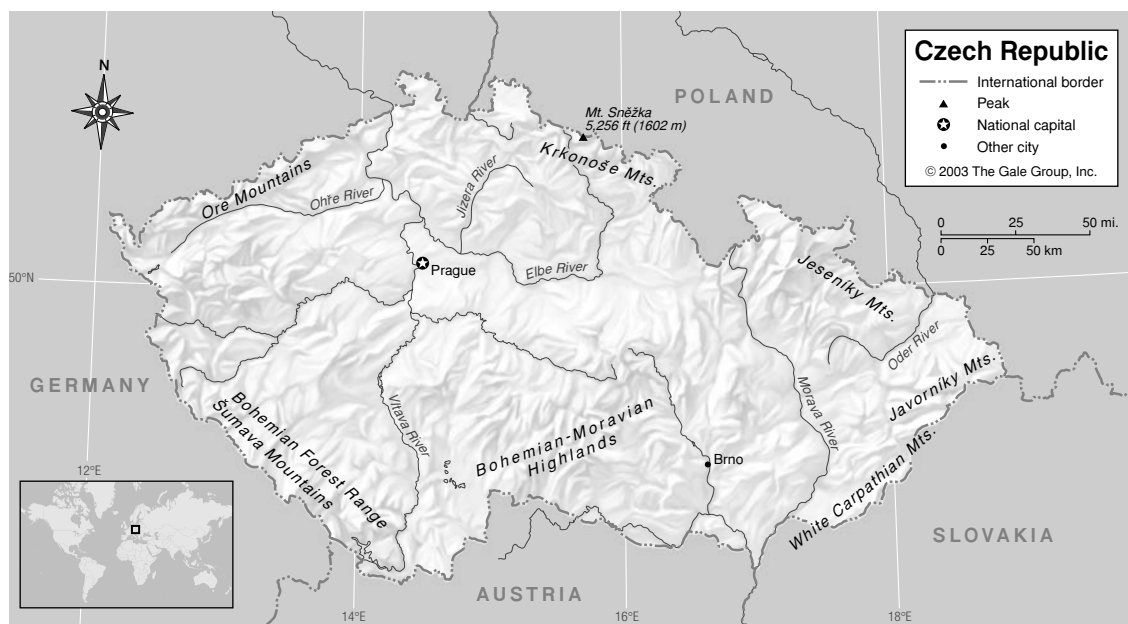
The Czech Republic has a mostly continental climate, although in Bohemia it is moderated somewhat by proximity to the Baltic Sea, with less variation in temperature throughout the day. Nevertheless, the country as a whole is known for its changeable weather. Winters are cold, with average January temperatures between  $-4^{\circ}\text{C}$  and  $-2^{\circ}\text{C}$  ( $25^{\circ}\text{F}$  and  $28^{\circ}\text{F}$ ). Both the Moravian lowlands and the Bohemian

highlands can experience bitter cold, with temperatures below  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ). Summers are hot and wet, with frequent storms and average temperatures between  $13^{\circ}\text{C}$  to  $23^{\circ}\text{C}$  ( $55^{\circ}\text{F}$  and  $73^{\circ}\text{F}$ ). Summer temperatures above  $30^{\circ}\text{C}$  ( $86^{\circ}\text{F}$ ) are common in Moravia. Rainfall is heaviest in the spring and summer, with the greatest rainfall occurring in July. Average annual rainfall ranges from 50 to 76 centimeters (20 to 30 inches) in low-lying areas to over 127 centimeters (50 inches) in the Krkonoše Mountains. Fog is common in the lowlands.

## 4 🌐 TOPOGRAPHIC REGIONS

The Czech Republic consists of two major regions—Bohemia to the west and Moravia to the east. In addition, its northwestern corner is part of Silesia, a region that lies mostly in southwestern Poland. Bohemia, the larger of the two main regions, consists of highlands bordered by low mountains, while Moravia, although also surrounded by mountains, is composed of lowlands.

# CZECH REPUBLIC



## 5 🌐 OCEANS AND SEAS

The Czech Republic is landlocked.

## 6 🌐 INLAND LAKES

In the southern part of Bohemia, near České Budějovice, is a region of artificial lakes and fish ponds. The Czech Republic also has many mineral springs.

## 7 🌐 RIVERS AND WATERFALLS

The Czech Republic's many rivers belong to three major systems. In the northwest, the Labe (or Elbe) River flows northward into Germany, ultimately draining into the North Sea. Among its tributaries are the Jizera, the Ohře, and the Vltava (or Moldau), which is the country's longest river. In the northeast, the Odra (or Oder) River flows north to Poland, draining into the Baltic Sea. The Morava River, the principal river of Moravia, flows southward through the eastern part of the country.

## 8 🌐 DESERTS

There are no deserts in the Czech Republic.

## 9 🌐 FLAT AND ROLLING TERRAIN

The central and southern Moravian lowlands are part of the Danube River Basin and are similar to the lowlands they join in southern Slovakia.

## 10 🌐 MOUNTAINS AND VOLCANOES

Mountain ranges ring much of the country and also separate its two major regions. Part of the border with Poland, to the north, is formed by the Krkonoše (or Great) Mountains, which also form the northern border of Bohemia. The country's highest peak, Mount Snezka, is found in these mountains. Farther east, the Jeseníky Mountains separate the Czech portion of Silesia from Moravia to the south. The Javorníky Mountains mark the eastern border of both Moravia and the Czech Republic itself; those and the nearby White Carpathian (Bílé Karpaty) Mountains both border Slovakia. In the center of the country, the Bohemian-Moravian Highlands separate Bohemia from Moravia, and the Šumava Mountains mark the borders with Austria and Germany. The north-

# CZECH REPUBLIC



AP Photo/CTK, Radek Petrasek

*Heavy snow in November 2002 made a highway from Prague, Czech Republic, impassable.*

eastern border with Germany is formed by the Ore Mountains (Erzgebirge).

## 11 🌐 CANYONS AND CAVES

One of the Czech Republic's most famous topographical features is the Moravian Karst, a highland area in southern Moravia where the erosion of limestone hills over time has created a dramatic landscape of caves and canyons.

## 12 🌐 PLATEAUS AND MONOLITHS

The mountain ranges of Bohemia encircle a plateau that is 500 meters (1,640 feet) above sea level and shaped roughly like an oval.

## 13 🌐 MAN-MADE FEATURES

Most lakes in the Czech Republic are man-made. The largest artificial lake is Lake Rozmberk, which covers some 500 hectares (1,235 acres). The Lipno Dam is located near the

southernmost part of the country, just north of the border with Austria.

## 14 🌐 FURTHER READING

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Holtslag, Astrid. *The Czech Republic*. New York: Hippocrene Books, 1994.

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### Web Sites

*Czech Republic Web site*. <http://www.Czech.cz/> (accessed March 11, 2003).

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# Denmark

- **Official name:** Kingdom of Denmark
- **Area:** 43,094 square kilometers (16,638 square miles, not including the Faroe Islands and Greenland)
- **Highest point on mainland:** Yding Forest Hill (Yding Skovhøj) (173 meters/568 feet)
- **Highest point in territory:** Slaettaratindur (Faroe Islands) (882 meters/2,894 feet)
- **Lowest point on land:** Lammefjord (7 meters/23 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 402 kilometers (250 miles) from north to south, 354 kilometers (220 miles) from east to west
- **Land boundaries:** Germany 68 kilometers (42 miles)
- **Coastline:** Main territory 7,314 kilometers (4,545 miles); Faroe Islands 1,117 kilometers (614 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The small nation of Denmark occupies most of the Jutland (Jylland) peninsula and a number of large islands that separate the North Sea from the Baltic Sea. It shares a land border with Germany to the south. With a total area of about 43,094 square kilometers (16,638 square miles, not including the Faroe Islands and Greenland), the country is slightly less than twice the size of the state of Massachusetts. Denmark is divided into fourteen counties and two kommunes.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Denmark has administrative control over the Faroe Islands, located in the North Atlantic Ocean northwest of Great Britain. Greenland, located off the coast of North America in the Arctic Ocean, is also a part of Denmark; however, Greenland also has a limited home-rule government.

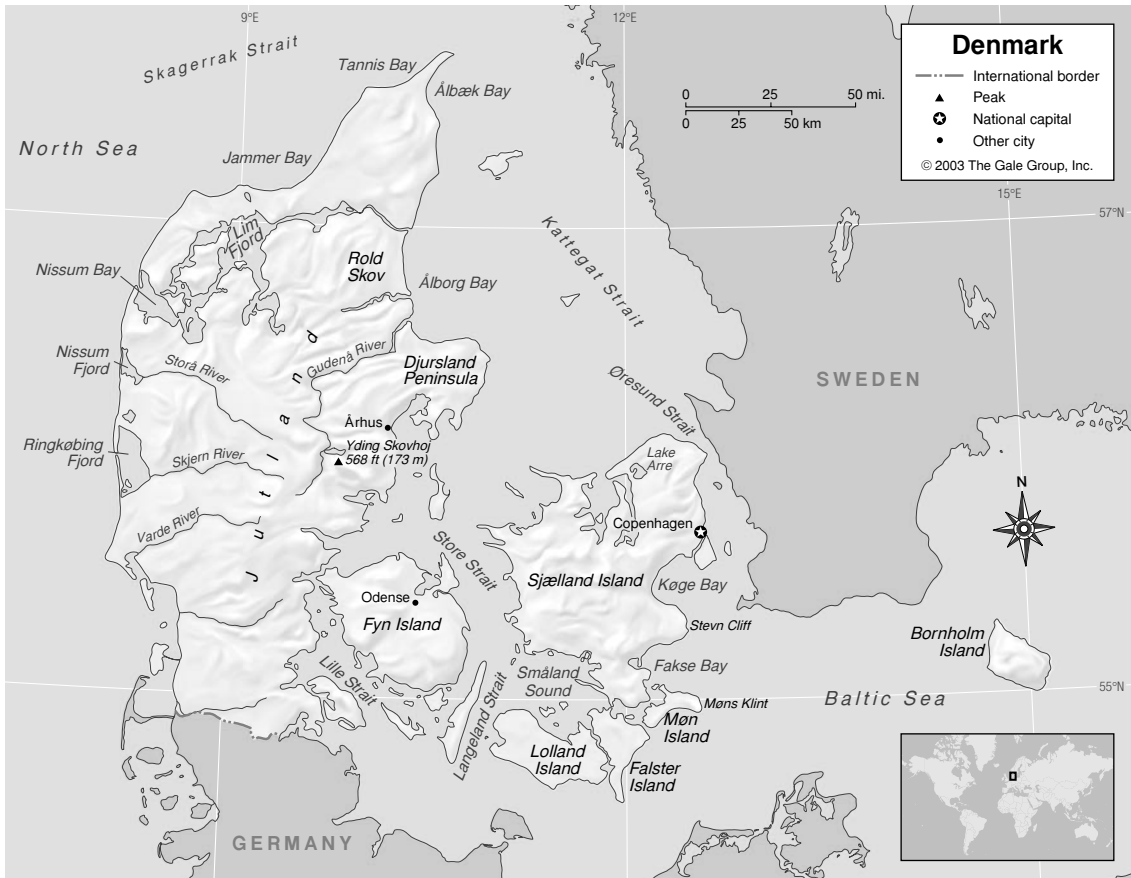
## 3 🌐 CLIMATE

The climate in Denmark is temperate. Days are typically humid and overcast; winters are mild and windy, and summers are cool. The mean temperatures are 0°C (32°F) in February, the coldest month, and 17°C (63°F) in July, the warmest month. Rainfall comes fairly evenly throughout the year, with the annual average amounting to approximately 61 centimeters (24 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Denmark is primarily a low-lying country covered with glacial moraine deposits. The moraines consist of a mixture of clay, sand, gravel, and boulders, carried by glaciers from the mountains of Scandinavia and raised from the bed of the Baltic Sea, with an admixture of limestone and other rocks. These large deposits have formed gently rolling hills interspersed with lakes. Between the hills are extensive level plains, which were created when the meltwater washing away from the glaciers deposited sand

# DENMARK



and gravel outside the ice limit. The country's densest settlements are found on these heathland plains.

The boundary line between the sandy West Jutland and the loam plains of East and North Denmark is the most important geographical division of the country. West of the line is a region of scattered farms. To the east, there are several villages with high population density. Valleys furrow the moraine landscape.

The coastlines of eastern Jutland and many of the nearby islands are heavily indented with fjords, bays, and other inlets, forming numerous natural harbors. Narrow straits separate most of the islands.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Denmark is almost completely surrounded by water. The main bodies of water are the North Sea to the west of Denmark and the Baltic Sea to the east, both of which are inlets of the Atlantic Ocean.

### Sea Inlets and Straits

There are a number of inlets that separate the main Jutland Peninsula area of Denmark from its surrounding islands and countries. The Skagerrak Strait separates Denmark from Norway in the northwest. The Kattegat Strait lies between Denmark and Sweden to the east. The narrow Lille Strait separates the island of

## DENMARK



EPD/Saxifraga/Ronald Buskens

*These limestone rocks line Denmark's Baltic Sea coast.*

Fyn from the mainland. The Store and Langeland Straits lie between Fyn and the easternmost islands. The Øresund separates Sjælland from Sweden, and the smaller islands of Falster, Lolland, and Møn lie to the south across the Småland Sound.

Along the west coast of the peninsula there are two great fjords, Ringkøbing and Nissum. Further north is Nissum Bay. The northern coast is more regular, with the broad Jammer and Tannis Bays. In the east are Ålbæk and Ålborg Bays. These are punctuated by a number of fjords, most notably Lim Fjord, which stretches all the way across Jutland from Ålborg Bay to Nissum Bay in the west.

The southern coast of Ålborg Bay juts east to form the Djursland Peninsula, south of which is Arhus Bay and many smaller fjords. On Sjælland, the capital of Copenhagen is situated on Køge Bay, with Stevn Cliff and Fakse Bay further to the south.

### Islands and Archipelagos

There are 406 islands in Denmark (of which only 97 are inhabited), accounting for over one-third of its land area. The largest islands are Sjælland (7,015 square kilometers/2,709 square miles); Fyn (2,984 square kilometers/1,152 square miles), Lolland (1,234 square kilometers/480 square miles), Bornholm (588 square kilometers/227 square miles), and Falster (514 square kilometers/198 square miles). All of these islands except for Bornholm lie between Jutland and Sweden. Bornholm, Denmark's easternmost island, is southeast of Sweden in the Baltic Sea. It is a nature reserve that is accessible only by boat. There are no cars, modern buildings, or domesticated animals (such as cats or dogs) on the island.

The Faroe Islands are an archipelago of seventeen inhabited islands and one uninhabited island in the Atlantic Ocean, northwest of Britain. Among the larger islands are Stromp (374 square kilometers/174 square miles), Osterø (266 square kilometers/110 square miles), Vago (178 square kilometers/69 square miles), Syderø (153 square kilometers/59 square miles), and Sando (114 square kilometers/44 square miles). The Faroe landscape is rugged, characterized by a stratified series of basalt sheets with intervening thinner layers of solidified volcanic ash (tufa). Glacial action has carved the valleys into trough-shaped hollows and formed steep peaks. The highest point is on Osterø, called Slaettaratindur (882 meters/2,894 feet).

The world's largest island, Greenland, is located off the coast of North America in

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# DENMARK

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the Arctic Ocean. Although considered a part of Denmark, Greenland also has limited home rule.

## Coastal Features

The coastlines of the Jutland Peninsula and the nearby islands are highly indented.

White chalk cliffs are found along the coastline of the small island of Møn, lying south of Sjælland. The cliffs rise from the beach about 128 meters (422 feet) in an area known as Møn Cliff (Møns Klint).

## 6 🌐 INLAND LAKES

Dozens of lakes dot the middle interior region of the Jutland, known as the Lakeland region. The largest lake in the country is Arre (40.6 square kilometers/15.7 square miles). It lies between Helsingør and Hillerød on Sjælland Island.

## 7 🌐 RIVERS AND WATERFALLS

The Gudenå River is the longest river, at about 160 kilometers (100 miles) long. It flows from the interior of Jutland north to the Kattegat Strait. Other smaller rivers include the Storå, the Skjern, and the Varde, all of which flow from the interior Jutland into the North Sea. Many of the country's rivers have been artificially rerouted.

## 8 🌐 DESERTS

There are no desert areas in Denmark.

## 9 🌐 FLAT AND ROLLING TERRAIN

Over 10 percent of the low-lying areas of Denmark are covered with trees, but almost none of this is primary (natural) forest. The woodlands contain mostly beech and oak trees, with other species including elm, hazel, maple, pine, birch, aspen, linden, and chestnut. Denmark's largest contiguous area of woodland is Rold Forest (Rold Skov), a public forest (77 square kilometers/30



EPD/Saxifraga/Janus Verkerk

*Landscape of the Faroe Islands of Denmark.*

square miles) that contains Denmark's only national park, Rebild Bakker. Located near the city of Ålborg, it is the last section of natural forest that once covered the eastern part of Jutland.

While there are many hills and ridges, the highest point, Yding Forest Hill (Yding Skovhøj) in eastern Jutland, only exceeds sea level by 173 meters (568 feet).

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no significant mountain ranges within Denmark.

## 11 🌐 CANYONS AND CAVES

There are no significant natural caves in Denmark; however, there are a few sites of underground chalk and limestone mines.



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# DENMARK

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## 12 🌐 PLATEAUS AND MONOLITHS

With mostly low-lying lands, there are no real plateau regions within Denmark.

## 13 🌐 MAN-MADE FEATURES

A number of dikes and harbors have been constructed along sections of the coast of Denmark to protect the low-lying coastline regions from the flooding effects of the seawater.

Daugbjerg Kalgruber, located in western Denmark near Struer, is a carved chalk mine that extends underground for a length of about 35 kilometers (21 miles). The chalk once was used to produce lime, a major ingredient in concrete. Today, the mine is known to be a hibernating place for bats.

The Great Belt Fixed Link is a combination of bridges and tunnels that serve as a year-round transportation route between Denmark's two largest islands, Sjælland (on which Copenhagen is located) and Fyn. The twelve-year construction project (from 1986 to 1998) was the largest engineering project in the history of Denmark. The Link includes three components. First, the East Bridge is a 6.8-kilometer-long (4.2-mile-long) suspension bridge that crosses the strait between Sjælland and the small island of Sprøgo. Second, an 8-kilometer (5-mile) underwater

tunnel connects Sjælland and Sprøgo as a railroad passage. And third, from Sprøgo to Fyn, a combined rail and road bridge runs for 6.6 kilometers (4.1 miles). The twin pylons of the East Bridge stand at 254 meters (833 feet) above sea level and are the highest structural points on Denmark.

## 14 🌐 FURTHER READING

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<http://www.mem.dk/ukindex.htm>  
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<http://www.um.dk/english/denmark>  
(accessed March, 2003).

# Djibouti

- **Official name:** Republic of Djibouti
- **Area:** 22,000 square kilometers (8,494 square miles)
- **Highest point on mainland:** Moussa Ali (2,028 meters/6,654 feet)
- **Lowest point on land:** Lac Assal (155 meters/509 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 213 kilometers (132 miles) from northeast to southwest; 155 kilometers (96 miles) from southeast to northwest
- **Land boundaries:** 508 kilometers (316 miles) total boundary length; Eritrea 113 kilometers (70 miles); Somalia 58 kilometers (36 miles); Ethiopia 337 kilometers (209 miles)
- **Coastline:** 314 kilometers (195 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Located on the coast of the Horn of Africa, Djibouti is one of the continent's smallest countries. With an area of 22,000 square kilometers (8,494 square miles), it is about the same size as El Salvador, and only about one-sixth as large as England. Because of its location at the southern entryway to the Red Sea, however, the country has a strategic importance that is out of proportion to its small size.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Djibouti claims no territories or dependencies.

## 3 🌐 CLIMATE

The climate is dry and torrid (very hot). The hot, dry hamsin wind increases the already-blistering summer temperatures, which can rise as high as 45°C (113°F). Rainfall is infrequent, averaging less than 13 centimeters (5 inches) annually.

SEASON	MONTHS	AVERAGE HIGH TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	May to September	37°C (99°F)
Winter	October to April	31°C (87°F)

## 4 🌐 TOPOGRAPHIC REGIONS

Djibouti can be divided into three major geographic regions: a coastal plain, mountains behind the plain, and a plateau behind the mountains.

## 5 🌐 OCEANS AND SEAS

Djibouti lies just south of the entryway to the Red Sea.

## Seacoast and Undersea Features

Djibouti's coast is fringed by picturesque coral reefs.

# DJIBOUTI



## 6 🌐 INLAND LAKES

The desert terrain of Djibouti is broken in places by salt lakes. The largest of these is Lac Assal; at 155 meters (509 feet) below sea level, it is the lowest point in Africa and the second-lowest elevation in the world. It is also the world's saltiest body of water, with a concentration surpassing even that of the Dead Sea. Its water reaches temperatures of up to 57°C (135°F) in the summer.

## 7 🌐 RIVERS AND WATERFALLS

There are no permanent inland watercourses and very little groundwater of any kind.

## 8 🌐 DESERTS

About 90 percent of Djibouti's terrain is flat, barren desert land made up of volcanic rock. Vegetation, which is minimal, includes scrub and palm trees.

## 9 🌐 FLAT AND ROLLING TERRAIN

Most of Djibouti's fertile, irrigated coastal plain lies at elevations below 200 meters (650 feet).

## 10 🌐 MOUNTAINS AND VOLCANOES

Rugged mountain peaks of volcanic origin in the northern part of the country reach average heights of 1,000 meters (3,300 feet). These include Moussa Ali, the country's highest summit, in the northeastern corner of the country, and the Mabla Mountains north of the Gulf of Tadjoura.

## Sea Inlets and Straits

Djibouti's eastern shore forms most of the west bank of the Strait of Mandab (Bab al Mandab), which connects the Gulf of Aden to the south and the Red Sea to the north. The coastline is deeply indented south of Cape Bir to form the Gulf of Tadjoura, which is 45 kilometers (28 miles) wide at its entrance and penetrates 58 kilometers (36 miles) inland, bisecting the eastern part of the country.

## Islands and Archipelagos

There are no islands associated with Djibouti.

## Coastal Features

An important deepwater port at the capital city of Djibouti receives ships sailing from the Indian Ocean and the Red Sea. Much of the coastline consists of white, sandy beaches.

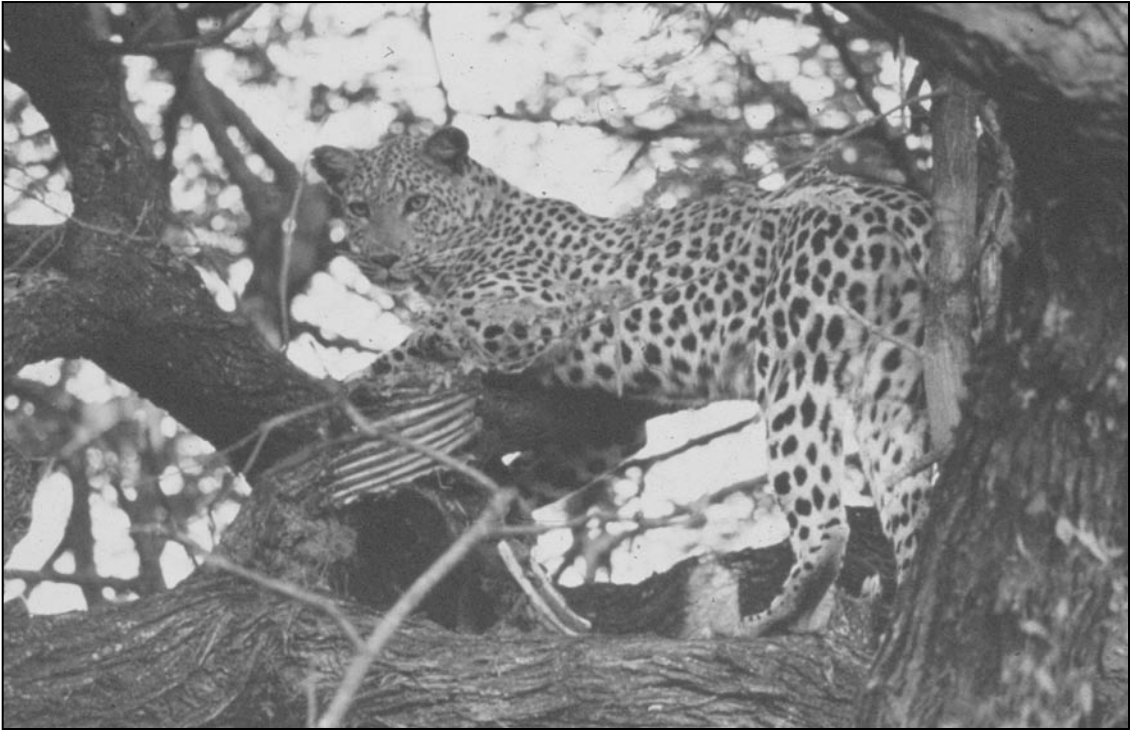
## DID YOU KNOW?

The intense summertime heat in Djibouti once led travelers to call it "the Hell of Africa" and inspired the Somali proverb: "Before crossing this country, even the jackal writes his will."

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# DJIBOUTI

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EPD/Cynthia Bassett

*The cheetah was once common in Djibouti. The few that remain are found in the region near Moussa Ali, the highest mountain peak.*

## 11 CANYONS AND CAVES

There are no significant caves or canyons in Djibouti.

## 12 PLATEAUS AND MONOLITHS

Djibouti's plateau regions rise from 300 to 1,500 meters (1,000 to 5,000 feet).

## 13 MAN-MADE FEATURES

There are no man-made features affecting the geography of Djibouti.

## 14 FURTHER READING

### Books

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# Dominica

- **Official name:** Commonwealth of Dominica
- **Area:** 754 square kilometers (291 square miles)
- **Highest point on mainland:** Morne Diablotins (1,447 meters/4,748 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 26 kilometers (16 miles) from east to west; 47 kilometers (29 miles) from north to south
- **Land boundaries:** None
- **Coastline:** 148 kilometers (92 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Dominica, an island in the eastern Caribbean Sea, lies at the midpoint of the Lesser Antilles, between the French possessions of Guadeloupe to the north and Martinique to the south. It is often, but not always, considered one of the Windward Islands. With an area of 754 square kilometers (291 square miles), Dominica is slightly more than twice as large as the state of New Hampshire. The lush vegetation and abundant wildlife of the country's rain forests have led Dominica to proclaim itself "The Nature Island of the Caribbean."

## 2 🌐 TERRITORIES AND DEPENDENCIES

Dominica claims no territories or dependencies.

## 3 🌐 CLIMATE

Tempered by sea breezes, Dominica's tropical climate is generally mild and pleasant. Summer temperatures average 28°C (82°F) and may rise as high as 32°C (90°F). Winter temperatures average 25°C (77°F). Dominica has a dry season in the spring and a rainy season in summer, with rainfall especially heavy during the hurricane season in late summer. Average annual rainfall ranges from about

191 centimeters (75 inches) near the coast to over 508 centimeters (200 inches) in the mountains.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	April to September	28°C to 32°C (82°F to 90°F).
Winter	October to March	25°C (77°F)

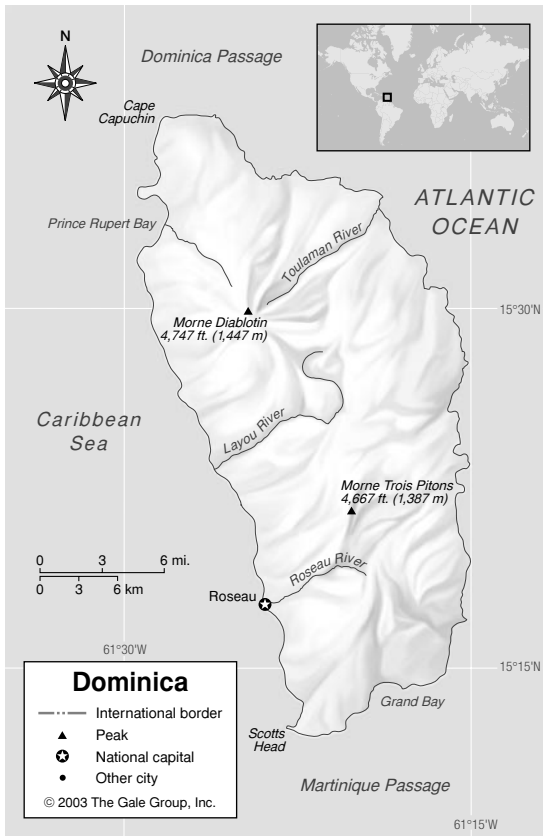
## 4 🌐 TOPOGRAPHIC REGIONS

The rugged, mountainous terrain that covers much of the interior is the island's outstanding physical feature. The Layou River plain at the center of the island bisects the two mountainous regions in the north and south.

## 5 🌐 OCEANS AND SEAS

Dominica is located between the Caribbean Sea and the North Atlantic Ocean, at the midpoint of the Leeward Islands. Whales and dolphins swim in the waters surrounding Dominica, with humpback whales migrating to the area during the winter months.

# DOMINICA



## Seacoast and Undersea Features

The mountainous terrain of Dominica extends under the sea. The waters surrounding the island are filled with coral reefs that support a diversity of marine life.

## Sea Inlets and Straits

Guadeloupe lies to the north of Dominica, across the Dominica Passage; Martinique is south, across the Martinique Passage.

## Islands and Archipelagos

Dominica is made up of one island in the eastern Caribbean Sea.

## Coastal Features

A thin coastal strip lies between the sea and the mountains. The coast, which is heavily indented on the eastern side of the island, is fringed with coral reefs. Black, gray, and white volcanic sand is found on the beaches. Cape Capuchin marks the northern end of the island, with Prince Rupert Bay not far south. Scotts Head and Grand Bay are at the southern end of the island.

## 6 🌐 INLAND LAKES

Dominica has a number of thermally active lakes, of which the best known is Boiling Lake, in the southeastern part of the island.

## 7 🌐 RIVERS AND WATERFALLS

There are many streams and rivers, but none are navigable. The main rivers are Indian, Espagnol, Layou, Roseau, and Queens running west to the Caribbean Sea, and Hodges, Tweed, Clyde, Maclaralin, Grand Bay, Rosalie, and Wanerie running east to the Atlantic.

## 8 🌐 DESERTS

There are no desert areas on Dominica.

## 9 🌐 FLAT AND ROLLING TERRAIN

There are no areas of flat or rolling terrain on Dominica.

## 10 🌐 MOUNTAINS AND VOLCANOES

Deep ridges, ravines, and valleys are etched in the densely wooded mountains. The island's highest peak, Morne Diablotins, is located in the mountains to the north. Its second-highest, Morne Trois Pitons—which, at 1,387 meters (4,550 feet), is nearly as high as Diablotins—is situated in the south. Other high peaks include Morne au Diable, Morne Brule, Morne Couronne, Morne Anglais, and Morne Plat Pays.

# DOMINICA



UNESCO/J.W.Thorsell

*Morne Trois Pitons is the second-highest peak in Dominica.*

## 11 CANYONS AND CAVES

Scuba enthusiasts explore several underwater caves while diving in the waters surrounding Dominica.

## 12 PLATEAUS AND MONOLITHS

There are no plateaus on Dominica.

### **DID YOU KNOW?**

**M**orne Trois Pitons National Park features the scenic Trafalgar Falls (70 meters /200 feet), made up of two waterfalls that flow together into a deep green pool.

## 13 MAN-MADE FEATURES

There are no man-made features affecting the geography of Dominica.

## 14 FURTHER READING

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# Dominican Republic

- **Official name:** Dominican Republic
- **Area:** 48,730 square kilometers (18,810 square miles)
- **Highest point on mainland:** Pico Duarte (3,175 meters/10,417 feet)
- **Lowest point on land:** Lake Enriquillo (46 meters/151 feet below sea level)
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 386 kilometers (240 miles) from east to west; 261 kilometers (162 miles) from north to south
- **Land boundaries:** Haiti 275 kilometers (177 miles)
- **Coastline:** 1,288 kilometers (800 miles)
- **Territorial sea limits:** 11 kilometers (6 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The Dominican Republic is a Caribbean country that covers the eastern two-thirds of the island of Hispaniola. The Atlantic Ocean forms its northern border and the Caribbean Sea its southern coast. Haiti is along the western border of the country. With a total area of about 48,730 square kilometers (18,810 square miles), the Dominican Republic is slightly more than twice the size of New Hampshire. The nation is divided into twenty-nine provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Dominican Republic has no territories or dependencies.

## 3 🌐 CLIMATE

The Dominican Republic has a semitropical climate tempered by the prevailing easterly winds. Temperatures range from 18° to 29°C (64° to 84°F) in the winter and from 23° to 35°C (73° to 95°F) in the summer. Temperatures

are highest along the coast and much cooler in the mountains.

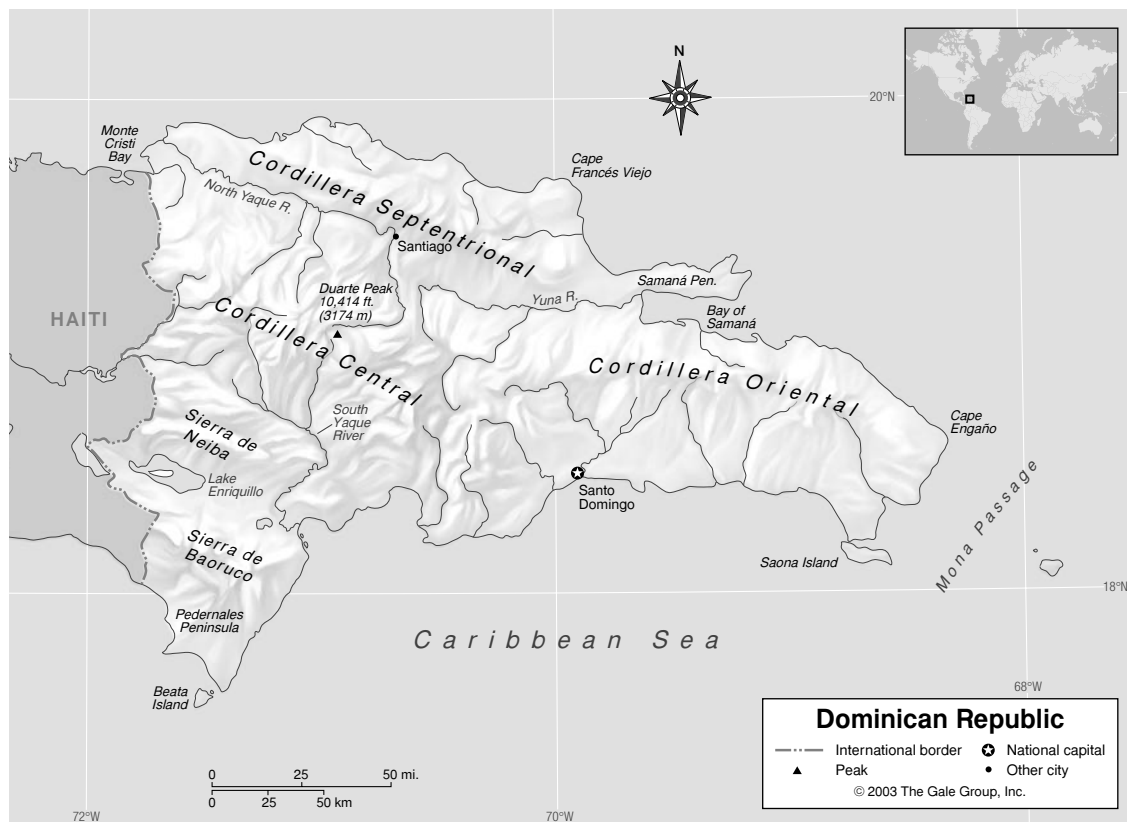
Annual precipitation averages about 152.5 centimeters (60 inches), but varies considerably by region, from 43 centimeters (17 inches) in the arid west to 135 centimeters (53 inches) in the east. The mountainous areas in the north have an average rainfall of about 208 centimeters (82 inches). The wet season is from June to November, with the dry season from December to May. Tropical hurricanes occur every few years and can cause great damage.

## 4 🌐 TOPOGRAPHIC REGIONS

The Dominican Republic has a rugged and mountainous terrain with fertile valleys in the central and eastern areas. The Cordillera Central mountain range runs from east to west throughout the center of the country. The expansive valleys that lie to the north and south of this range have rich soils. The Dominican



# DOMINICAN REPUBLIC



Republic is home to both the highest point and the lowest-elevation lake in the West Indies.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The Dominican Republic borders both the Atlantic Ocean and the Caribbean Sea. On the Atlantic coast, there is an offshore rocky ledge. This platform is highly developed in the shallow waters of the Bay of Samaná (Bahía de Samaná) and stretches westward along the northern coasts of the Dominican Republic and Haiti. The platform extends seaward from a width of a few hundred meters to more than 48 kilometers (30 miles) and a maximum depth of 61 meters (200 feet). In some spots, the shelf rises to form tiny islands and jagged coral reefs that lie close to the surface. These

reefs represent hazards to navigation in waters east of Monte Cristi.

### Sea Inlets and Straits

The Mona Passage is a 130-kilometer-wide (80-mile-wide) strait that separates the Dominican Republic from Puerto Rico. It connects the Atlantic Ocean with the Caribbean Sea.

### Islands and Archipelagos

Of the numerous islands scattered off the Dominican Republic's coastline, only three are permanently inhabited. The largest, Saona Island (Isla Saona), covers an area of about 144 square kilometers (60 square miles) and is located at the southeastern tip of Hispaniola. Beata Island (Isla Beata, 52 square kilometers/

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# DOMINICAN REPUBLIC

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EPD/Saxifraga/Adriaan Dijkse

*The Samaná Peninsula of the Dominican Republic has low-lying beaches.*

20 square miles) lies off the Pedernales Peninsula in the extreme west.

## Coastal Features

Sandy beaches and rocky escarpments (steep slopes that separate areas of different elevations) mark the northern coast. The Bay of Monte Cristi (Bahía de Monte Cristi) marks the westernmost part of the north coast. Further east, Cape Francés Viejo (Cabo Francés Viejo) projects north into the Atlantic. Southeast of Cape Francés Viejo, the Samaná Peninsula and its cape (Cabo Samaná) project eastward, forming a narrow bay of the same name.

The Caribbean coast in the south is better suited to port development, since there are fewer reefs and islets and inland access to ports is easier. The best of the natural harbors are located on rivers that meet the Caribbean

at the cities of Santo Domingo, San Pedro de Macorís, and La Romana. The Pedernales Peninsula juts into the Caribbean at the west end of this coastline, with the Bay of Neiba (Bahía de Neiba) on its eastern side. Otherwise, the coast is fairly even, meeting with the north coast to form Cape Engaño at the eastern end of the island.

## 6 INLAND LAKES

The largest of the country's natural lakes is Lake Enriquillo in the Neiba Valley. A remnant of the strait that once occupied the area, its surface is 46 meters (151 feet) below sea level, which also makes this lake the lowest point in the country and the lowest-lying lake in the West Indies. Although Lake Enriquillo is fed by many streams from the surrounding mountains and has no outlet, the high rate of evaporation in the valley is causing its waters gradually to recede. On Isla Cabritos, a small

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# DOMINICAN REPUBLIC

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EPD/Saxifraga/Adriaan Dijkse

*Scenery in the Sierra de Neiba, Dominican Republic.*

island in the center of Lake Enriquillo, there is a national park that supports and preserves the habitat of the crocodile.

## **7** 🌐 **RIVERS AND WATERFALLS**

The rivers of the Dominican Republic are mostly shallow and subject to wide seasonal change in flow. Consequently, they are of little use for transportation.

The North Yaque River (Yaque del Norte) is the country's longest river. It begins in the Cibao Valley and flows north for 280 kilometers (170 miles), emptying into the Atlantic Ocean near Monte Cristi. The Yuna River also begins near the Cibao Valley and runs northeastward into the Bay of Samaná. A large marshland area extends inland from the delta of the Yuna River. There is also an area of salt marshes along the rivers south of Monte Cristi Bay.

Two main rivers flow from the San Juan Valley. The Artibonito River (Río Artibonito) flows westward across the border and becomes the principal watercourse of Haiti. The South Yaque (Yaque del Sur) flows into the Caribbean at the Bay of Neiba.

## **8** 🌐 **DESERTS**

There are no desert regions in the Dominican Republic.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The largest of the lowland regions is the Caribbean Coastal Plain; the plain covers more than 2,849 square kilometers (1,100 square miles). It is composed principally of a limestone platform formed by corals and alluvial deposits. Inland, the soil is highly fertile, but the soil to the west of Santo Domingo is derived from acid clays and is not suited to agriculture. The

## DOMINICAN REPUBLIC

Caribbean Coastal Plain is the center of the country's cattle-raising and sugar industries.

The country's other lowlands consist of long valleys that extend northwest from origins close to the Caribbean Sea to lowlands in Haiti. The fertile soils of these flood plains and terraces are suitable for intensive agriculture, and the shallower soils provide good pasture. The most extensive of the valleys, the Cibao, is the breadbasket (center of grain cultivation and harvest) of the country.

The Cordillera Oriental is a narrow band of hills that stretches from the Cordillera Central through the eastern portion of the country to the Atlantic coast and the shore of the Bay of Samaná. The western third of the range permits fairly easy access from the capital city to the interior lowlands. The remainder is more rugged. Elevations are generally less than 305 meters (1,000 feet).

### 10 MOUNTAINS AND VOLCANOES

The principal mountain system is the Cordillera Central, which rises in the east near Santo Domingo and veers northwestward into Haiti, where it is called the Massif du Nord. The Cordillera Central divides the country into two parts. Its ridges crest between 1,524 and 2,438 meters (5,000 and 8,000 feet), but there are individual peaks with considerably greater heights. The highest peak in the country, Pico Duarte, is found in this range. Pico Duarte has an elevation of 3,175 meters (10,417 feet) and is the highest peak in the West Indies.

The two ranges that lie to the south of the Cordillera Central, the Sierra de Neiba and the Sierra de Baoruco, begin as escarpments flanking Neiba Bay and continue northwestward into Haiti. Elevations range between 914 and 1,219 meters (3,000 and 4,000 feet), but some peaks are as high as 1,828 meters (6,000 feet). The eastern part of the Sierra de Neiba

### DID YOU KNOW?

The West Indies is the chain of islands that extends from the south coast of Florida to the eastern coastline of Venezuela. The chain forms a northern boundary for the Caribbean Sea. Visited by Christopher Columbus in 1492, they were named by him in the mistaken belief that he had reached the Asian coast on his journey to discover a westward route to India.

is separated from the remainder of the range by the South Yaque and is known as the Sierra de Martin Garcfa. The Sierra de Baoruco is an extension of the southern mountain ranges of Haiti. North of the Cordillera Central lies the Cordillera Septentrional, a mountain range characterized by extremely steep slopes and deeply etched valleys.

### 11 CANYONS AND CAVES

The Cabarete Caves are now part of the El Choco National Park near the city of Cabarete. These limestone caves were the homes of the earliest Dominican Republic natives.

The Three Eyes of Water (Los Tres Ojos de Agua) is a series of caves located near Santo Domingo. The caves are named for the three lagoons that were created by the underground rivers that run through the caves. There are many stalactites and stalagmites throughout the caves, as well as lush tropical vegetation surrounding the lagoons.

### 12 PLATEAUS AND MONOLITHS

There are no major plateau regions in the Dominican Republic.

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# DOMINICAN REPUBLIC

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## 13 MAN-MADE FEATURES

A dam on the North Yaque River at Tavera creates a reservoir and provides irrigation for the central Cibao Valley.

## 14 FURTHER READING

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# East Timor

- **Official name:** East Timor
- **Area:** 14,609 square kilometers (5,641 square miles)
- **Highest point on mainland:** Tatamailau (2,964 meters/9,724 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 9 P.M. = noon GMT
- **Longest distances:** 265 kilometers (165 miles) from east to west; 92 kilometers (57 miles) from north to south
- **Land boundaries:** 172 kilometers (107 miles), all with Indonesia
- **Coastline:** 620 kilometers (385 miles)
- **Territorial sea limits:** Not established

## 1 🌐 LOCATION AND SIZE

The new nation of East Timor, a former Portuguese colony that had been controlled by Indonesia, became officially independent on May 20, 2002. East Timor consists of the eastern half of Timor Island, one of the Lesser Sunda Islands, plus the enclave of Oecussi (30 square miles/78 square kilometers) on the north coast of the Indonesian half of the island (West Timor).

The Banda Sea is to the north, the Timor Sea to the south. Many aspects of the new country, such as its territorial waters, had yet to be determined as of mid-2002.

## 2 🌐 TERRITORIES AND DEPENDENCIES

East Timor has no territories or dependencies.

## 3 🌐 CLIMATE

East Timor has an equatorial climate with two basic seasons: the hot northwest monsoon of November through May, and the cooler southeast monsoon of April through December. The average annual temperature is 21°C (70°F), with a range of 18°C to 32°C (64°F to 90°F) and humidity averaging 73 percent. On average, from 120 to 150 centimeters (47 to 59 inches)

of rain falls on East Timor each year. Precipitation varies greatly according to coast location and terrain. Due to its proximity to Australia, the south receives more rain than the north.

## 4 🌐 TOPOGRAPHIC REGIONS

The country is primarily mountainous, with many short streams, an elevated interior, and narrow coastal plains and wetlands. Dili, the capital, is located on a bay situated on the north coast.

## 5 🌐 OCEANS AND SEAS

East Timor is enclosed on the south by the rough waters of the Timor Sea (part of the Indian Ocean) and on the north by the calmer Banda Sea of the Pacific Ocean. The enclave of Oecussi is on the Savu Sea of the Pacific Ocean.

## Seacoast and Undersea Features

Although East Timor has extensive coral reefs, they have sustained damage from dynamite fishing.

## Sea Inlets and Straits

The deep Wetar Strait separates East Timor from Indonesia's Wetar Island to the north.

# EAST TIMOR



Australia is about 500 kilometers (311 miles) to the south across the Timor Gap.

## Islands and Archipelagos

Atauro Island lies 141 square kilometers (54 square miles) north of Dili. Jaco Island (11 square kilometers/4 square miles), off the easternmost point of East Timor, is a Protected Wild Area.

## Coastal Features

East Timor's coastline has little indentation, with steep slopes along the north coast, and river outlets meeting the sea. The easternmost point is Tutuala Beach, which is a Protected Wild Area, as is Christo Rei Beach. The wetlands of East Timor are mostly marshes in estuaries along the south coast and small mangrove swamps.

## 6 🌐 INLAND LAKES

The largest lake in East Timor is Lake Iralalero, in the far east of the island. With an area of 19

square kilometers (8 square miles), the lake is surrounded by much of the country's remaining rainforest, which constitutes a Protected Wild Area. Smaller lakes include Be Malae, Maubara, and Tibar.

## 7 🌐 RIVERS AND WATERFALLS

East Timor has twenty-five rivers or streams, all of which originate in the central mountains. They experience strong torrential flow during rainy periods, but their water levels drop severely in the dry months. Significant rivers include the Lois (80 kilometers/50 miles), which is the country's longest, as well as the Laklo, Karau Ulun, and Tafara, all in the south. The Tono River runs through Oecussi. There are hot springs along the Marobo River, in the north border region, and waterfalls occur throughout the country.

## 8 🌐 DESERTS

An area between Venilale and Los Palos in the far east of the island has been desertified severely; it is now known as "dead earth," where very little will grow.

## 9 🌐 FLAT AND ROLLING TERRAIN

East Timor has extensive grasslands on its coastal plains and hillsides.

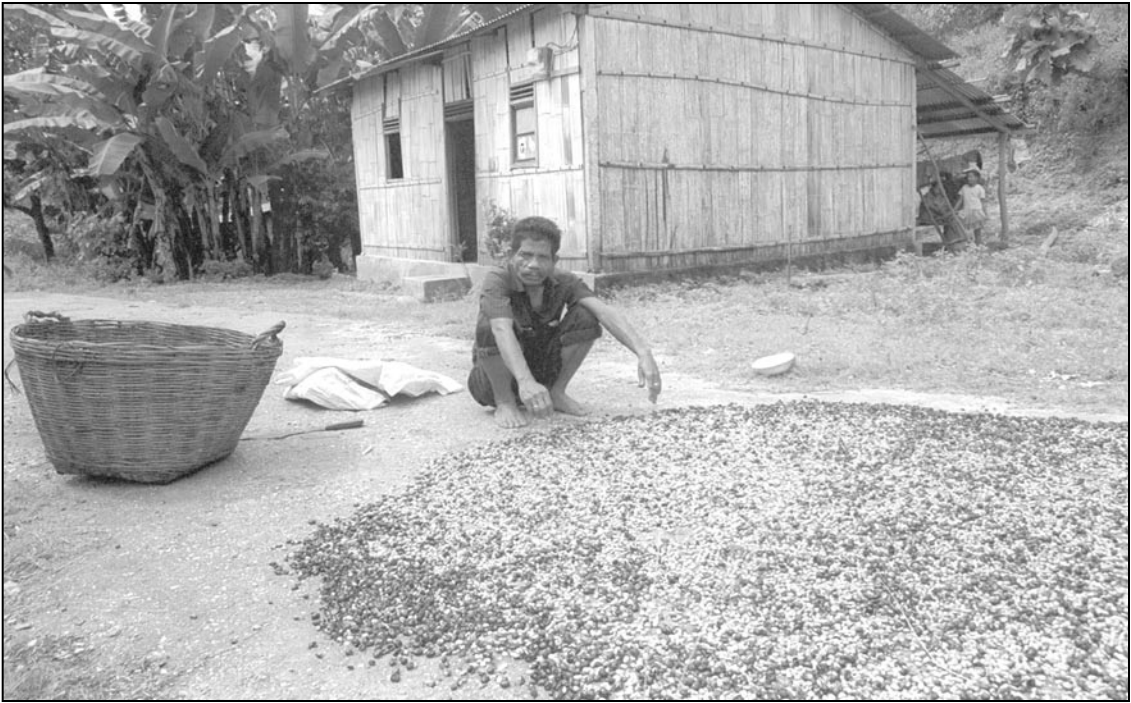
## 10 🌐 MOUNTAINS AND VOLCANOES

The Ramalau, the central mountain range of East Timor, is characterized by deep valleys and looming cliffs. Tatamailau (2,964 meters/9,724 feet) is the highest peak in the country. Six other summits rise above 2,000 meters (6,566 feet): Sabiria, Usululi, Harupai, Cablake, Laklo, and Matebian.

## 11 🌐 CANYONS AND CAVES

River gorges and deep streambeds cut through the center of the country.

# EAST TIMOR



AP Photo/Joel Rubin

*An East Timorese coffee farmer dries his coffee beans.*

## 12 🌐 PLATEAUS AND MONOLITHS

In the east, Fuiloro, a plateau with elevations of 500 to 700 meters (1,640 to 2,297 feet), is the remnant of a fossil atoll. Nari, Lospalos, and Rere are other eastern plateaus. Baucau and Laga are coral-rock plateaus along the north coast, and the Maliana Plateau rises along the West Timor border.

## 13 🌐 MAN-MADE FEATURES

East Timor is a poor country with an undeveloped infrastructure and no outstanding man-made features. Even before the damage caused by the violent fighting that preceded statehood, only about one-fifth of all households had electricity, and paved roads reached only half of all villages.

## 14 🌐 FURTHER READING

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# Ecuador

- **Official name:** Republic of Ecuador
- **Area:** 283,560 square kilometers (109,483 square miles), including the Galápagos Islands
- **Highest point on mainland:** Chimborazo (6,267 meters/20,681 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern, Southern, and Western
- **Time zones:** Mainland: 7 A.M. = noon GMT; Galápagos Islands: 6 A.M. = noon GMT
- **Longest distances:** 714 kilometers (444 miles) from north to south; 658 kilometers (409 miles) from east to west
- **Land boundaries:** 2,010 kilometers (1,158 miles) total boundary length; Colombia 590 kilometers (366 miles); Peru 1,420 kilometers (880 miles)
- **Coastline:** 2,237 kilometers (1,398 miles)
- **Territorial sea limits:** 363 kilometers (200 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Ecuador is a small country on the western coast of South America. Its name comes from its location on the equator. It is bordered by Colombia to the northeast, and by Peru to the east and southeast. To the west lies the Pacific Ocean. The Galápagos Islands, which are located far off the western shore of the country, form one of the twenty-two provinces of Ecuador. With a total land area of about 283,560 square kilometers (109,483 square miles), the country is slightly smaller than the state of Nevada.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Ecuador has no territories or dependencies.

## 3 🌐 CLIMATE

Ecuador has a generally tropical climate, but there are slight variations between regions. The cold Peruvian Current in the Pacific Ocean keeps the coastal region cool, with temperatures ranging from 25° to 31°C (76° to 90°F). In the Sierra region, temperatures depend on

altitude, with cooler temperatures at higher altitudes; the temperature can vary greatly over the course of the day. The highest mountains are snow-covered year-round. The Eastern Region normally has a warm, humid, and rainy climate. The average temperature there varies from 23°C to 26°C (72°F to 80°F). The Galápagos Islands enjoy warm and dry weather, with an average temperature of 28°C (85°F).

The southern part of the Sierra generally has heavy rainfall, with precipitation decreasing with altitude. Both the Sierra and the Costa get most of their rain between December and June. The Eastern Region is rainy year-round, however, with some areas receiving nearly 500 centimeters (200 inches) of rain annually. The Galápagos receive very little rainfall, but most of it occurs between January and April.

Rainfall can vary greatly in Ecuador. The country sometimes has periods of drought; at other times, heavy rainfall can result in flooding.

# ECUADOR



## 4 TOPOGRAPHIC REGIONS

The country's mainland divides naturally into three regions: a coastal lowland, known as the Costa; a central mass made up of the Andean highlands, called the Sierra; and an interior lowland that forms part of the Amazon Basin, called the Eastern Region (Oriente). A fourth region is made up of the Galápagos Islands. Ecuador is geologically active, with many volcanic eruptions and frequent earthquakes. It is situated on the South American Tectonic Plate, with the Nazca Plate off the coast to the west.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Ecuador's western boundary is the Pacific Ocean, but the continental shelf of South America extends westward to the Galápagos Islands. The cold Peruvian Current moderates

the climate of the Ecuador coast and the Galápagos Islands.

### Sea Inlets and Straits

The Gulf of Guayaquil (Golfo de Guayaquil) is an indentation at the southwestern end of Ecuador's coast, separated from the open ocean by the Santa Elena Peninsula. The large inhabited Puná Island lies in the Gulf.

### Islands and Archipelagos

The Galápagos Islands, a province of Ecuador, lie far off the western coast of the country and are situated directly on the equator. The largest islands are Isabela Island, Santa Cruz Island, Santiago Island, Fernandina Island, Santa María Island, Pinta Island, San Cristóbal Island, Marchena Island, and Española Island. Only five of the islands have permanent populations and over half of the inhabitants live on San Cristóbal Island. The highest elevation on the Galápagos is Mount Azul, a 1,689-meter-high (5,540-foot-high) volcanic peak found on Isabela, the largest island.

### Coastal Features

The land along the coast offers beautiful mangrove forests and several popular beaches.

## 6 INLAND LAKES

There are more than 275 lakes in the Sierra region, including many volcanic crater lakes. Among the most famous is the Cuicocha Crater Lake, in the Cotachi-Cayapas Ecological Reserve. Situated in a collapsed volcanic crater, the lake is 200 meters (600 feet) deep and almost 3 kilometers (2 miles) in diameter.

## 7 RIVERS AND WATERFALLS

All of Ecuador's major rivers have their sources in the Andes. The most important river system of the coastal region is that of the Guayas River and its tributaries, especially the Daule.

# ECUADOR



EPD/Wilko Gijbsbertsen

*The Galápagos Islands of Ecuador.*

These waterways flow south and west into the Gulf of Guayaquil.

Many rivers flow east out of the Andes into the Eastern Region. Among the most significant rivers are the Pastaza, Napo, Santiago (or Zamora), Paute, Curaray, Tigre, Morona (Macuma), and Aguarico. These rivers have carved deep trenches that interfere with land transportation and limit the amount of land suitable for cultivation.

The longest river in Ecuador is the Putumayo (1,575 kilometers/980 miles), which flows east along the border with Colombia. All Eastern Region rivers eventually find their way to the Atlantic Ocean through the Amazon River.

## **8** 🌐 **DESERTS**

There are no desert regions in Ecuador.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The western coast, called the Costa, is sometimes identified in English as the Coastal Lowlands and in Spanish as the Litoral or Littoral. The coastal region includes the basin surrounding the Guayas River drainage system; it is the country's richest agricultural zone. Since the Costa stretches through a variety of climate zones, the vegetation varies throughout the area. The Costa extends eastward into the country to be replaced by the abrupt rise of the Andean Sierra region.

Ecuador's Eastern Region is part of the greater geographical region known as the Amazon River Basin. The region is watered by a multitude of rivers and streams, several of which serve as tributaries of the Amazon River. The Eastern Region covers about 50 percent of the country and alternates between flatland



EPD/Wilko Gijbsbertsen

*Cactii (plural of cactus) thrive in the dry, rocky, volcanic soil of Ecuador.*

and gently undulating tropical rainforest terrain.

The trench between the Cordillera Occidental and Cordillera Central was named the Avenue of the Volcanoes by the nineteenth-century naturalist Baron Alexander von Humboldt, and is now often referred to as the Inter-Andean Lane (Callejón Interandino). Hill systems run between the mountain ranges, breaking the lane into a series of basins, calle *hoyos*, in which most of the region's population live.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Two parallel ranges of the Andes Mountains create the Sierra highland region. In the west, the Cordillera Occidental is a high range extending the full length of the country from north to south. To the east, the Cordillera

Central is a series of lofty peaks. Both ranges are of volcanic origin.

Still further east is a chain of lower mountains called the Cordillera Oriental.

In all, the Sierra has at least twenty-two peaks with elevations over 4,267 meters (14,000 feet). Many are active or dormant volcanoes. The highest summit, Chimborazo (6,267 meters/20,681 feet), is a snow-capped volcano located in the central portion of the country. Cotopaxi, (5,896 meters/19,344 feet) is the highest active volcano in the world.

## **11** 🌐 **CANYONS AND CAVES**

There are a number of caves scattered throughout Napo Province. The most popular, however, are the Caves of Jumandi, three caverns that were formed by an underground river.

## DID YOU KNOW?

Galápagos is an ancient Spanish word for "Tortoise." The Galápagos Islands were discovered in 1535 by the Spanish navigator Tomás de Bertanga, who named the islands for the gigantic land tortoises found there. The islands became famous throughout the world after the 1835 visit by Charles Darwin on the HMS *Beagle*. Darwin gathered evidence on plant and wildlife species on the islands, data which he later used to formulate his theory of evolution based on natural selection. His revolutionary ideas were published in his book *On the Origin of Species* in 1859.

Besides the tortoises, the Galápagos Islands are also home to a variety of land and marine animals and dozens of unique birds, such as the flightless cormorant, which exists nowhere else in the world. About 90 percent of the islands are now set aside as protected wildlife reserves, some with access strictly limited to biologists and other researchers.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no significant plateau regions in Ecuador.

## 13 🌐 MAN-MADE FEATURES

The Amaluza Dam is located on the Paute River in the province of Azuay. This public works project, completed in 1982, produces most of the country's electricity.

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# Egypt

- **Official name:** Arab Republic of Egypt
- **Area:** 1,001,450 square kilometers (386,599 square miles)
- **Highest point on mainland:** Mount Catherine (2,629 meters/8,625 feet)
- **Lowest point on land:** Qattara Depression (133 meters/439 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 1,572 kilometers (997 miles) from southeast to northwest; 1,196 kilometers (743 miles) from northeast to southwest
- **Land boundaries:** 2,689 kilometers (1,667 miles) total boundary length; Israel 266 kilometers (165 miles includes Gaza Strip, 11 kilometers/7 miles); Libya 1,150 kilometers (713 miles); Sudan 1,273 kilometers (789 miles)
- **Coastline:** 2,450 kilometers (1,522 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Located in the northeast corner of Africa, Egypt is east of Libya, north of Sudan, west of the Red Sea, and south of the Mediterranean Sea. The country extends into the Sinai Peninsula in Asia, where it shares a border with Israel. Covering a total area of about 1,001,450 square kilometers (386,599 square miles), it is slightly larger than three times the size of the state of New Mexico. Egypt is divided into twenty-six governorates.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Egypt has no territories or dependencies.

## 3 🌐 CLIMATE

Egypt experiences mild winters (November to April) and hot summers (May to October). In Alexandria, located in the north on the Mediterranean coast, the average temperature ranges from 13°C (56°F) in December and January to 26°C (79°F) in July

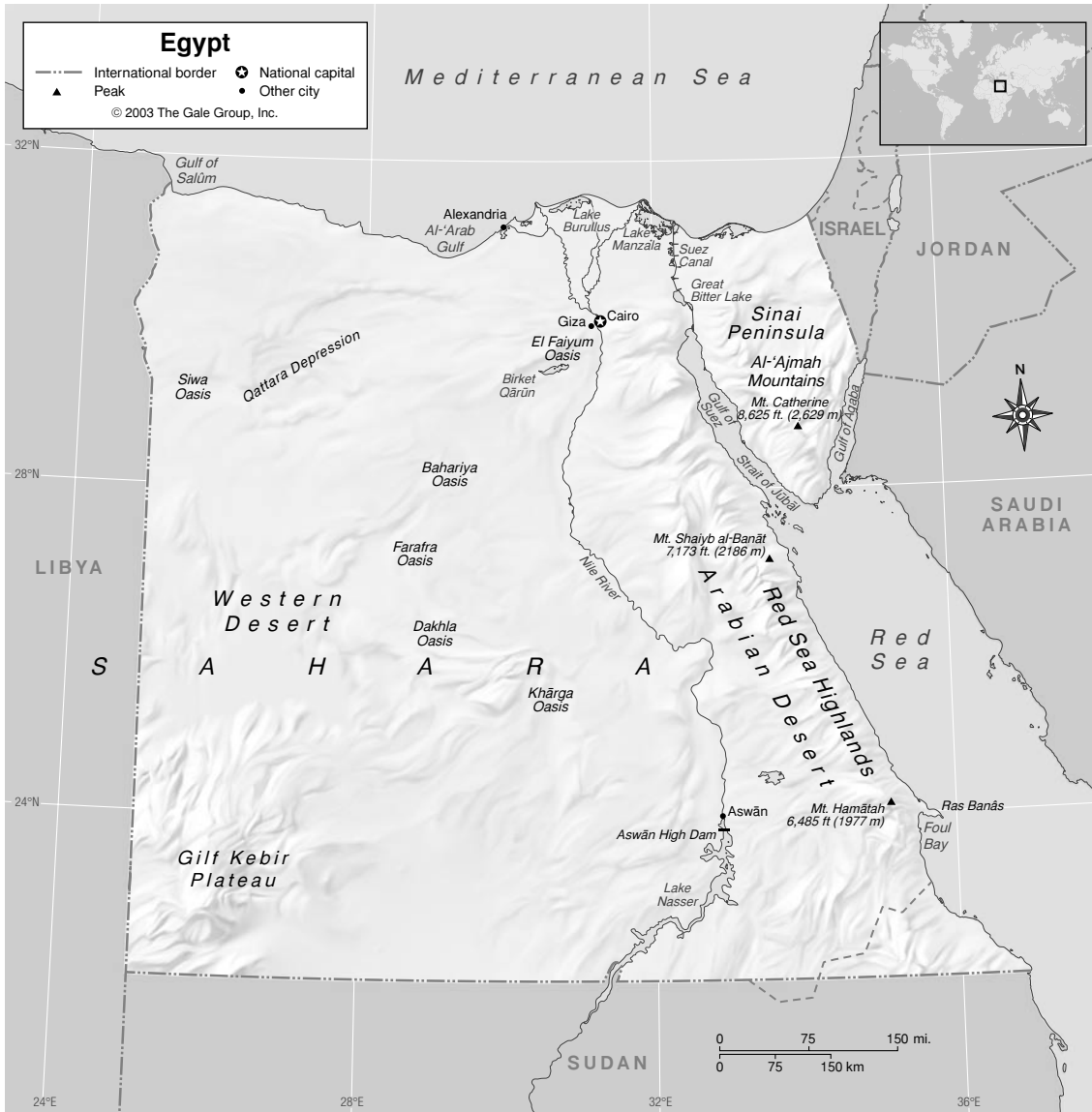
and August. Cairo, farther to the south, posts average lows of 14°C (57°F) in January and average highs of 28°C (82°F) in July. Aswan, located in the southern region, is considerably warmer with average temperatures of 16°C (60°F) in January and 34°C (93°F) in July, although highs exceeding 50°C (120°F) are not uncommon.

Except for the areas along the Mediterranean coast, where winter rains are frequent, rainfall in Egypt's harsh desert climate is scarce to nonexistent. During the summer months, even the coast receives little or no rain. As a result, droughts and windstorms (called *kham-sin*) occur often. The country also experiences frequent earthquakes and volcanic activity.

## 4 🌐 TOPOGRAPHIC REGIONS

The entire country lies within the wide band of the Sahara Desert. Therefore, most of Egypt's terrain is hot, dry desert, which covers about 96 percent of

# EGYPT



the country's surface. Most of the population finds shelter and food in the remaining territory—the long, narrow, Nile Valley and its delta—an area of only about 38,850 square kilometers (15,000 square miles).

The four major regional divisions in the country are the Nile Valley and Delta, the Western Desert, the Arabian Desert (Eastern

Desert) and Red Sea Highlands, and the Sinai Peninsula. The desert areas provide a habitat for many species of snakes and scorpions, *fennec* (desert foxes), and camels—both the two-humped Bactrian camel and the one-humped dromedary. The Nile River provides a habitat for the Nile crocodile and many water bird species, including the ibis.

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# EGYPT

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EPD/Saxifraga/Janus Verker

*Egyptian lake filled with lush vegetation.*

Although most of Egypt lies on the African Tectonic Plate, the Sinai Peninsula lies on the Arabian Plate.

## **5** 🌐 **OCEANS AND SEAS**

### **Seacoast and Undersea Features**

Egypt lies between the Red Sea to the east and the Mediterranean Sea to the north.

The Red Sea is a narrow, landlocked sea that separates Africa from the Arabian Peninsula. It links to the Mediterranean through the Gulf of Suez and the Suez Canal. In the south, the sea links to the Gulf of Aden and the Arabian Sea through the strait of Bab el Mandeb.

The Mediterranean Sea is a larger landlocked sea that links to the Atlantic Ocean through the Strait of Gibraltar.

### **Sea Inlets and Straits**

Two noteworthy inlets along the Mediterranean shore are the Gulf of Salûm, near the Libyan border, and the Al-Arab Gulf, west of the Nile Delta. The Gulf of Aqaba is east of the Sinai Peninsula. The Gulf of Suez is west of the Sinai Peninsula; it is separated from the open sea by the Strait of Jübâl.

### **Islands and Archipelagos**

Two small islands situated off the coast of Egypt in the Red Sea, the Brother Islands, are actually the tops of two massive reef pillars that extend up from the bottom of the sea. These islands have become popular sites for divers exploring the surrounding coral reefs.

About 144 small permanent islands line the course of the Nile River, and about 216 sea-



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# EGYPT

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EPD/Saxifraga/Adriaan Dijkse

*The landscape along the coast of the Red Sea in Egypt is dry and barren.*

sonal islands appear and disappear depending on the water level. The Egyptian government plans to designate these islands as natural preserves.

## Coastal Features

Although undeveloped and relatively unpopulated, miles of white sand beaches cover the Egyptian coast along the Mediterranean Sea. The azure water is warm in summer and cold in winter.

The Sinai Peninsula projects into the northern end of the Red Sea. Its terrain is mainly covered by sand desert, punctuated by mountains that reach elevations as high as 2,637 meters (8,652 feet); these include Mt. Sinai, at 2,285 meters (7,498 feet).

The shoreline of the Red Sea is regular, with the exception of the small Ras Banâs peninsula in the south and the associated Foul Bay.

## 6 🌐 INLAND LAKES

In the north near the coast, the Nile Delta surrounds a series of lakes, including: Maryut, Idku, Burullus, and Manzala. The Great Bitter Lake forms a part of the Suez Canal. Birket Qārūn is a salt lake in the El Faiyum depression.

## 7 🌐 RIVERS AND WATERFALLS

The Nile River (Al-Bahr) extends across Egypt from south to north for roughly 1,600 kilometers (992 miles). With a total length of 6,693 kilometers (4,160 miles), the Nile is the longest river in the world, although other rivers carry more water. The Egyptian Nile is a combination of the White Nile, originating in Lake Victoria in Uganda and Tanzania, and the Blue Nile, originating in Ethiopia. These rivers meet in Sudan. Throughout its length in Egypt no other tributary streams enter the Nile. It enters Egypt in the form of Lake Nasser.

## DID YOU KNOW?

The Sahara Desert, which covers an area of 9,065,000 square kilometers (3,500,000 square miles), is the largest desert in the world. It blankets the entire region of North Africa, from the Atlantic coast in the west to the Red Sea in the east. The Sahara borders the Mediterranean Sea and the Atlas Mountains in the north, extending south into the Sudan and a region known as the Sahel. Scientists believe that during the Ice Age (about fifty thousand to one hundred thousand years ago), the Sahara was covered with shallow lakes that provided water for large areas of lush vegetation.

North of the capital city of Cairo, the Nile branches out into a delta. Historically there were as many as seven channels to the delta, but now only two remain, the Rosetta in the west and the Damietta in the east. Between and around these channels are many small streams, irrigation canals, ponds, lakes, and marshes, growing saltier as one approaches the sea.

The Nile was once famous for its floods. These floods were due to heavy seasonal rainfall in Ethiopia, which caused the flow of the Blue Nile and Atbara to fluctuate. The floods were unpredictable and could be destructive, but also provided vast amounts of fresh, fertile,

soil. The great Nile floods are now controlled by the Aswān High Dam.

The topographic channel through which the Nile flows across the Sahara causes an interruption in the desert so that the contrast between the Nile Valley and the rest of the country is abrupt and dramatic.

## 8 DESERTS

Egypt lies completely within the region of the Sahara Desert, but two separate desert divisions are made within the country.

The Western Desert accounts for almost three-fourths of the total land area of Egypt. To the west of the Nile this immense desert spans the area from the Mediterranean south to the Sudanese border. It is a barren region of rock and sand, with occasional ridges or depressions but very little vegetation.

There are seven important depressions in the Western Desert, and all are considered oases except the largest, Qattara, which contains only salt water. The remaining oases depressions have fresh water provided either by the Nile waters or from local groundwater sources.

The Qattara Depression is located in the northwest, halfway between the Nile and the Libyan border and 50 miles (80 kilometers) from the Mediterranean coast. It is a desolate area of badlands, salt marshes, and brackish lakes, lying mostly below sea level. The Siwa Oasis, close to the Libyan border and west of Qattara, is isolated from the rest of the country, but has sustained life since ancient times. The El Faiyum Oasis, sometimes called the Faiyum Depression, is 64 kilometers (40 miles) southwest of Cairo. Around 3,600 years ago a canal was constructed from the Nile to the El Faiyum Oasis, probably to divert excessive floodwaters there. Over time

this has produced an irrigated area of over 1,813 square kilometers (700 square miles).

On the floors of the remaining depressions, artesian water is available to support limited populations. The Bahariya Oasis lies 338 kilometers (210 miles) southwest of Cairo and the Farafra Oasis, larger but sparsely populated, lies directly south. The Dakhla and Kharga oases complete the chain to the south.

The Arabian Desert, east of the Nile, is quite dissimilar from the Western Desert. While equally arid, it is more elevated and rugged, with the Red Sea Highlands along the shoreline.

## 9 🌐 FLAT AND ROLLING TERRAIN

There are no significant plains or prairie regions in Egypt.

The Nile Valley and its delta is a long narrow strip of fertile land created by the Nile's never-ending supply of fresh water and sediment. It is in effect the world's largest oasis, and makes up virtually all of Egypt's fertile land. The delta is roughly 250 kilometers (155 miles) wide at the seaward base and about 160 kilometers (100 miles) long from north to south. Once a broad estuary, it was gradually filled by the Nile's sediment to become rich farmland.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Red Sea Highlands run along the coast of the sea for which they are named. It is a region of hills and rugged mountains that is extremely arid. Notable peaks include Mt. Shāiyb al-Banāt (2,186 meters/7,173 feet) and Mt. Hamātah (1,977 meters/6,485 feet).

The Al-Ajmah Mountains on the Sinai Peninsula are an extension of the Red Sea Highlands. They run through the southern part of the peninsula. Egypt's highest peak,

Mt. Catherine (Gebel Katherina; 2,629 meters/8,625 feet), is located there.

## 11 🌐 CANYONS AND CAVES

The Cave of Swimmers is located in an area called Wadi Sora, which lies in southwest Egypt near the western edge of the Gilf Kebir plateau. It was discovered during an expedition by László Almásy in 1933. The name of the cave comes from the rock paintings found there, which seem to resemble people swimming. When Almásy published his discovery, he set forth the theory that these paintings depicted scenes from the real life of the ancient inhabitants, thus supporting the idea that this now desert area was once a valley that contained a river (as the term "wadi" suggests).

Also in Wadi Sora is Giraffe Gave, which was discovered by P.A. Clayton in 1931. This cave gets its name from the engravings of giraffes found within it.

## 12 🌐 PLATEAUS AND MONOLITHS

The Gilf Kebir rises out of the desert near the southwest boundary with Libya. It has an altitude of over 914 meters (3,000 feet), an exception to the otherwise flat terrain of western Egypt.

The Arabian Desert rises abruptly from the Nile Valley, sloping upwards in a plateau of sand, before giving way to the rocky hills and mountains of the Red Sea Highlands.

## 13 🌐 MAN-MADE FEATURES

The Aswan High Dam on the Nile River is one of the world's largest dams. The dam system essentially regulates the flow of the Nile. Although it ended the annual floods of the river, it also prevented fertile silt from being carried further downstream. When the dam was completed in 1970, it created Lake Nasser.

## DID YOU KNOW?

Constructed between 2700 and 2500 B.C., the pyramids are the last surviving structures of the Seven Wonders of the Ancient World. The largest of the Egyptian pyramids, which rises over 137 meters (450 feet), was built as a tomb to house the body of Pharaoh Khufu. Historians believe that it must have taken one hundred thousand slave laborers over twenty years to complete it.

Another of the Seven Wonders of the Ancient World, the Pharos Lighthouse of Alexandria, built at about 270 B.C., was one of the tallest buildings of its time. Standing over 122 meters (400 feet) high, it was located on the small island of Pharos just off the coast. King Ptolemy II ordered its construction to help guide sailors through the harbor to the shores of Alexandria. At night, a fire served as the lighthouse's signal. During the day, sunlight was reflected from a mirror built into the top. The reflected light could be seen up to 50 kilometers (35 miles) away.

Lake Nasser, the largest lake in the country, covers an area of about 3,942 square kilometers (1,522 square miles). The lake extends south from the dam about 322 kilometers (200 miles), to the border with Sudan, and continues another 99 miles (159 kilometers) into that neighboring country.

The Suez Canal connects the Mediterranean Sea with the Gulf of Suez. The canal travels a length of 163 kilometers (101 miles), with a minimum width of 55 meters (179 feet) and a depth of at least 12 meters (40 feet). The canal has been one of the world's most important waterways since its completion in 1869.

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- Roberts, Paul William. *River in the Desert: Modern Travels in Ancient Egypt*. New York: Random House, 1993.

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# El Salvador

- **Official name:** Republic of El Salvador
- **Area:** 21,040 square kilometers (8,124 square miles)
- **Highest point on mainland:** Mount El Pital (Cerro El Pital) (2,730 meters/8,957 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Western and Southern
- **Time zone:** 6 A.M. = noon GMT
- **Longest distances:** 142 kilometers (88 miles) from north to south; 270 kilometers (168 miles) from west-northwest to east-southeast
- **Land boundaries:** 545 kilometers (339 miles) total boundary length; Guatemala 203 kilometers (126 miles); Honduras 342 kilometers (213 miles)
- **Coastline:** 307 kilometers (191 miles)
- **Territorial sea limits:** 363 kilometers (200 nautical miles)

## 1 🌐 LOCATION AND SIZE

El Salvador is located on the south side of the Central America isthmus. It has a southern coastline along the North Pacific Ocean and shares borders with Guatemala to the northwest and Honduras to the northeast. With an area of about 21,040 square kilometers (8,124 square miles), the country is slightly smaller than the state of Massachusetts. El Salvador is divided into fourteen departments.

## 2 🌐 TERRITORIES AND DEPENDENCIES

El Salvador has no territories or dependencies.

## 3 🌐 CLIMATE

Temperatures in tropical El Salvador vary more with altitude than with season. The average temperature in the central highlands is 28°C (74°F) year round. But along the coast and at lower altitudes, the temperatures tend to be hotter, while in the northern mountains, the climate tends to be cooler. Even at the highest elevations, the climate remains temperate, rarely approaching freezing even in the winter.

Most rainfall occurs during the winter, which runs from May to October. The heaviest rains are along the coast. During the wet season, this region averages 216 centimeters (85 inches), while the drier northwest area averages 150 centimeters (60 inches). Summer is the dry season, lasting from November to April.

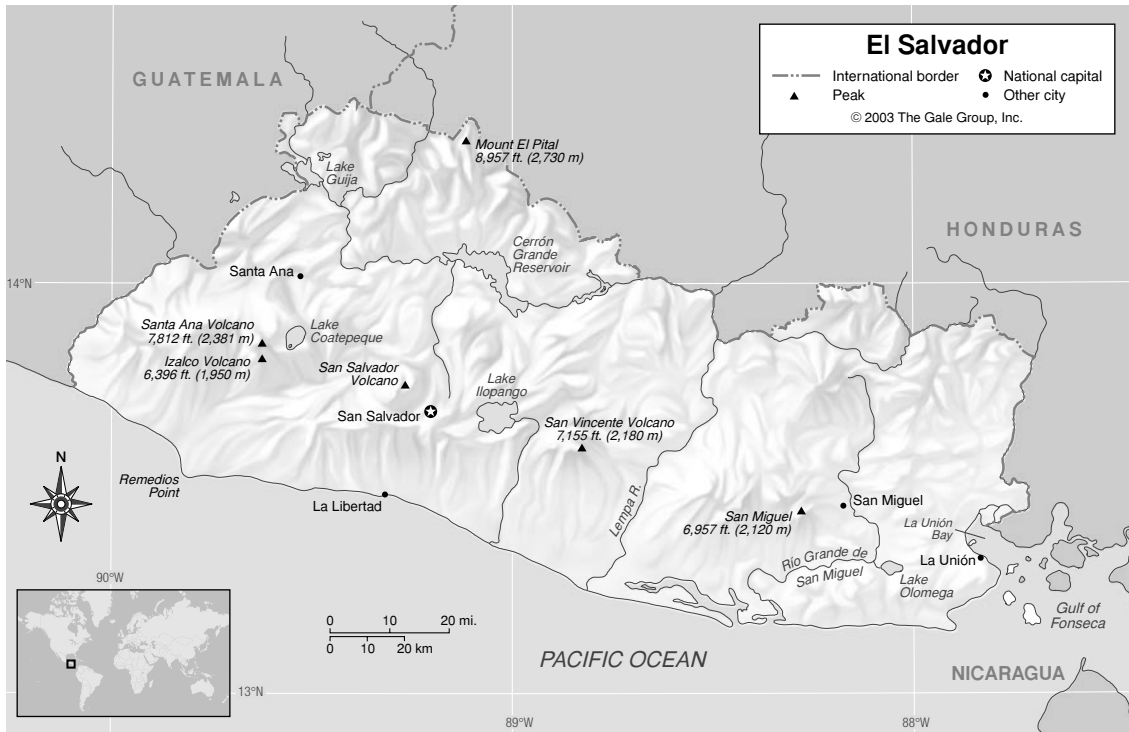
Heavy rains have become a hazard, mostly due to deforestation of the countryside. Hurricanes have caused massive landslides, property damage, and loss of life.

## 4 🌐 TOPOGRAPHIC REGIONS

El Salvador is divided into three geographic regions: the hot, narrow Pacific coastal belt; the central plateau; and the northern lowlands.

El Salvador is one of the most seismically active, earthquake-vulnerable areas in the Western Hemisphere. The country lies between two areas of active tectonic plate movement. In southern El Salvador, on the Pacific Ocean side, the Cocos Plate pushes itself under the relatively motionless Caribbean Plate (a process called subduction), accounting for frequent earthquakes near the coast. As the

# EL SALVADOR



ocean floor is forced down, the submerged rocks melt, and the molten material spews up through fissures, producing volcanoes and geysers.

North of El Salvador, the North American Tectonic Plate abuts one edge of the same stationary Caribbean Plate, creating a major fault that runs the length of Río Motagua Valley in Guatemala. Motion along this fault generates earthquakes in both Guatemala and the northernmost part of El Salvador.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

El Salvador's southern border is the Pacific Ocean. Off the coast lies a deep ocean valley, called the Middle America Trench, which was created by movement of the Cocos Tectonic Plate.

### Sea Inlets and Straits

At its southeastern tip, El Salvador faces Nicaragua across the Gulf of Fonseca (Golfo de Fonseca), with La Unión Bay lying between El Salvador and Honduras, just off the town of La Unión in the northwestern Gulf. Further west is Jiquilisco Bay, a narrow inlet that forms a long westward-reaching finger of water.

### Islands and Archipelagos

The small islands of Meanguera and Meanguerita lie in the Gulf of Fonseca. The coasts of these islands are covered with mangroves.

### Coastal Features

The area between the coastal range and the shoreline is relatively narrow; it spans about 32 kilometers (20 miles) at its widest point in the eastern end of the country, until

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## EL SALVADOR

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AP Photo/ Douglas Engle

*A field worker picks up stocks of sugar cane in a field north of San Salvador.*

it eventually disappears at the western end. The beaches are black volcanic sand with many marshes. Near the small port of La Libertad, volcanoes fall steeply to the sea, leaving virtually no beach.

West of La Libertad is the popular 75-kilometer-long (45-mile-long) beach known as Balsam Coast (Costa de Bálsamo). Remedios Point (Punta Remedios) is near the westernmost end of the country.

### **6** **INLAND LAKES**

El Salvador contains hundreds of tiny lakes and a few larger ones. The largest lake, the scenic Lake Ilopango (Lago de Ilopango), lies just east of San Salvador and contains emerald-blue water in the caldera (crater formed by the eruption of a volcano) of an inactive

volcano. The lake has an area of about 65 square kilometers (25 square miles). In the late 1800s, an island, Burnt Island (or *Islas Quemadas*), appeared in the middle of the lake, perhaps as a result of receding water levels or seismic activity.

A second volcanic lake, Lake Coatepeque, is smaller in surface area but it is so deep, its lowest point is unknown. It is located in Cerro Verde National Park, located due north of Lago de Ilopango. A third lake, Lake Guija, lies in the northwest region on the border with Guatemala.

Jocotal Lagoon (Laguna del Jocotal) is really a permanent freshwater lake that covers 1,570 hectares (3,880 acres). The lake is 3 meters (10 feet) deep during the wet season but it

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# EL SALVADOR

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recedes to less than 1.1 meters (4 feet) deep during the dry season. The lake is eutrophic (especially supportive of plant life) and much of the surface is covered with floating vegetation. In 1978 a wildlife sanctuary was created at the site. In May 1999, the Ramsar Convention on Wetlands registered the surrounding marsh as an internationally significant wetland. Jocotal Lagoon is located just south of the San Miguel Volcano.

## 7 RIVERS AND WATERFALLS

The Lempa River (Río Lemopa) is the longest river in El Salvador. It is also the only navigable river in the country. The Lempa originates in Guatemala, flowing for a short distance through Honduras before entering El Salvador. The total length of the river is 320 kilometers (200 miles). The portion that flows through El Salvador is approximately 257 kilometers (160 miles) long. Once in El Salvador, the river turns east near Lake Guija, where it is fed by a tributary from the lake. From there, the Lempa continues in an easterly direction about halfway across the country, then turns south to empty into the Pacific Ocean. The area around the mouth of the Lempa is known as Montecristo Island (Isla Montecristo). It is undeveloped with lush stands of mangroves. Hundreds of smaller rivers and streams drain from the highlands directly into the Pacific Ocean or are tributaries of the Lempa.

The Río Grande de San Miguel flows in the eastern part of the country, originating north of San Francisco and continuing southward past San Miguel. It joins a tributary that flows from Lake Olomega, and the two combined waterways then meander westward for about 40 kilometers (25 miles) before turning south to the Pacific Ocean. Another river, the Jiboa, flows from Lake Ilopango to the Pacific, where its mouth marks the country's approximate midpoint.

## 8 DESERTS

Although there are no true deserts in El Salvador, it has been estimated that half of the land has been severely eroded from deforestation, farming, and development. Much of this land is on the way to becoming desert. This phenomenon, known as desertification, is a worldwide problem.

## 9 FLAT AND ROLLING TERRAIN

The plains region of El Salvador is really part of the central plateau (see Plateaus and Monoliths).

## 10 MOUNTAINS AND VOLCANOES

This tiny "Land of Volcanoes" contains more "Ring of Fire" volcanoes than any other Central American country. Two volcanic-formed mountain ranges run roughly northwest to southeast across northern and southern El Salvador, with a broad high plateau between

### DID YOU KNOW?

The "Ring of Fire" encircles the Pacific Ocean, stretching northward from New Zealand and running along the eastern edge of Asia, then moving across to the Aleutian Islands of Alaska and traveling south along the edges of North and South America. This area contains at least 75 percent of the world's volcanoes, and a large number of these are still active. Frequent earthquakes and volcanic activity occurs here as a result of the Pacific Tectonic Plate pushing against other adjacent tectonic plates.



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## EL SALVADOR

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them. The northern Sierra Madre range is a continuous chain, with elevations from 1,580 to 2,200 meters (5,200 to 7,210 feet). The southern coastal range is a discontinuous chain composed of more than twenty volcanoes in five clusters. Near the western end is the Santa Ana Volcano, the highest volcano in the country at 2,381 meters (7,812 feet). Also at the western end is the Izalco Volcano (1,950 meters/6,396 feet), known as “Lighthouse of the Pacific,” which last erupted in 1966, making it El Salvador’s most recently active volcano. Other volcanoes in the chain are the San Salvador Volcano northwest of the city of San Salvador, San Vicente Volcano (2,180 meters/7,155 feet) south of the city of San Vicente, and the San Miguel Volcano (2,120 meters/6,957 feet) southwest of the city of San Miguel.

The highest mountain in El Salvador is not a volcano. Mount El Pital (Cerro El Pital) sits on the Honduras-El Salvador border and towers to a height of (2,730 meters/8,957 feet).

Some of the country’s most spectacular forests are in the mountain regions. In the northwest corner, at the junction of El Salvador, Guatemala, and Honduras, the three countries have agreed to protect an area called El Trifinio International Biosphere Reserve. The El Salvador portion is named Montecristo National Park. Montecristo National Park is perpetually covered in clouds and mist. It is a spectacular true rainforest, an increasingly rare type of ecosystem. Within the boundary of the park are giant ferns, air plants, and areas near the ground that never receive sunlight, since the foliage is so dense. The park protects a few species of mammals, including endangered jaguars, jungle foxes, tree-dwelling spider monkeys, and opossums.

Near the southwest coast, near the country’s border with Guatemala, is the Impossible Forest (Bosque El Imposible) National Park. It is named for a dangerous pass that is part of a traditional mule trail employed to transport coffee to the coast. The park is home to four hundred species of trees and nearly three hundred species of birds, as well as to unique animals such as the Tamandua anteater (antbear), pumas, and hundreds of species of butterfly. Three extinct volcanoes are located within the park boundaries, which is described as one of the last examples of coastal rainforest.

### **11** **CANYONS AND CAVES**

In Morozan, in northeast El Salvador, the two caves of Espíritu Santo and Cabeza de Duende have well-preserved pre-Columbian paintings on the walls.

### **12** **PLATEAUS AND MONOLITHS**

The central valley, running east and west between the two mountain ranges, is actually a rolling plateau peppered with lava fields, escarpments, and geysers. Comprising most of the land in the country, this high plain averages 50 kilometers (30 miles)

### **DID YOU KNOW?**

**U**NESCO named the archaeological excavation site of Joya de Ceren in El Salvador a World Heritage Site. Joya de Ceren was a farming community that was completely buried under lava from a volcanic eruption around 600 A.D. The artifacts and fossils found there have provided a great deal of insight into the daily lives of the community’s inhabitants.

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## EL SALVADOR

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in width with an average elevation of 600 meters (2,000 feet). Starting in the early 1900s, forests in the central high plateau have been cleared and farmed, creating large areas of grasslands across much of the country. Coffee, the major natural resource of El Salvador, is grown extensively across this plateau region.

### 13 MAN-MADE FEATURES

A dam on the Lempa River created the Cerrón Grande Reservoir.

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# Equatorial Guinea

- **Official name:** Republic of Equatorial Guinea
- **Area:** 28,051 square kilometers (10,831 miles)
- **Highest point on mainland:** Santa Isabel Peak (Pico Basilé) (3,008 meters/9,869 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Eastern, Southern, and Northern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** Río Muni: 248 kilometers (154 miles) from east-northeast to west-southwest; 167 kilometers (104 miles) from south-southeast to north-northwest; Bioko: 74 kilometers (46 miles) from northeast to southwest; 37 kilometers (23 miles) from southeast to northwest
- **Land boundaries:** 539 kilometers (334 miles) total boundary length; Cameroon 189 kilometers (117 miles); Gabon 350 kilometers (217 miles)
- **Coastline:** 296 kilometers (183 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Equatorial Guinea is a country in West Africa. The mainland, called Río Muni (or sometimes Río Mbini), is located south of Cameroon and north of Gabon, with a western coast on the Bight of Biafra in the Atlantic Ocean. The country includes five inhabited islands: Bioko, Annobón, Corisco, and the two Elobey Islands (Islas Elobey): Little Elobey (Elobey Chico) and Great Elobey (Elobey Grande). Annobón is the only part of the country located south of the equator. With a total area of about 28,051 square kilometers (10,831 miles), the country is slightly smaller than the state of Maryland. The country is divided into seven provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Equatorial Guinea has no other territories or dependencies.

## 3 🌐 CLIMATE

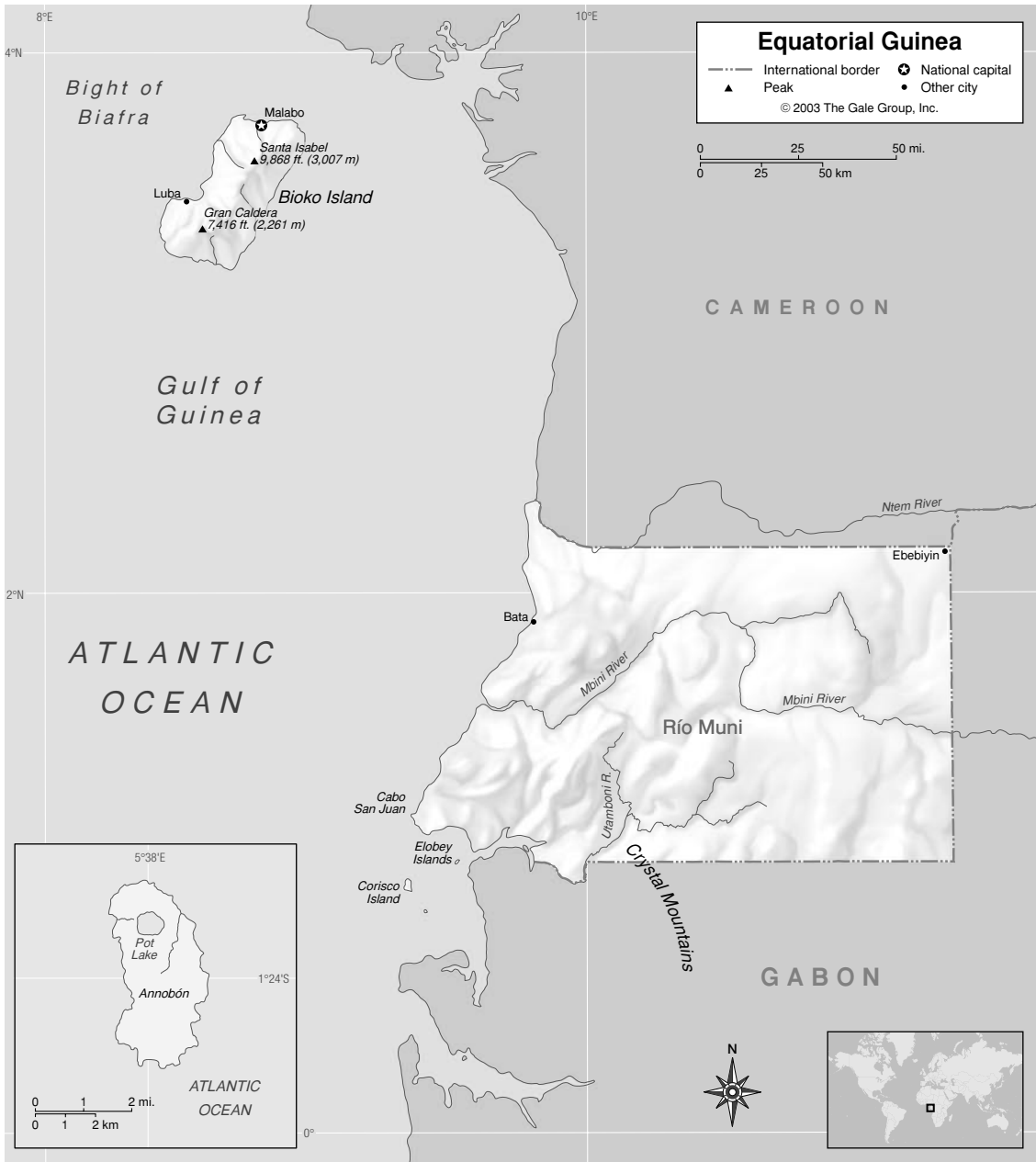
As a result of its location near the equator, Equatorial Guinea has a warm, tropical climate that varies mainly by altitude. At Malabo (the capital city, located on Bioko Island), temperatures range from 16°C (61°F) to 33°C (91°F). In the city of Mbini, the average temperature is about 27°C (80°F).

Annual rainfall varies from 193 centimeters (76 inches) at Malabo to 1,092 centimeters (430 inches) at Ureka. The country often experiences violent windstorms and flash floods.

## 4 🌐 TOPOGRAPHIC REGIONS

The sandy coastal plain of Río Muni rises to the low hills and spurs of the Crystal Mountains. East of the mountains, most of the country is a large plateau covered by tropical rainforest. The islands are all volcanic in origin.

# EQUATORIAL GUINEA



## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

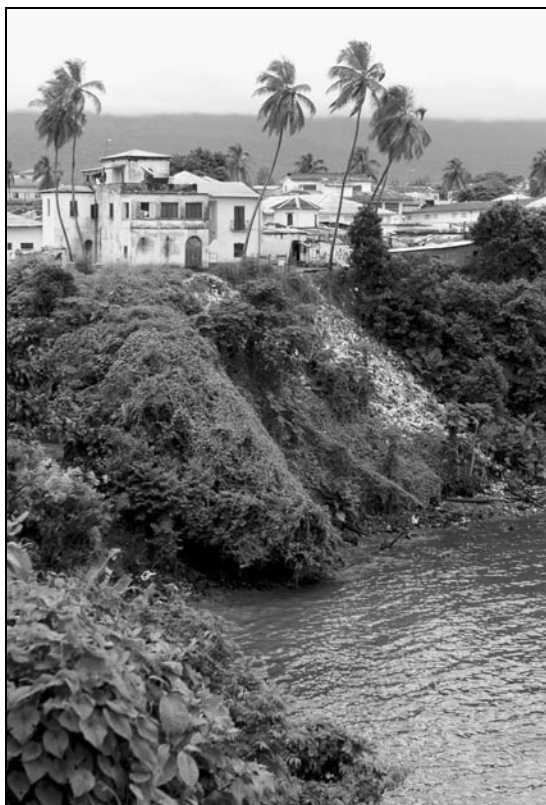
The Bight of Biafra separates the mainland from the islands. The Bight is part of the broad Gulf of Guinea, from which the coun-

try takes its name. The Gulf is an inlet of the Atlantic Ocean.

### Sea Inlets and Straits

Corisco Bay, located at the southernmost point of the coast, receives waters from the

# EQUATORIAL GUINEA



AP Photo/Christine Nesbitt

*Rubbish is seen sprawling down the cliff into the Bight of Biafra from a residential area in the capital, Malabo, on the island of Bioko, Equatorial Guinea.*

Mandiyani, Congüe, Mitong and Untamboni Rivers as they converge into the Muni estuary.

## Islands and Archipelagos

The largest island, Bioko, is located 32 kilometers (20 miles) from the coast of Cameroon. It is a volcanic island roughly 2,018 square kilometers (779 square miles) in size. The other islands are also volcanic, but are much smaller than Bioko. For example, Annobón, which is located 350 kilometers (220 miles) from mainland Gabon, is about 18 square kilometers (7 square miles) in size.

Corisco and the Elobey Islands are all located near the southwest coast of Río Muni,

off of Corisco Bay. Corisco covers 15 square kilometers (6 square miles) and the Great and Little Elobey are each about 2.5 square kilometers (1 square mile). Bioko and Annobón are part of the volcanic chain that includes the Cameroon Highlands and stretches into the Atlantic Ocean as far as St. Helena.

## Coastal Features

Sandy shores and estuaries make up the coastal mainland. Near Río Muni's southern tip, Cabo San Juan protrudes into the sea to form the Corisco Bay. On Bioko, the coastline is high and rugged in the south but lower and more accessible in the north.

## 6 🌐 INLAND LAKES

Pot Lake (Lago á Pot) on the island of Annobón fills the central crater of the volcano, now inactive, that formed the island.

## 7 🌐 RIVERS AND WATERFALLS

The main rivers are the Mbini, the Ntem, and the Muni. The Mbini is the longest river with a length of 248 kilometers (155 miles). It runs east to west, dividing the mainland into two. It is not navigable except for a short stretch of about 20 kilometers (12 miles). The Ntem flows along part of the northern border with Cameroon. The Muni is not really a river at all—it is an estuary of several rivers, of which the Utamboni is the most notable. The islands contain several streams and brooks that are mostly filled by rainwater.

## 8 🌐 DESERTS

There are no desert regions in Equatorial Guinea.

## 9 🌐 FLAT AND ROLLING TERRAIN

Besides the sandy coastal plains of Río Muni, there are no other significant plains regions in Equatorial Guinea.

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## EQUATORIAL GUINEA

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### 10 🌐 MOUNTAINS AND VOLCANOES

Bioko has two large volcanic formations separated by a valley that bisects the island. In the north of the island is Santa Isabel Peak (Pico Basilé). It is the country's highest point and rises to 3,008 meters (9,869 feet). In the south is Gran Caldera, which has an elevation of 2,261 meters (7,416 feet). All of the other islands are also volcanic, but of much lower elevation. There are no active volcanoes in the country.

The Crystal Mountains on the mainland separate the coast from the inland plateau. The highest peaks are Mount Chocolate at 1,100 meters (3,609 feet) and Mount Chime at 1,200 meters (3,937 feet).

### 11 🌐 CANYONS AND CAVES

There are no significant caves or canyons in Equatorial Guinea.

### 12 🌐 PLATEAUS AND MONOLITHS

The tropical rainforest of the plateau region contains at least 140 species of trees, particularly palms and hardwoods.

### 13 🌐 MAN-MADE FEATURES

There are no significant man-made structures affecting the geography of Equatorial Guinea.

### 14 🌐 FURTHER READING

#### Books

Fegley, Randall. *Equatorial Guinea*. Santa Barbara, CA: Clio Press, 1991.

Lingier-Goumaz, Max. *Historical Dictionary of Equatorial Guinea*. 3rd ed. Lanham, MD: Scarecrow Press, 2000.

World Resources Institute and World Bank. *Tropical Forests: A Call for Action*. Washington D.C.: World Resources Institute and World Bank, 1985.

# Eritrea

- **Official name:** State of Eritrea
- **Area:** 121,320 square kilometers (46,842 square miles)
- **Highest point on mainland:** Soira (3,018 meters/9,902 feet)
- **Lowest point on land:** Denakil Depression, near Kulul (75 meters/246 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 830 kilometers (520 miles) from northwest to southeast; 400 kilometers (250 miles) from north to south
- **Land boundaries:** 1,630 kilometers (1,013 miles) total boundary length; Djibouti 113 kilometers (70 miles); Ethiopia 912 kilometers (567 miles); Sudan 605 kilometers (376 miles)
- **Coastline:** 2,234 kilometers (1,388 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Eritrea is located in northeast Africa on the western coast of the Red Sea. The country shares borders with Djibouti, Ethiopia, and Sudan. With an area of about 121,320 square kilometers (46,842 square miles), the country is slightly larger than the state of Pennsylvania. Eritrea is divided into eight provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Eritrea has no outside territories or dependencies.

## 3 🌐 CLIMATE

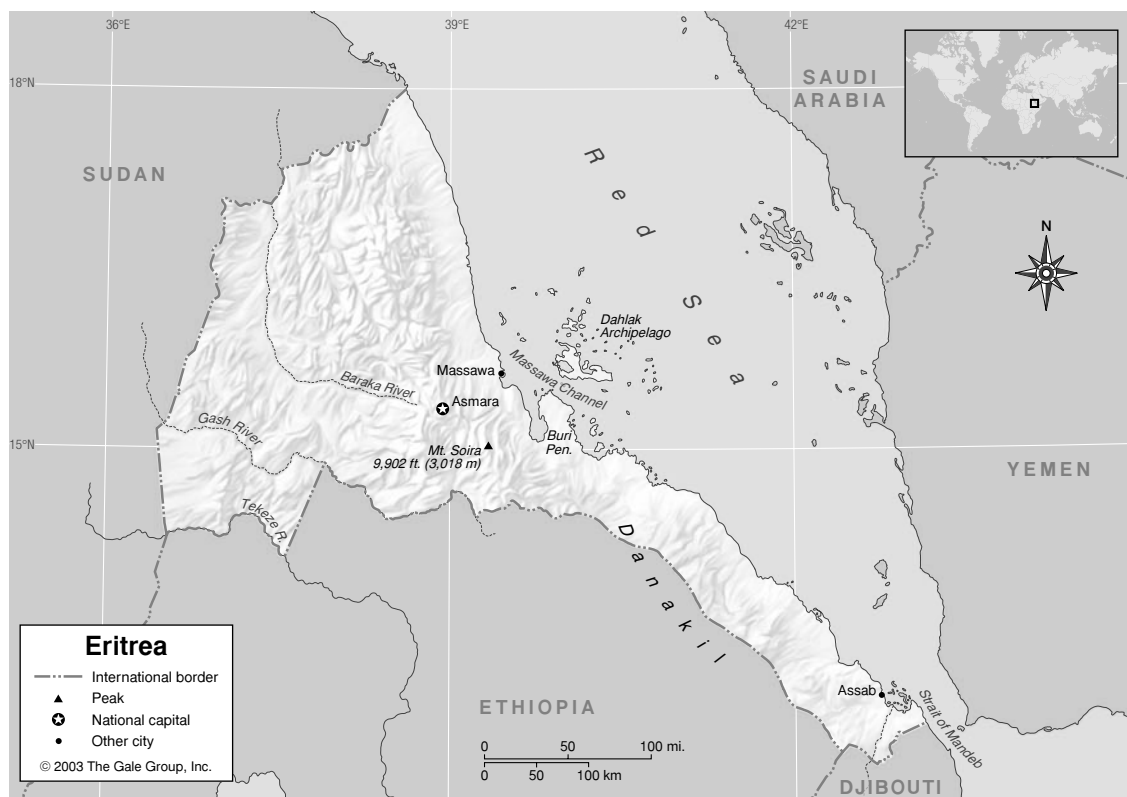
Along the Red Sea, temperatures average from 27°C (81°F) to 30°C (86°F) in the daytime, but at midyear, in the Danakil Depression in the southeast, temperatures may reach 60°C (140°F). The highlands are moderate, with temperatures that average about 17°C (63°F). The coast enjoys a Mediterranean-like climate when the northeast trade winds blow in January.

Rainfall varies according to season, elevation, and location. The semiarid western hills and lowlands along the Sudanese border receive up to 50 centimeters (20 inches) of rain annually, with the heaviest rainfall occurring from June through August. In January, monsoons originating in Asia cross the Red Sea, bringing rain to the coastal plains and the eastern escarpment. The eastern lowlands receive less than 50 centimeters (20 inches) of rainfall annually, while the cooler and wetter highlands receive up to twice that amount.

## 4 🌐 TOPOGRAPHIC REGIONS

The country of Eritrea resembles a funnel lying on its side and tilted to the southeast. It occupies the northern portion of a high, mountainous plateau reaching north from Ethiopia to the Red Sea. The mountains descend to a network of high hills on the northeast and to a low, arid coastal strip along the Red Sea. A corridor of low

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rolling plains marks the southwestern perimeter with Sudan. Bordering Ethiopia in the southeast, the Danakil Depression at its deepest point lies 130 meters (423 feet) below sea level. The hottest temperatures in the world have been reported there. Only 3 percent of the land is arable.

Eritrea lies along the boundary between the African and Arabian Tectonic Plates. The Great Rift Valley, which extends from Mozambique in southern Africa all the way north into the Middle East, passes near Eritrea's eastern border.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Eritrea has an eastern coast on the Red Sea, which is a narrow, landlocked sea that separates Africa from the Arabian Peninsula.

In the north, the Red Sea links to the Mediterranean through the Gulf of Suez and the Suez Canal. In the south, the sea links to the Gulf of Aden and the Arabian Sea through the Strait of Mandeb (Bab el Mandeb). The Red Sea is a busy shipping channel, potentially rich in oil and natural gas.

### Sea Inlets and Straits

Massawa Channel separates the mainland from the Eritrean islands of the Dahlak Archipelago.

### Islands and Archipelagos

The Dahlak Archipelago, a collection of coral-line (coral-like) islands, lies opposite the Buri Peninsula. The many islands are mostly small and sparsely inhabited.



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# ERITREA

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EPD/Terry Prosser/Travel-Images.com

*Mountain scenery between Asmara and Massawa in Eritrea.*

## Coastal Features

Coastal hills drain inland into saline lakes and sinks from which commercial salt is extracted.

Although subject to torrid temperatures much of the year, Eritrea's coastal beaches and Red Sea islands hold significant tourism potential. The, hot, arid, and treeless coastal lowlands range in width from 16 to 80 kilometers (10 to 50 miles).

## 6 INLAND LAKES

There are no major lakes in Eritrea.

## 7 RIVERS AND WATERFALLS

The longest river in Eritrea is the Tekeze, with a length of about 755 kilometers (470 miles). The Tekeze and the Mereb Rivers form sections of the southern border with Ethiopia. The Gash River drains westward to Kassala in Sudan and the Baraka River flows northward to Sudan from its source near Asmara. Volume

in these rivers is highly seasonal; at certain times of the year, they are completely dry.

## 8 DESERTS

Eritrea has semiarid western hills and a very dry and hot coastal strip of land along the eastern seaboard. The desert-like coast is home to vegetation such as acacia, cactus, aloe vera, prickly pear, and olive trees. The Danakil Depression is a desert region.

## DID YOU KNOW?

The waters surrounding the more than three hundred islands of the Dahlak Archipelago provide a habitat for diverse species of marine life and extensive coral reefs, providing scuba divers with much to explore.

# ERITREA

## 9 🌐 FLAT AND ROLLING TERRAIN

About 49 percent of the lowlands in Eritrea are characterized as permanent pasture.

## 10 🌐 MOUNTAINS AND VOLCANOES

Ethiopia's northwestern highlands extend into Eritrea, reaching elevations of more than 2,000 meters (6,500 feet) above sea level. A line of seismic belts extends along the length of Eritrea and the Danakil Depression, but no serious earthquakes were recorded in the area during the twentieth century.

The Danakil Depression is also the site of the Alid volcano. Alid is an elliptical mountain about 5 kilometers wide (3 miles), 7 kilometers long (4 miles), and 900 meters tall (2,953 feet). United States researchers have been working with the Eritrean government to assess the area of this volcano for possible geothermal resources, which may be used in the future to produce electricity.

## 11 🌐 CANYONS AND CAVES

There are no major caves or canyons in Eritrea, although southeast of Asmara there are some small caves, with ancient art drawn and etched into the rock walls.

## 12 🌐 PLATEAUS AND MONOLITHS

Eritrea shares the northeast section of the Ethiopian high plateau, which in appearance looks more like a set of rugged uneven mountains. The plateau, also known as the Northwestern Highlands, rises up on the western scarp of the Great Rift Valley and projects northward from Addis Ababa in Ethiopia to the Red Sea coastline in Eritrea. It descends to the Red Sea coast in a series of hills.

## 13 🌐 MAN-MADE FEATURES

There are over one hundred small dams built along the rivers of Eritrea, used primarily for irrigation.

## DID YOU KNOW?

The Great Rift Valley, which passes just outside the western border of Eritrea, is a massive fault system that stretches over 6,400 kilometers (4,000 miles) from the Jordan Valley in Israel to Mozambique. In general, the Great Rift Valley ranges in elevation from 395 meters (1,300 feet) below sea level at the Dead Sea to 1,830 meters (6,000 feet) above sea level in south Kenya. A large number of volcanoes lie along this rift, which was created by the violent underground activity of the African Plate (Nubian) to the west and the Eurasian, Arabian, Indian, and Somalian Plates to the east.

## 14 🌐 FURTHER READING

### Books

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- Ellingson, L. *The Emergence of Eritrea, 1958-1992*.  
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- Killion, Tom. *Historical Dictionary of Eritrea*.  
Lanham, MD: Scarecrow Press, 1998.
- NgCheong-Lum, Roseline. *Eritrea*. New York:  
Marshall Cavendish, 2001.
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Lawrenceville, NJ: Red Sea Press, 1995.

# Estonia

- **Official name:** Republic of Estonia
- **Area:** 45,226 square kilometers (17,462 square miles)
- **Highest point on mainland:** Suur Munamägi (318 meters/1,043 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 350 kilometers (220 miles) from east to west; 240 kilometers (150 miles) from north to south
- **Land boundaries:** 633 kilometers (392 miles) total boundary length; Latvia 339 kilometers (210 miles); Russia 294 kilometers (182 miles)
- **Coastline:** 3,794 kilometers (2,352 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Estonia is a country in northeastern Europe, located between Latvia and Russia and bordering the Gulf of Finland, the Baltic Sea, and the Gulf of Riga. With a total area of about 45,226 square kilometers (17,462 square miles), which includes about 1,520 islands in the Baltic Sea, the country is slightly smaller than the combined areas of the states of New Hampshire and Vermont. Estonia is divided into fifteen counties.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Estonia has no outside territories or dependencies.

## 3 🌐 CLIMATE

Estonia's marine location keeps the climate moderate along the coast. Inland, temperatures are typically more extreme. Summers in Estonia are generally cool, with temperatures rarely exceeding 18°C (64°F). Winters are cold, with temperatures usually remaining below freezing from mid-December to late February.

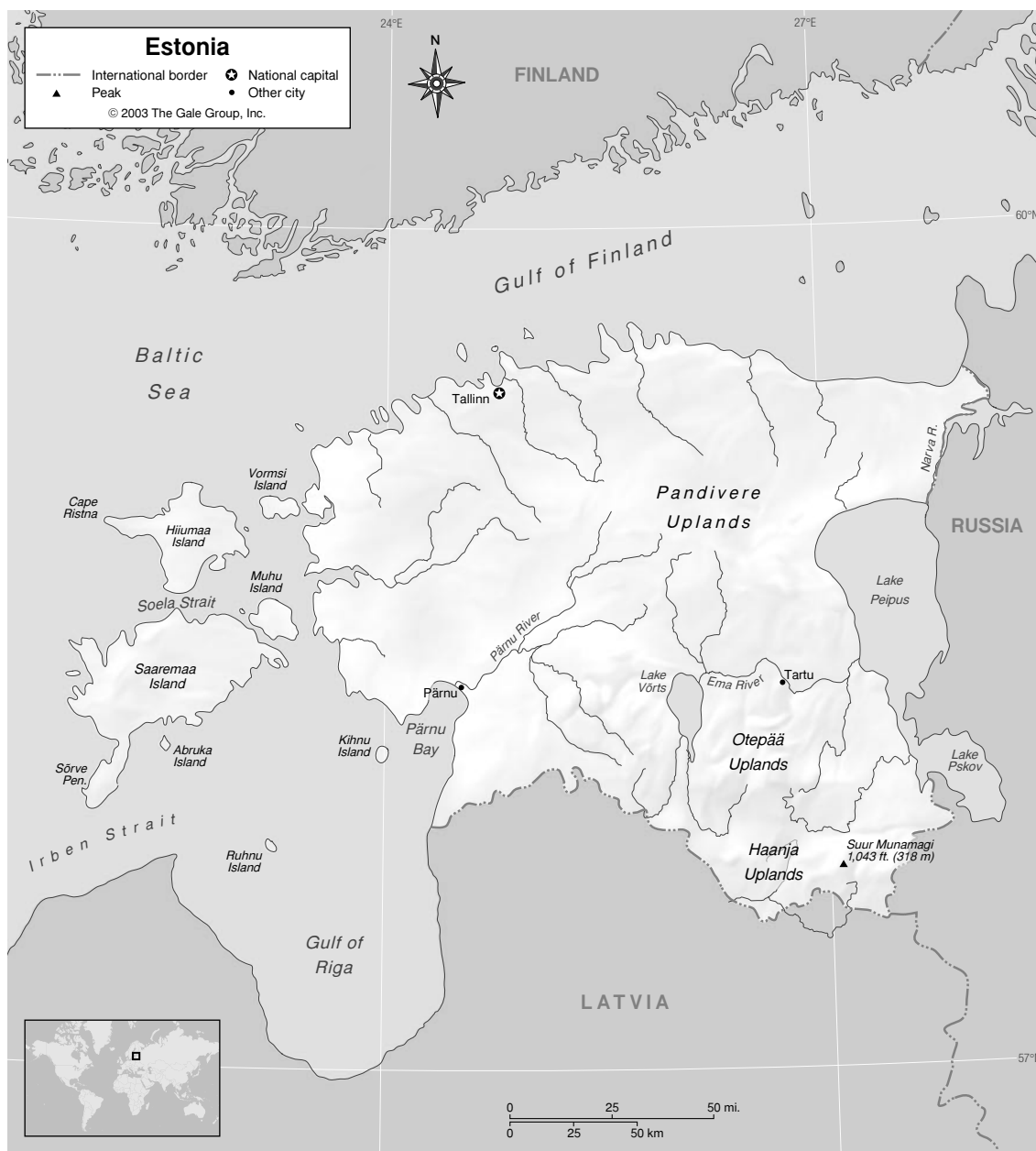
July and August are the wettest months. Precipitation is moderate, ranging from 48 to 69 centimeters (19 to 27 inches). The annual average precipitation is about 58 centimeters (23 inches). Rain and melting snow cause some flooding of rivers in the spring.

## 4 🌐 TOPOGRAPHIC REGIONS

The smallest of the three Baltic states (the other two are Latvia and Lithuania), Estonia is a low, flat country with a hilly region in the southeast. It has a long, shallow coastline on the Baltic Sea, with many islands off the coast. Over a third of the country is forest. A wide variety of native birds and animals live in the wooded countryside of Estonia. The golden eagle, white-tailed eagle, spotted eagle, eagle owl, and black stork are all protected species; the European flying squirrel is a common sight in the Estonian forest.

The country is dotted with more than one thousand natural and artificial lakes. Estonia is located on the Eurasian Tectonic Plate.

# ESTONIA



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The northwestern part of the country borders on the Baltic Sea, which is a part of the Atlantic Ocean. The rest of Estonia's coastline is on two

major inlets of the Baltic: the Gulfs of Finland and Riga.

The Gulf of Finland reaches east about 400 kilometers (250 miles) between Finland on the north and Estonia and Russia on the south.



EPD/Saxifraga/Henk Sierdsema

*Estonia's low-lying coastal region.*

Its width varies from 19 to 129 kilometers (12 to 80 miles), with the narrowest part at the eastern end.

The Gulf of Riga is found to the southwest of mainland Estonia, directly south of Estonia's major islands, with Latvia on the far shore. It is about 145 kilometers (90 miles) long from north to south, and ranges from 72 to 129 kilometers (45 to 80 miles) wide from east to west.

### **Sea Inlets and Straits**

Narva Bay, at the northeastern edge of the country's coastline, links the Gulf of Finland with Lake Peipus to the south through the Narva River.

Pärnu Bay, on the southwest coast, is an inlet of the Gulf of Riga.

### **Islands and Archipelagos**

There are thousands of islands along Estonia's coastline. The largest islands lie west of the mainland. Saaremaa is the largest island, at 2,714 square kilometers (1,048 square miles). It lies between the Baltic Sea and the Gulf of Riga. The Sõrve Peninsula extends off the southern end of the island, and is separated from Latvia by the Irben Strait. Raising livestock and tourism are the principal economic activities of this low-lying island.

Hiiumaa, the next-largest of Estonia's islands, measures 961 square kilometers (371 square miles) in area. It is located in the Baltic Sea, southwest of the entrance to the Gulf of Finland. The Soela Strait separates it from Saaremaa to the south. Its most distinctive feature is Cape Ristna, which projects off the western

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coast into the Baltic. Fishing and tourism are the island's chief industries. Many of its inhabitants are of Swedish descent.

The other islands are all much smaller. Vormsi and Muhu Islands lie between the larger islands and the Estonian mainland. Arbuka, Kihnu, and Ruhnu Islands are in the Gulf of Riga.

## **6** 🌐 **INLAND LAKES**

The two largest lakes are Lake Peipus on the eastern border with Russia and Lake Võrts (Võrtsjarv) in south-central Estonia. Lake Peipus covers 3,520 square kilometers (1,360 square miles). A long, narrow channel connects it on the south with the smaller Lake Pskov, which lies mostly within Russian territory. Lake Peipus is drained on the north by the Narva River, which flows into the Gulf of Finland. Fishing is the chief industry. Lake Peipus is navigable for about eight months of the year. Lake Võrts's area is 270 square kilometers (105 square miles).

## **7** 🌐 **RIVERS AND WATERFALLS**

The Pärnu is the longest river in Estonia at 144 kilometers (89 miles) long. It flows southwest, emptying into the Gulf of Riga at Pärnu Bay. Other important rivers include the Ema in the southeast and the Narva, which forms the country's northeastern border with Russia.

## **8** 🌐 **DESERTS**

There are no desert regions in Estonia.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

While Estonia is a flat country, much of its area is forested or marshy. Approximately 25 percent of the land (9,260 square kilometers/3,575 square miles) is considered arable, but with no permanent crops. Permanent pastures (1,810 square kilometers/699 square miles) comprise 11 percent of land use.

About 110 square kilometers (68 square miles) of land is irrigated for crop production.

About 44 percent of Estonia's area consists of forests and woodlands. Meadows cover about 2,520 square kilometers (973 square miles). Tree species are chiefly pine, birch, aspen, and fir. Wildlife includes elk, deer, and wild boar. Beaver, red deer, and willow grouse have been protected by legislation because of their dwindling numbers.

Estonia is mostly a low-lying plain, but there are some modest hills in the central and southern regions, known as the Pandivere, Otepää, and Haanja Uplands. The country's highest point, Suur Munamägi (318 meters/1,043 feet), is in the extreme southeast corner of the country near the Russian border.

Along the north coast is an area of slightly elevated limestone known as the Glint. There, waterfalls as high as 56 meters (185 feet) tumble down the exposed limestone cliffs.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The hills and other uplands of Estonia are not high enough to be considered mountains, and there are no volcanoes in the country.

## **11** 🌐 **CANYONS AND CAVES**

Humans created most of the larger caves in Estonia. The Piusa Glass Sand Caves, located near Tartu, are a series of eight caves that were dug into hills of Devonian sandstone, which is a sedimentary deposit formed in the Devonian Era about 360 to 408 million years ago. This sand was found to be highly suitable for making glass, but mining operations ceased some time ago. Now, the caves serve as a hibernation site for what is considered by naturalists to be the largest bat colony in the Baltic countries.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

There are no plateau regions or monoliths in Estonia.

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# ESTONIA

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## 13 MAN-MADE FEATURES

A hydroelectric power plant was built in 1956 near the city of Narva, on the Narva River. This dam created the artificial reservoir now known as Lake Narva.

## 14 FURTHER READING

### Books

Grabowski, John, F. *The Baltics*. San Diego: Lucent Books, 2001.

Hidden, John, and Patrick Salmon. *The Baltic Nations and Europe: Estonia, Latvia, and Lithuania in the Twentieth Century*. New York: Longman, 1991.

Raun, Toivo V. *Estonia and the Estonians*. 2nd ed. Stanford, CA: Hoover Institution Press, 1991.

### Periodicals

Pettai, Vello A. "Estonia: Old Maps and New Roads." *Journal of Democracy*, Vol. 4, No. 1, January 1993, 117-125.

## DID YOU KNOW?

The region known as the Baltic States includes the independent nations of Estonia, Latvia, and Lithuania, all of which line the eastern coast of the Baltic Sea. Finland and Sweden, two other countries which also touch the Baltic Sea, are generally included in the region known as Scandinavia.

Vesiland, Priit J. "The Baltic Nations." *National Geographic*, November 1990, 2-37.

### Web Sites

Estonia: Estonian Tourist Board.  
<http://www.visitestonia.com>  
(accessed May, 2003).

# Ethiopia

- **Official name:** Federal Democratic Republic of Ethiopia
- **Area:** 1,127,127 square kilometers (435,186 square miles)
- **Highest point on mainland:** Ras Deshen (4,620 meters/15,157 feet)
- **Lowest point on land:** Danakil Depression (125 meters/410 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 1,639 kilometers (1,018 miles) from east to west; 1,577 kilometers (980 miles) from north to south
- **Land boundaries:** 5,311 kilometers (3,300 miles) total boundary length; Djibouti 337 kilometers (209 miles); Eritrea 912 kilometers (567 miles); Kenya 830 kilometers (516 miles); Somalia 1,626 kilometers (1,010 miles); Sudan 1,606 kilometers (998 miles).
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Ethiopia is located in eastern Africa in the area known as the Horn of Africa: the northeastern extension of the continent. The country lies west of Somalia, north of Kenya, east of Sudan, and south of Eritrea and Djibouti. With an area of about 1,127,127 square kilometers (435,186 square miles), the country is slightly less than twice the size of the state of Texas. Ethiopia is divided into nine states and two self-governing administrations.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The territory of Eritrea was once a part of Ethiopia. Eritrea became an independent nation in 1993, however, after a long and bloody war fought over several decades. As of 2002, the governments of both nations were in dispute concerning the official boundaries between the countries.

## 3 🌐 CLIMATE

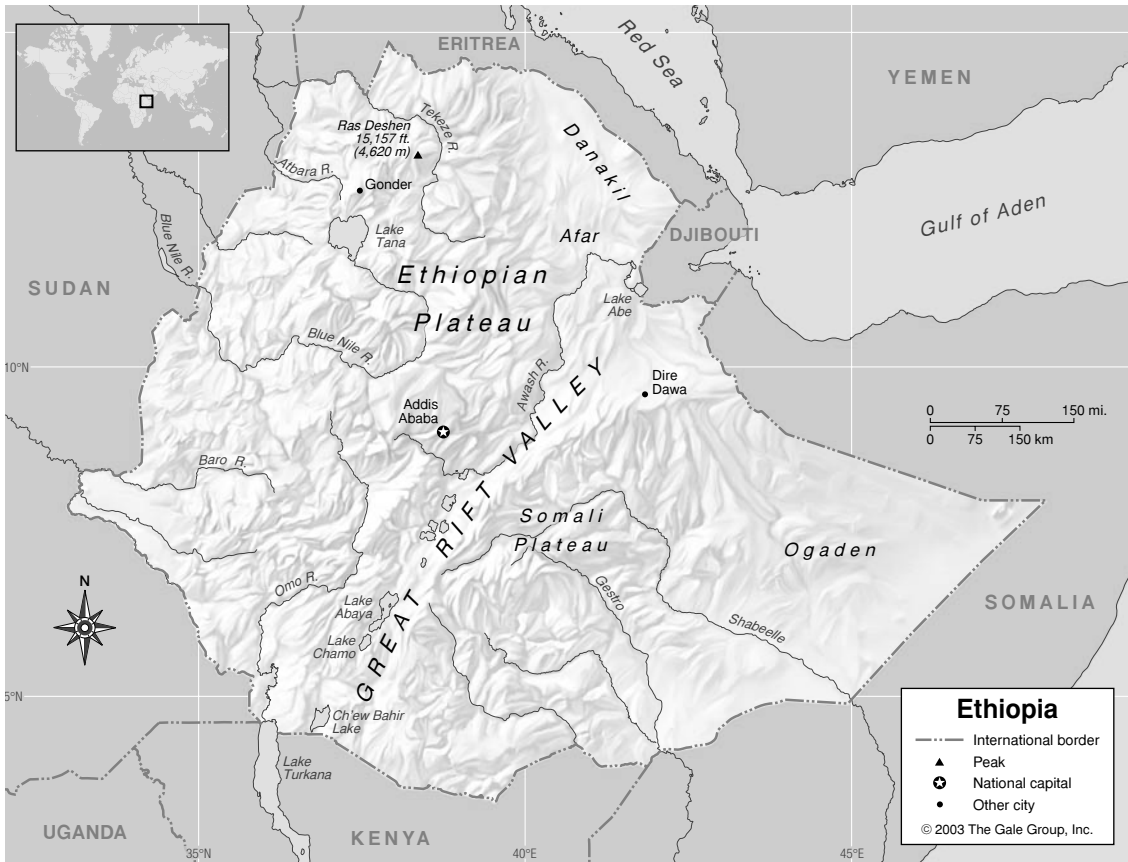
Ethiopia has three main climatic zones: the *dega*, or cool zone; the *weina dega*, or tem-

perate zone; and the *kolla*, or hot zone. In the highlands above 2,400 meters (7,800 feet) in elevation, daily temperatures range from near freezing to 16° C (61° F), with March, April, and May the warmest months. Nights are usually cold throughout the year, and it is not uncommon to greet the day with light frost. Snow is found at the highest elevations. Daily temperatures at lower elevations—from 1,500 meters to 2,400 meters (4,875 feet to 7,800 feet)—range from 16° C (61° F) to 30° C (86° F). Below 1,500 meters (4,875 feet) is the *kolla* zone, with daytime temperatures averaging 27° C (81° F), but soaring to 40° C (104° F) in the Ogaden region during midyear.

Ethiopia is affected by the seasonal monsoon trade winds from the Atlantic Ocean that cross the African continent. The country receives most of its rain from mid-June to mid-September, with the high plateau experiencing a second and light rainy season from December to February. Converging winds in April and May bring lighter rains known as



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the *balg*. Annual precipitation is heaviest in the southwest, reaching up to 200 centimeters (80 inches). Up to 122 centimeters (48 inches) of rain falls annually in the highlands. The Ogaden in the east receives as little as 10 centimeters (4 inches), and precipitation in the Great Rift Valley and the Danakil Depression is negligible.

## 4 🌐 TOPOGRAPHIC REGIONS

Ethiopia has some of the most spectacular scenery in Africa. Much of the country is set on a high plateau, with a massive central highland complex of mountains divided by the deep Great Rift Valley and a series of lowlands along the periphery (edges) of the higher elevations. The wide diversity of terrain pro-

duces regional variations in climate, natural vegetation, soil composition, and settlement patterns.

In the northwest, Simien Mountains National Park provides a habitat for such native animals as baboons, ibex, Simien fox, and birds of prey including a large vulture species, the bearded vulture or *lammergeyer*.

Most of Ethiopia is seismically active. There are hot springs that bubble up from deep below the earth's crust in Addis Ababa and elsewhere. There is potential for serious and damaging earthquakes in the area surrounding the Great Rift Valley. Ethiopia is located on the African Tectonic Plate, with the Arabian

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EPD/Ron Reminick

*This Ethiopian homestead is built on the rocky central highland plateau on the western edge of the Great Rift Valley escarpment.*

Tectonic Plate somewhat further to the north, beyond Eritrea. The Great Rift Valley extends across the country from the southwest to the northeast.

Neighboring Somalia claims the Ogaden border region in the southeast, but an exact border between the two countries has never been determined.

## **5** 🌐 **OCEANS AND SEAS**

Ethiopia is a landlocked country.

## **6** 🌐 **INLAND LAKES**

A chain of large lakes dots the southern half of the Ethiopian area of the Great Rift Valley. Some are freshwater lakes, fed by small streams from the east; others contain various salts and minerals. Lake Turkana (also called Lake Rudolf), fed by the Omo River, is the

largest lake in the country, with an area of about 6,405 square kilometers (2,473 square miles). However, most of Lake Turkana is situated in Kenya; only the northernmost portion extends into Ethiopia. Other lakes in the southern Rift Valley are Ch'ew Bahir, Chamo, and Abaya. Lake Abe, fed by the Awash River, is located in the northern part of the Rift Valley, on the border with Djibouti.

Lake Tana is located in the northwest, on the Ethiopian Plateau. It is the largest lake located entirely within Ethiopia, with an area of about 2,849 square kilometers (1,110 square miles), and it is the source of the Blue Nile.

## **7** 🌐 **RIVERS AND WATERFALLS**

Most of the northern and western rivers are a part of the vast Nile River system. Most notable of these is the Blue Nile (Abay), which

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## DID YOU KNOW?

The Blue Nile, one of the tributary streams that eventually flow into the Nile River, has its source in Ethiopia. With a total length of 6,693 kilometers (4,160 miles), the Nile is the longest river in the world. Its main headstream rises from Lake Victoria of Tanzania and Uganda. These rivers meet in Sudan and flow into Egypt. Throughout its length in Egypt, no other tributary streams enter the Nile before it empties into the Mediterranean Sea through a large delta.

flows out of Lake Tana towards the center of the country before curving northwest into Sudan. In the center of Sudan, the Blue Nile meets the White Nile to form the Nile River. The Atbara River and its tributary, the Tekeze River, both begin in Ethiopia and also flow into the Nile in Sudan. Together, the Blue Nile and the Atbara provide about 70 percent of the water volume in the Nile River. The Baro River in southwestern Ethiopia is another Nile tributary. Taken together, these four Nile tributaries account for about half of the outflow of water from the country.

Near Bahir Dar, the Blue Nile Falls (Tsisat Falls) are known as a site where many rainbows appear.

In the northern half of the Great Rift Valley, the Awash River flows between steep cliffs. Originating some 80 kilometers (50 miles) west of Addis Ababa, it courses northward and descends several thousand feet to the valley

floor. There it is joined by several tributaries until it becomes a river of major importance, only to disappear into the saline lakes of the Danakil Depression, most notably Lake Abe. The Omo River rises near the source of the Awash, but flows south into Lake Turkana at the other end of Ethiopia's portion of the Great Rift Valley.

In the southeast regions of the Somali Plateau, seasonally torrential rivers provide drainage toward the southeast. Chief of these is the Shabeelle, which has its source in several smaller rivers in the south and flows into Somalia. While it does not carry as much water as the Blue Nile, the Shabeelle is the longest river to flow through Ethiopia, with a total length of about 2,011 kilometers (1,250 miles). It is a tributary of the Gestro (Jubba), which also has its source in Ethiopia and flows into Somalia. The Gestro generally flows year-round into the Indian Ocean, thanks in part to its northern tributary, the Dawa. In contrast, the Shabeelle can dry up in the deserts of Somalia before ever reaching the Gestro.

## 8 DESERTS

The Danakil Depression is a sunken desert region in the northeast that stretches between the Red Sea to the Great Rift Valley. It is a large, triangular-shaped basin that in some places is as low as 125 meters (410 feet) below sea level. The lowest elevation in the country, it is also said to be one of the hottest places on Earth.

## 9 FLAT AND ROLLING TERRAIN

Sections of marshy lowlands exist along the Sudanese border in the west and southwest.

The Borena and Ogaden plains in the south are characterized by grassy ranges and are highly vulnerable to drought and erosion, especially from overgrazing.

Highlands in remote areas above 1,800 meters (5,850 feet) are covered with a varied as-

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# ETHIOPIA

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EPD/Ron Reminick

*The Ethiopian Plateau is rugged and mountainous.*

sortment of evergreens and conifers, especially zigba and tid. Due to population pressures, however, many forests' borders have shrunk into relatively inaccessible areas.

High mountain elevations above the tree line along the Sudanese border are under intensive agricultural development. Even steep slopes and marginal areas are being cultivated for crop production.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The highest point in Ethiopia is a volcanic cone in the northeast, Ras Deshen (Mount Rasdajan). With an elevation of about 4,620 meters (15,157 feet), Ras Deshen is Africa's fourth-highest mountain.

There are sixty-seven volcanoes in Ethiopia, more than any other country in Africa; yet many are rather small. The most famous

of these is Erta Ale, which has a relatively low peak at only 613 meters (2,011 feet). It has been erupting almost continuously since 1967 and has an active lava lake in its summit crater. The existence of these small volcanoes, hot springs, and many deep gorges indicates that large segments of the land mass are still geologically unstable. Despite the line of seismic belts that extends along the length of the Eritrean border and the Danakil Depression, no serious earthquakes were recorded in the area during the twentieth century.

## **11** 🌐 **CANYONS AND CAVES**

Some geographers, especially Ethiopians, consider the Great Rift Valley a distinct region. It is the most extensive fault on Earth's surface, extending from the Jordan River Valley in the Middle East to the Shire tributary

# ETHIOPIA

of the Zambezi River in Mozambique. The vast segment that runs through the center of Ethiopia is marked in the north by the Danakil Depression. To the south, the rift becomes a deep trench slicing through the high plateau from north to south, with an average width of 48 kilometers (30 miles). The Awash River courses through the northern section of the trench.

While the Great Rift Valley is by far the most impressive of Ethiopia canyons, millennia of erosion have produced other steep-sided valleys throughout the country; in some areas, these have been measured at about 1.6 kilometers (1 mile) deep and several kilometers wide.

The Blue Nile winds in a great arc starting at Lake Tana and courses in an arc through canyons more than 1,200 meters (4,000 feet) in depth before flowing into Sudan.

The Sof Omar caves are located about 450 kilometers (280 miles) southeast of Addis Ababa. They consist of a series of tunnels and chambers carved into limestone and chalk by the Web River. The caves are considered to be a sacred place by some Muslims. Legend tells that Sheik Sof Omar was seeking refuge in the area when Allah opened the mouth of the cave for him. Omar was said to have used the caves as a mosque for his entire life.

In the northwest, the Simien Mountains National Park features a rocky massif, with deep gorges cut into it by streams.

## 12 PLATEAUS AND MONOLITHS

The highland that comprises much of the country consists of two regions: the Ethiopian Plateau in the west, which is bisected by the Great Rift Valley, and the Somali Plateau in the east. The higher Ethiopian Plateau is rugged and mountainous, while the Somali Plateau is sparsely populated, arid, and rocky.

## DID YOU KNOW?

**T**he Horn of Africa is a peninsula that juts out from the northeast of the African continent, just below the Red Sea. It separates the Gulf of Aden from the Indian Ocean. Because the two main countries on the Horn of Africa are Ethiopia and Somalia, it is sometimes called the Somali Peninsula.

Northward from Addis Ababa, the Ethiopian Plateau inclines slightly toward the west and northwest, then abruptly descends near the boundary with Sudan. Given the rugged nature of these massifs and the surrounding tableland, this region's name is somewhat misleading. Little of the Ethiopian Plateau is actually flat, except for a scattering of level-topped mountains known to Ethiopians as *ambas*.

South of Addis Ababa, the plateau is also rugged, but its elevation is slightly lower than in its northwestern section. The eastern segment beyond the Great Rift Valley exhibits characteristics almost identical to those of its western counterpart.

## 13 MAN-MADE FEATURES

The Churches of Lalibela are located in that town in the central highland region of Ethiopia. At least eleven monolithic cave churches were carved into the rocks here in the thirteenth century. People come to Lalibela to see these rock churches, hewn out of the bedrock. The churches have been maintained by generations of priests who guard their treasures

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# ETHIOPIA

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of ornamented crosses, illuminated Bibles, and illustrated manuscripts. The site has been named a World Heritage Site of the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

## 14 FURTHER READING

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Historical Sites in Africa: Ethiopia. [http://www.newafrica.com/archaeology/historical sites](http://www.newafrica.com/archaeology/historical%20sites) (accessed June 2, 2003).

# Fiji

- **Official name:** Republic of the Fiji Islands
- **Area:** 18,270 square kilometers (7,054 square miles)
- **Highest point on mainland:** Mount Tomanivi (1,324 meters/4,344 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** Midnight = noon GMT
- **Longest distances:** 595 kilometers (370 miles) from southeast to northwest; 454 kilometers (282 miles) from northeast to southwest
- **Land boundaries:** None
- **Coastline:** 1,129 kilometers (702 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Fiji is an island nation in the South Pacific located about 2,735 kilometers (1,700 miles) northeast of Sydney, Australia; 1,769 kilometers (1,100 miles) north of Auckland, New Zealand; and 4,466 kilometers (2,776 miles) southwest of Honolulu, Hawaii. It is roughly one-third of the way from New Zealand to Hawaii. Fiji consists of around three hundred islands—about one-third of which are inhabited—and some five hundred islets, covering a total land area of 18,270 square kilometers (7,054 square miles).

## 2 🌐 TERRITORIES AND DEPENDENCIES

Fiji has no territories or dependencies.

## 3 🌐 CLIMATE

Fiji's tropical climate is modified by easterly trade winds. Temperature variation between seasons is modest. High temperatures in the summer (October to March) reach 29°C (85°F); winter lows drop to only 20°C (68°F). Cooler temperatures are recorded at higher elevations.

Annual rainfall ranges from an average of 178 centimeters (70 inches) on the drier leeward sides of the islands to 305 centimeters (120 inches) on the windward sides. The leeward sides have a dry season from April to October, while rainfall is distributed throughout the year on the windward sides. The hurricane season lasts from November to April, but disastrous hurricanes are rare.

## 4 🌐 TOPOGRAPHIC REGIONS

There are no specific topographic regions in Fiji.

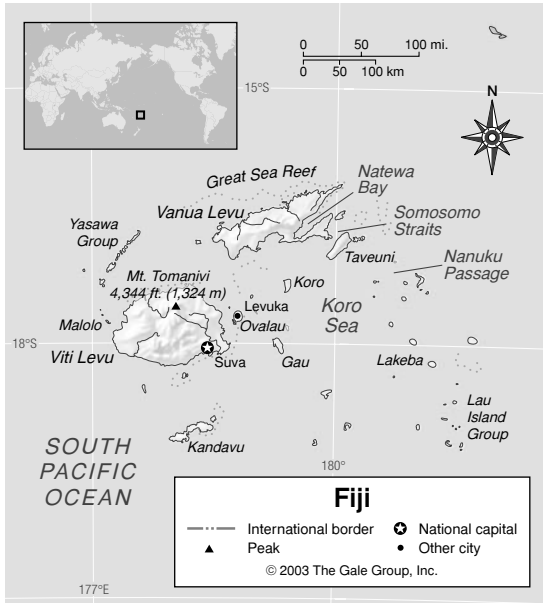
## 5 🌐 OCEANS AND SEAS

Fiji is located in the South Pacific Ocean and surrounds the Koro Sea.

## Seacoast and Undersea Features

Coral reefs fringe the islands, and circular or U-shaped coral atolls and barrier reefs encircle large coastal lagoons. The reefs, rocks, and shoals in the waters off Fiji make navigation on the Koro Sea dangerous.

# FIJI



and several smaller ones. At the northwest end of Fiji lies a string of islands called the Yasawa Group. The Polynesian island of Rotuma, located 708 kilometers (440 miles) north of Suva, also belongs to Fiji, although it is separate from the rest of the island group. The larger islands are generally mountainous, with flatter land along their river deltas and fertile coastal plains.

## Coastal Features

Fiji is known for its sandy beaches, which support a thriving tourist industry. Mangrove swamps are found on the eastern coastlines of many of Fiji's islands.

## 6 🌐 INLAND LAKES

Fiji has no inland lakes.

## 7 🌐 RIVERS AND WATERFALLS

On Viti Levu, the largest island, the major river is the Rewa; this river is navigable for 113 kilometers (70 miles). The island also has other river systems, including those of the Nadi, Ba, and Sigatoka. All of these rivers rise in the island's central mountains. The main river on Vanua Levu is the Dreketi.

## 8 🌐 DESERTS

There are no deserts on Fiji.

## 9 🌐 FLAT AND ROLLING TERRAIN

The western parts of Fiji's larger islands are flat, dry grasslands.

## 10 🌐 MOUNTAINS AND VOLCANOES

Fiji's largest island, Viti Levu, has a central mountain range dividing it down the middle, with some peaks rising higher than 914 meters (3,000 feet), including Fiji's highest mountain, Mount Tomanivi. The mountain system includes the picturesque Nausori Highlands. The next-largest island, Vanua Levu, also has a central range, which spans its length and has peaks of roughly equal height. Fiji's other large

## Sea Inlets and Straits

The Somosomo Straits separate the islands of Vanua Levu and Taveuni. Taveuni is in turn separated from the Lau island group by the Nanuku Passage. Several other passages separate the various islands and island groups. The coastline of Vanua Levu is much more deeply indented than that of Viti Levu and includes the long, narrow Natewa Bay.

## Islands and Archipelagos

By far the two largest islands in Fiji's archipelago are Viti Levu, near its western end, and Vanua Levu, which reaches almost to the northernmost point. The fifty-seven easternmost islands are collectively known as the Lau Group. With a land area of only 160 square kilometers (62 square miles), they stretch over an expanse of ocean covering 112,000 square kilometers (43,232 square miles).

The islands in the central part of the archipelago make up the area called Lomaiviti, or Central Fiji. There are seven larger islands





Susan D. Rock

*The southern coast of Viti Levu, Fiji, is known as the coral coast.*

### **DID YOU KNOW?**

**T**he tagimaucia, a beautiful red-and-white flowering plant that resembles the hibiscus, blooms in only one place in the world: on the banks of the Tagimaucia River in the mountains of Taveuni Island.

islands are also mountainous, with slopes that often rise dramatically near the shoreline.

### **11** **CANYONS AND CAVES**

There are no notable caves or canyons on Fiji.

### **12** **PLATEAUS AND MONOLITHS**

Some of the higher mountain peaks on Fiji's large islands give way to plateaus before descending to the lowlands near the coast.

### **13** **MAN-MADE FEATURES**

There are no significant man-made features affecting the geography of Fiji.

### **14** **FURTHER READING**

#### **Books**

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Wright, Ronald. *On Fiji Islands.* New York: Viking, 1986.

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# Finland

- **Official name:** Republic of Finland
- **Area:** 305,470 square kilometers (117,942 square miles)
- **Highest point on mainland:** Mount Haltia (1,328 meters/4,343 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 540 kilometers (335 miles) from east to west; 1,160 kilometers (719 miles) from north to south
- **Land boundaries:** 2,628 kilometers (1,629 miles) total boundary length; Norway 729 kilometers (452 miles); Sweden 586 kilometers (363 miles)
- **Coastline:** 1,126 kilometers (698 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Located in northeastern Europe, Finland is one of the world's northernmost countries—roughly one-third of the country lies north of the Arctic Circle. Finland covers 305,470 square kilometers (117,942 square miles), or slightly less than the state of Montana, and has six provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The Åland Islands, in the Gulf of Bothnia off the southwest coast, are an autonomous region of Finland. They have an area of 1,552 square kilometers (600 square miles) and encompass over 6,500 islands and islets, only about 80 of which are inhabited. They are farther from shore than any of Finland's other islands.

## 3 🌐 CLIMATE

In spite of its proximity to the Arctic Circle, Finland has a relatively mild climate, thanks to the warming influence of the Gulf Stream. Temperatures are coldest in the north, however, with winter lows down to 30°C below zero

(22°F below zero) and permanent snowcaps resting on the northern slopes of its highest peaks. Temperatures for the country as a whole average -14°C to -3 °C (7°F to 27°F) in winter and about 13°C to 18°C (55°F to 65°F) in summer. Summer temperatures average about 20°C (68°F) in the southern part of the country, with daytime summer highs reaching 30°C (86°F). Average annual precipitation (a mix of both snow and rain) varies from about 43 centimeters (17 inches) in the north to 71 centimeters (28 inches) in the south.

The north of Finland is famous for its “midnight sun.” For about seventy days beginning in mid-May, the sun never sets and is visible even at night. Even the southern part of the country can have as many as nineteen hours of sunlight on summer days. Another climate-related phenomenon experienced in the north is *kaamos*, the sunless winter, when it is dark even at the height of day, and spectacular displays of northern light often are visible in the sky.

# FINLAND



## 4 🌐 TOPOGRAPHIC REGIONS

Finland is a generally low-lying country. The terrain is close to sea level in the southern half of the country, rising in the north and northeast. Nearly the entire northern half of Finland, including its most elevated terrain, belongs to the larger region known as Lapland, which stretches across Norway, Sweden, Finland, and Russia, lying largely within the Arctic Circle.

It is one of the coldest zones in Europe, and is home to such wildlife species as tundra reindeer. The easternmost part of Finland is called Karelia, where native brown bears roam. Part of Karelia was ceded to the Soviet Union at the close of World War II.

## 5 🌐 OCEANS AND SEAS

Finland is located northeast of the Baltic Sea. At some points, only a narrow strip of land in Norway separates Finland from the Barents Sea to the north, and some of its rivers drain northward in that direction.

### Seacoast and Undersea Features

There are thousands of small islands dotting the coast of Finland.

### Sea Inlets and Straits

Finland is bordered on the west by the Gulf of Bothnia and on the south by the Gulf of Finland.

### Islands and Archipelagos

Aside from the Åland Islands (see Territories and Dependencies), other major island groups include the Turku Archipelago, which lies between the Åland Islands and the mainland, and a group of islands lying off the western coast near Vaasa. The southwest islands rise to elevations of over 122 meters (400 feet). There is also a group of low-lying islands off the southeast coast in the Gulf of Finland.

### Coastal Features

Finland's heavily indented coastal zone, which has been called the "golden horseshoe," is dominated by the cities of Helsinki and Turku, the former capital of the country. The entire coast is paralleled by an island zone, which reaches its greatest breadth and complexity in the southwest with the Turku Archipelago.

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# FINLAND

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EPD/Saxifraga/Henk Sierdsema

*The densely forested region in the northeast of Finland is hilly.*

## 6 INLAND LAKES

Finland's outstanding physical feature is the multitude of lakes that were formed when the glaciers retreated at the close of the Ice Age. The same phenomenon created the marshes that gave Finland its native name—*Suomi*, or “swamp.” In relation to its size, Finland has more lakes than any other country—their total number has been estimated at close to two hundred thousand. Fifty-five thousand lakes are at least 200 meters (656 feet) in breadth, and nineteen large lakes span more than 200 square kilometers (77 square miles). The largest, Lake

Saimaa, is the fifth-largest lake in Europe. Other large lakes include Inari (Enar) to the north, Oulujärvi in the central part of the country, and Päijanne and Pielinen in the south. Most of Finland's lakes are quite shallow, with an average depth of only 7 meters (23 feet).

Both above and below the tree line, the north country region has extensive swamps, and about a third of this area is covered with bogland. The vast expanses of swamp are the least attractive elements in the northern landscape.

## 7 RIVERS AND WATERFALLS

A network of interconnected lakes and rivers covers the greater part of southern Finland. About 10 percent of Finland's area consists of inland water. The north is drained by long rivers, such as the Muonio, the Tornio (Torneå), and the Kemi. In the central part of the country, the streams become shorter, except for the Oulu. In the lake district in the southeast, rivers are long and narrow and crossed by the great east-to-west ridge called the Salpausselkä, which runs parallel to the Gulf of Finland coast. The areas south of the lake district and westward along the coast are drained mostly by a series of short streams.

Some of the northern rivers, such as the Kemi, empty into the freshwater Bothnian Gulf. Others, including the Paats and the Tenu (Tano), drain into the Arctic, and some have carved dramatic gorges through to Russian Karelia. Farther south, a series of parallel rivers originates at the high point of Suomenselka and flows northwest to the broad coastal plain of the Gulf of Bothnia. Among these are the Oulu, Pyha, and Lapuan Rivers.

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# FINLAND

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EPD/Saxifraga/Henk Sierdsema

*There are thousands of shallow lakes in Finland.*

## **8** 🌐 **DESERTS**

There are no desert regions in Finland.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

More than half of eastern Finland is hilly, with the land gently sloping toward the southwest.

Most of the densely forested land in the north and east consists of landforms with rounded ridgetops at elevations from 457 to 762 meters (1,500 and 2,500 feet). Near Lake Inari (Lake Enar), these hills are intersected by a plain with a height between 91 and 183 meters (300 to 600 feet).

Low-lying plains make up much of the coast. South of the Salpausselkä ridge, the plain is narrow, along the Gulf of Finland. It

widens in the southwest and west, where it borders the Gulf of Bothnia. Finland's farmland is concentrated in this region.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Finland's mountains are situated in the extreme northwest, near the borders with Sweden and Norway. Peaks in this small area rise to an average height of 1,000 meters (3,281 feet). The highest is Mount Haltia (Haltiatunturi).

## **11** 🌐 **CANYONS AND CAVES**

There are no notable canyons or caves in Finland.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

There are no notable plateaus or monoliths in Finland.

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# FINLAND

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## 13 MAN-MADE FEATURES

One of the most impressive structures in Finland, the Saimaa Canal dominates the Karelia region. The artificial reservoirs of Lokan and Porttipahdan are among Finland's largest lakes.

## 14 FURTHER READING

### Books

Lange, Hannes. *The Visitor's Guide to Finland*.

Translated by Andrew Shackleton. Edison, NJ: Hunter, 1987.

Mead, W. R., and Helmer Smeds. *Winter in Finland: A Study in Human Geography*.

New York: Praeger, 1967.

Rode, Reinhard. *Finland*. Boston: Houghton Mifflin, 1995.

## DID YOU KNOW?

The two bodies of water bordering Finland—the Gulf of Finland and the Gulf of Bothnia—can freeze over entirely for months at a time due to frigid winter temperatures.

### Web Sites

Ministry for Foreign Affairs for Finland.

Virtual Finland. <http://virtual.finland.fi/>  
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Welcome to Finland. <http://www.publiscan.fi>  
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# France

- **Official name:** French Republic
- **Area:** 547,030 square kilometers (211,208 square miles)
- **Highest point on mainland:** Mont Blanc (4,807 meters/15,772 feet)
- **Lowest point on land:** Rhône River Delta (2 meters/7 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 950 kilometers (590 miles) from east to west; 962 kilometers (598 miles) from north to south
- **Land boundaries:** 2,889 kilometers (1,795 miles) total boundary length; Andorra 56.6 kilometers (35 miles); Belgium 620 kilometers (385 miles); Germany 451 kilometers (280 miles); Italy 488 kilometers (303 miles); Luxembourg 73 kilometers (45 miles); Monaco 4.4 kilometers (2.8 miles); Spain 623 kilometers (387 miles); Switzerland 573 kilometers (356 miles)
- **Coastline:** 3,427 kilometers (2,130 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

France is the largest country in Western Europe and the third largest in Europe. With an area of 547,030 square kilometers (211,208 square miles), it is surpassed only by Russia and Ukraine. Roughly hexagonal in shape, it is bordered by three different bodies of water (the Atlantic Ocean, the English Channel, and the Mediterranean) and three mountain chains (the Pyrenees to the south and the Jura and Alps to the east and southeast, respectively). The tiny principality of Monaco, a self-contained enclave, lies entirely within French borders, at the far southeastern tip of the country.

## 2 🌐 TERRITORIES AND DEPENDENCIES

France has a number of overseas departments and territories throughout the world. They are all islands except for French Guiana, on the northeast coast of South America. The northernmost of France's island dependen-

cies, in the Atlantic Ocean off the coast of Newfoundland, is the archipelago of St. Pierre and Miquelon, consisting of two islands and a number of rocky islets. Farther south, in the Lesser Antilles, lie the tropical islands of Guadeloupe and Martinique.

Several French islands are located in the Indian Ocean. Mayotte, part of the Comoros archipelago that lies east of Mozambique, belongs to France (the other Comoros islands declared their independence in 1975). The volcanic island of Réunion, east of Madagascar, administers two other French dependencies in the Mozambique Channel: the island of Europa and the atoll of Bassas da India. France also has an overseas territory farther south in the Indian Ocean, collectively called the Southern and Antarctic Lands. The Southern Lands comprise two individual volcanic islands and two archipelagos. "Antarctic Lands" refers to a section of Antarctica called "Adelie Land." France has three dependencies in the

# FRANCE



Pacific: New Caledonia, Wallis and Futuna, and French Polynesia, which is a group of five archipelagos halfway between South America and Australia.

### 3 CLIMATE

France's various regions have three major types of climate: oceanic, continental, and Mediterranean. Temperatures generally increase from

north to south. The western part of the country, which borders the Atlantic Ocean, has a temperate, humid oceanic climate, characterized by relatively modest annual temperature variations, heavy precipitation, and overcast skies, with cool summers and winters. Average temperatures in Brest, at the tip of Brittany, are 6°C (43°F) in January and 16°C (61°F) in July. Much of eastern and central France has



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# FRANCE

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EPD/Wilko Gijbsbertsen

*The Alps lie in western France near the border with Italy.*

a continental climate, with a wider range of temperatures and greater variations between seasons. Winters are cold and snowy, and storms are frequent in June and July. Paris has an average annual temperature of 11°C (53°F). The eastern part of the country has the most severe winters.

The Mediterranean climate predominates in the south and southeast, stretching inland from the coast to the lower Rhône Valley. Winters are mild and humid, with only short periods of frost, and summers are hot and dry. Temperatures above 32°C (90°F) are common. Annual temperatures in Nice, on the Côte d'Azur, average 15°C (59°F). Southern France occasionally experiences a cold northern wind called the *mistral*.

Average annual rainfall in France ranges from as little as 43 centimeters (17 inches) on the Languedoc coast to 130 centimeters (50 inches) at high elevations in the mountains, on the Massif Central, and in the northwest. Annual rainfall averages 68 centimeters (27 inches) in Paris and 100 centimeters (39 inches) in Bordeaux.

## **4** 🌐 **TOPOGRAPHIC REGIONS**

Although France's topography is varied, it can be broken down into three major types of terrain. At the center of the country are the four Hercynian Massifs, with the Massif Central at their center. The higher mountain peaks of the Pyrenees, the Jura, and the Alps rise in the south and east, forming natural borders with the neighboring countries of Spain, Switzerland, and Italy. Between these geographical

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# FRANCE

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EPD/Saxifraga/Jan van der Straaten

*The west coast of Brittany, France, is rocky.*

features are the low-lying plains of the Paris Basin and the regions to the west.

The following ten regions have been identified based on geographical and cultural factors: the Nord; the Paris Basin; the East; Burgundy and the Upper Rhine; the Alps; Mediterranean France; Aquitaine and the Pyrenees; the Massif Central; the Loire Valley and Atlantic France; and Armorica. An additional area of France is the large island of Corsica in the Mediterranean Sea.

## **5** OCEANS AND SEAS

The North Atlantic Ocean lies to the west of France, and the Mediterranean Sea to the south. In addition, a small portion of its northern coast borders the North Sea.

### **Sea Inlets and Straits**

France has coastlines on the English Channel to the northwest and the Bay of Biscay to the

west. In the north, the Seine River empties into the English Channel in the Baie de la Seine, and the Saint-Malo Gulf lies between the Côtentin Peninsula and Brittany. The western part of France's Mediterranean coast borders the Golfe de Lion.

### **Islands and Archipelagos**

France's largest island, and the fourth largest in the Mediterranean, is Corsica. Separated by over 160 kilometers (100 miles) of sea from the mainland, the island rises to over 1,676 meters (5,500 feet) and has a coastal plain only on its eastern side. France also has a number of islands off the Atlantic coast. The largest of these are Ouessant Island, off the tip of Brittany; Belle-Île-En-Mer, to Brittany's south; and Île de Ré and Oléron Island, both of which are near La Rochelle.

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# FRANCE

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## Coastal Features

Dramatic chalk cliffs mark the northern coastline, dropping abruptly to sandy beaches that border the English Channel. There is a deep coastal indentation north of Bordeaux where the Garonne River and its tributary, the Dordogne, empty into the Bay of Biscay. Fine sand lines the beaches along this coast, and there are dunes in the southern area known as the Landes.

The shoreline on the western edge of the Golfe de Lion consists of sandbars and lagoons. Farther east are headlands and bays, and the marshland known as the Camargue. The eastern part of the Mediterranean coast is the Côte d'Azur, the famous resort area that lies between the hills of Provence and the sea.

## 6 INLAND LAKES

France's inland waterways include a number of natural and artificial lakes. The largest natural lake, Lake Bourget, lies at the western edge of the Alps, as does Lake Annecy. There are also lakes in the Vosges Massif and in the valleys of the Jura Mountains. Ponds and lagoons lie along the Atlantic coast in the Landes region and the Mediterranean coast in Languedoc.

### DID YOU KNOW?

Scientists named the Jurassic Period (which occurred 145 to 208 million years ago) for France's Jura Mountains, because fossils discovered there date back to this era.

## 7 RIVERS AND WATERFALLS

The drainage system of France is based on five major rivers. In the north, the Seine—the most gentle, regular, and navigable of French rivers—flows across the Paris Basin for 780 kilometers (485 miles). Before draining into the English Channel at Le Havre, it is joined by three tributaries: the Yonne, the Marne, and the Oise. It has a number of islands, of which the most famous is the Île de la Cité in Paris.

The Loire, whose river basin occupies the central part of France, is the longest river located entirely in France (1,020 kilometers/634 miles) and covers the largest area (115,000 square kilometers/44,400 square miles). From the Massif Central it flows northwestward to Orléans, then westward to the Atlantic.

The Garonne is the shortest of France's major rivers. It rises in the Pyrenees, across the border with Spain, and empties into the Bay of Biscay at Bordeaux. Its tributaries include the Tarn, the Aveyron, and the Dordogne.

The Rhône is the largest and most complex of French rivers. Rising in Switzerland, it gathers its major tributary, the Saône, at Lyon and flows southward through France for 521 kilometers (324 miles) of its total length of 813 kilometers (505 miles), emptying into the Mediterranean. Lastly, there is the Rhine, which is considered more a European river than specifically a French one. It flows along the eastern border for about 190 kilometers (118 miles), fed by Alpine streams. The Moselle and the Meuse, which drain the Paris Basin, are both tributaries of the Rhine that join it in neighboring countries. There also are some smaller rivers in the northeast; the best known of these is the Somme, which flows into the English Channel.

## 8 DESERTS

There are no deserts in France.

## 9 🌐 FLAT AND ROLLING TERRAIN

France's plains are mostly located in the Paris Basin to the north and in a series of lowland regions in the west. The Paris Basin is the cradle of France, occupying one-third of the nation's territory. It is centered among France's four major massifs: the Ardennes, the Vosges, the Massif Central, and the Armorican Massif. At the center of the basin lies Paris itself. Southwest of the Paris Basin, along the valley of the Loire River, lie the plains of Anjou and, to their south, Poitou. Still farther south are the lowlands of Aquitaine, including the basins of the Garonne and the Adour Rivers and the plain of Landes, which borders the Bay of Biscay. The marshes of the Camargue region, on the Mediterranean coast between the two mouths of the Rhône River, are known for unusual fauna, including the pink flamingo. They cover 787 square kilometers (304 square miles).

There are hills in many parts of France. Especially noted for their hilly terrain are the northwest region of Lower Normandy and Brittany, the Champagne region northeast of the Paris Basin, which is one of France's most famous wine-growing areas, and the southern region of Provence.

## 10 🌐 MOUNTAINS AND VOLCANOES

France has three major mountain systems: the Pyrenees, the Alps, and the Jura Mountains.

The Pyrenees extend for over 450 kilometers (280 miles), from the Atlantic Ocean to the Mediterranean Sea and along the southwestern coast of France, rising above 3,048 meters (10,000 feet). The French Alps, in the southeastern part of the country, occupy 38,849 square kilometers (15,000 square miles) and include Europe's highest peak, Mont Blanc, as well as its greatest expanses of glacier and permanent snowcaps. Extending as far north

as Lake Geneva and as far westward as the Rhône River, they form a natural barrier with Italy and Switzerland in the southeast. Among their various sections are the Maritime Alps, the Provence Alps, and the Dauphiné Alps. The limestone ridges of the Jura rise to 1,524 meters (5,000 feet), forming France's eastern border with Switzerland north of Lake Geneva. They cover an area of some 12,950 square kilometers (5,000 square miles), with hills in the south and high plateaus in the north, and extend into Switzerland in the northeast. Their highest peak is Mount Neige, at 1,723 meters (5,653 feet).

## 11 🌐 CANYONS AND CAVES

There are no notable caves or canyons in France.

## 12 🌐 PLATEAUS AND MONOLITHS

The plateaus of the four Hercynian Massifs form a "V" shape that covers much of central France. At its midpoint is the Massif Central, which covers roughly one-sixth of the country's total area and rises to over 1,524 meters (5,000 feet). This granite plateau separates northern and southern France. The Ardennes Plateau in the northeast occupies 1,554 square kilometers (500 square miles). Open valleys lie between its ridges, traversed by the Meuse and Sambre Rivers. Southeast of the Ardennes, the Vosges Massif rises to rounded granite summits which exceed 1,219 meters (4,000 feet). The highest points in the Vosges, called ballons, are located near the Alps; the most elevated is the Ballon de Guebwiller, at 1,423 meters (4,669 feet). The Armorican Massif covers 64,750 square kilometers (25,000 square miles), thrusting out into the Atlantic Ocean and the English Channel in two rocky promontories: Brittany and the Côtentin Peninsula. Its hills seldom exceed 365 meters (1,200 feet).

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# FRANCE

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## 13 MAN-MADE FEATURES

Major reservoirs are found in the Massif Central (Sarrans and Bort-les-Orgues) and in the Alps (Serre-Ponçon). Many of France's cities and towns are connected by a system of canals, including the Canal du Midi, which links Toulouse in the southwest with the Languedoc coast, the Canal du Nivernais in Burgundy, and the Nantes-Brest Canal in Brittany. Canals also link the Loire and Seine Rivers.

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# Gabon

- **Official name:** Gabonese Republic
- **Area:** 267,667 square kilometers (103,347 square miles)
- **Highest point on mainland:** Mt. Iboundji (1,575 meters/5,167 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern, Southern, and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 717 kilometers (446 miles) from north-northeast to south-southwest; 644 kilometers (400 miles) from east-southeast to west-northwest
- **Land boundaries:** 2,551 kilometers (1,585 miles) total boundary length; Cameroon 298 kilometers (185 miles); Republic of the Congo 1,903 kilometers (1,182 miles); Equatorial Guinea 350 kilometers (217 miles)
- **Coastline:** 885 kilometers (550 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Gabon is located on the equator in western Africa. It shares borders with Cameroon and Equatorial Guinea to the north and with the Republic of the Congo to the south and east. The country's western coast lies along the South Atlantic Ocean. With an area of 267,667 square kilometers (103,347 square miles), the country is slightly smaller than the state of Colorado. Gabon is divided into nine provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Gabon has no outside territories or dependencies.

## 3 🌐 CLIMATE

Gabon has the hot and humid climate typical of tropical regions. The hottest month is January; at Libreville, the average high is 31°C (88°F) and the average low is 23°C (73°F). Average July temperatures in the capital city range between 20 and 28°C (68° and 82°F).

From June to September, virtually no rain falls but high humidity prevails. There is occasional rain in December and January. During the remaining months, rainfall is heavy. The excessive rainfall is caused by the condensation of moist air resulting from the meeting of two Atlantic Ocean currents: the cold Benguela Current from the south and the warm Guinea Current from the north. At Libreville, the average annual rainfall is more than 254 centimeters (100 inches). Farther north on the coast, it is 381 centimeters (150 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

The low-lying coastal plain of Gabon is narrow in the north (approximately 29 kilometers/18 miles wide) and broader in the estuary regions of the Ogooué River. Much of the coastal area is wooded, with savannah (grassland) separating the wooded coast from the rainforest of the interior. The rainforest includes some unique

# GABON



plants, such as climbing vines and hardwood tree species.

The land in the interior is not strictly flat plains; it is more complex, but not dramatic. In the north, mountains enclose the valleys of the Woleu and Ntem Rivers and the Ivindo Basin. In southern Gabon, the coastal plain is dominated by granitic hills. Between the Ngounié and the Ogooué Rivers, the Chaillu Massif rises to 915 meters (3,000 feet). Almost the entire country is contained in the basin of the Ogooué River and its two major tributaries. Within the rainforests grows an encyclopedic range of flora, including climbing palms, rubber vines, liana, and hardwood trees such as purpleheart, ebony, and mahogany. The hardwoods, including the okoumé (unique to central Africa) and Ozigo

tree, are harvested for their timber—a cash crop of significant value to Gabon's economy.

Besides plant life, the rainforests' floors and canopies also provide habitats for all sorts of animals. Snakes such as vipers and pythons slither around hunting for their prey— insects, field mice, and other unlucky small animals. Hedgehogs, porcupines, and tortoises lumber around on the forest floor, while squirrels, monkeys, baboons, lemurs, toucans, and African parrots occupy the trees. Crocodiles and hippopotamuses claim the riverbanks, and big game animals such as antelope, buffalo, and elephants roam the grasslands. Even gorillas, endangered in most other parts of Africa, are so numerous in Gabon that they have become an environmental nuisance.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Gabon borders the South Atlantic Ocean south of the Bight of Biafra and the Gulf of Guinea.

### Sea Inlets and Straits

The northern coastline is deeply indented by bays, estuaries, and deltas as far south as the mouth of the Ogooué River, featuring Cape Santa Clara in the north, and Cape Lopez, the country's westernmost point, just north of the Ogooué River mouth. These bays and estuaries form excellent natural shelters, thus providing ports and harbors. Numerous lagoons, such as Ndogo and Nkomi, line the coastline south of the Ogooué River. Much of this coastal area contains mangrove swamps as well. Corsica Bay is located along the northern coast.

## 6 INLAND LAKES

In the west of Gabon, near the city of Lamberene, are most of the country's lakes, which were formed by crisscrossing rivers. Lake Onangue, an offshoot of the Ogooué River, is one of the largest.

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# GABON

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AP Photo/Saurabh Das

*Clouds hang over the rain forest in Lope Reserve, Gabon.*

## **7** 🌐 **RIVERS AND WATERFALLS**

Virtually the entire territory of Gabon is contained in the basin of the Ogooué River. It is Gabon's longest river—about 1,100 kilometers (690 miles) long and navigable for about 400 kilometers (250 miles). It flows from the southeastern point of Gabon and winds its way up through the center of the country, turning west and cutting through the Crystal Mountains to reach its mouth on the Atlantic Ocean at Port-Gentil. Its two major tributaries are the Ivindo and the Ngounié, which are navigable for 80 to 160 kilometers (50 to 100 miles) into the interior. The Ivindo drains the northeastern part of Gabon, and the Ngounié runs parallel to the Crystal Mountains along their western face. In the east, the Sébé River also joins the Ogooué. The relatively short Gabon River rises just inside Equatorial Guinea and flows southwest into Gabon, over the Kingulé Falls, then dumps into the Atlantic Ocean at Kango.

## **8** 🌐 **DESERTS**

There are no major desert regions in Gabon.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

There are no major prairie regions within the country of Gabon. Only about 1 percent of the land is arable, with permanent crops. About 18 percent of the terrain is considered to be permanent pasture.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Rivers descending from the interior have carved deep channels in the face of the escarpment, dividing it into distinct blocks and separating the Crystal Mountains from the Chaillu Massif. The Crystal Mountains run roughly north to south across the country, just west of the center. The highest point in Gabon is the peak of Mount Iboundji, which reaches an altitude of 1,575 meters (5,167 feet). It is located in the northern Crystal Mountains.



# GABON



AP Photo/Christine Nesbitt

*A security helicopter hovers over the beach at a resort south of Libreville, Gabon.  
The location is a popular spot for international meetings.*

## 11 🌐 CANYONS AND CAVES

The Oklo Uranium mine in Gabon is an important research site for nuclear physicists. In 1972, researchers discovered that the mine had been the site of a natural fission reaction that occurred at least 1.5 billion years ago. The chain reaction may have continued intermittently for hundreds of thousands of years before becoming inactive. This natural nuclear reaction created radioactive wastes that have been buried there for centuries. Scientists are studying the area to develop safer methods of nuclear waste disposal.

## 12 🌐 PLATEAUS AND MONOLITHS

Plateaus cover the north and east and most of the south of the country. They rise from the coastal lowlands, which range in width from 30 to 200 kilometers (20 to 125 miles), to form a rocky escarpment which is more than 96 kilo-

meters (60 miles) wide, and which ranges in height from 450 to 600 meters (1,480 to 1,970 feet).

## 13 🌐 MAN-MADE FEATURES

There are no major man-made structures affecting the geography of Gabon.

## 14 🌐 FURTHER READING

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# The Gambia

- **Official name:** Republic of The Gambia
- **Area:** 11,300 square kilometers (4,363 square miles)
- **Highest point on mainland:** Unnamed location (53 meters/173 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 338 kilometers (210 miles) from east to west; 47 kilometers (29 miles) from north to south
- **Land boundaries:** Senegal 740 kilometers (460 miles)
- **Coastline:** 71 kilometers (44 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Except for its Atlantic coastline, Anglophone (English-speaking) The Gambia is surrounded entirely by its only neighbor, Francophone (French-speaking) Senegal. Its twisting land boundary surrounds the Gambia River. In area, The Gambia is roughly twice the size of the state of Delaware, making it the African continent's smallest country. The Gambia River, the country's major waterway, is its most prominent geographic feature.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The Gambia has no territories or dependencies.

## 3 🌐 CLIMATE

The Gambia has a subtropical climate with distinct cool and hot seasons. From November to mid-May there is uninterrupted dry weather, with temperatures as low as 16°C (61°F) in Banjul and surrounding areas. Hot, humid weather predominates the rest of the year, with a rainy season from June to October.

During this period, temperatures may rise as high as 43°C (109°F) but are usually lower near the sea. Mean temperatures range from 23°C (73°F) in January to 27°C (81°F) in June

along the coast, and from 24°C (75°F) in January to 32°C (90°F) in May inland. The average annual rainfall ranges from 92 centimeters (36 inches) in the interior of the country to 145 centimeters (57 inches) along the coast. Rainfall has decreased by 30 percent in the last thirty years, leading to problems with agricultural yield. Most of the rain falls from June to October.

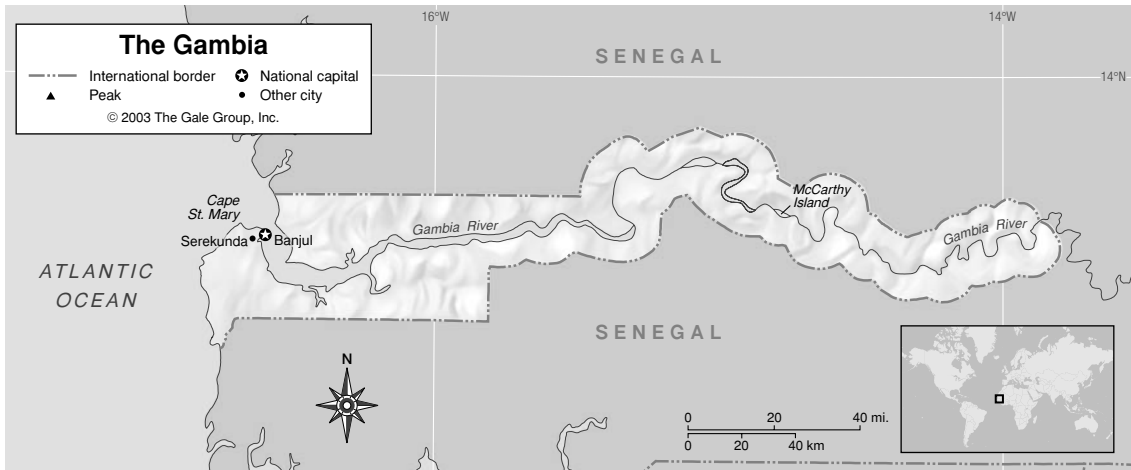
## 4 🌐 TOPOGRAPHIC REGIONS

To the west lies the Atlantic coastline, which is fringed with sandy beaches. The interior is generally low-lying on both sides of the Gambia River, although elevations are higher in the east. Throughout the country, low, flat-topped hills alternate with valleys or depressions. Fertile alluvial soil is found in the areas to the east, while sandy soil predominates in the west. Mangrove swamps are found along the coast and riverbanks.

## 5 🌐 OCEANS AND SEAS

At its western end, The Gambia borders the Atlantic Ocean.

# THE GAMBIA



## Seacoast and Undersea Features

In addition to the lower reaches of the Gambia River, the coast is marked with capes and lagoons.

## Islands and Archipelagos

Though The Gambia has no islands in the ocean, it has several on the Gambia River, including James Island and McCarthy Island, where Georgetown is located.

## Coastal Features

Most of The Gambia's Atlantic border is composed of the peninsula on which the cities of Banjul and Serekunda sit. Sandy white beaches cover most of The Gambia's 71-kilometer-long (44-mile-long) coast (also called the "smile coast"). Sand dunes line the coast at The Gambia's southern border with Senegal.

## 6 🌐 INLAND LAKES

There are no sizable lakes in The Gambia; however, brown mangrove swamps line the lower reaches on both banks of the Gambia River for the first 145 kilometers (90 miles) inland from the sea. Behind these mangroves are the "flats," which are submerged completely during the wet season.

## 7 🌐 RIVERS AND WATERFALLS

The Gambia River rises in Guinea and follows a twisting path for about 1,600 kilometers (1,000 miles) to the sea. For its last 470 kilometers (292 miles), the river flows through The Gambia, narrowing to a width of 5 kilometers (3 miles) at Banjul. During the dry season, tidal saltwater intrudes as far as 250 kilometers (155 miles) upstream. The Gambia River is navigable by seagoing vessels as far as Kuntaur, 240 kilometers (150 miles) upstream, and as far as Koina by vessels of shallow draft.

## 8 🌐 DESERTS

There are no deserts in The Gambia.

## 9 🌐 FLAT AND ROLLING TERRAIN

Past the riverbanks, the land on either side of the Gambia River is generally open savannah with wooded areas along the drainage channels.

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no mountains or other significant elevated areas in The Gambia. The country's terrain, which closely surrounds and parallels the Gambia River, rises only to a few steep hills

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# THE GAMBIA

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EPD/Saxifraga/Marijke Verhagen

*The Gambia River.*

of insignificant height. The highest elevation is 53 meters (173 feet) above sea level.

## **11** 🌐 **CANYONS AND CAVES**

There are no significant caves or canyons in The Gambia.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The Gambia occupies a fairly flat fluvial (produced by the action of a stream) plateau dissected by streams, broad valleys, and a few low hills.

## **13** 🌐 **MAN-MADE FEATURES**

Fort Bullen, located on Barra Point at the mouth of the Senegal River, is a two-hundred-year-old structure that was built by the British, who colonized the country.

## **14** 🌐 **FURTHER READING**

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# Georgia

- **Official name:** Georgia
- **Area:** 69,700 square kilometers (26,807 square miles)
- **Highest point on mainland:** Mount Shkhara (5,201 meters/17,064 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** 1,461 kilometers (906 miles) total boundary length; Armenia 164 kilometers (102 miles); Azerbaijan 322 kilometers (200 miles); Russia 723 kilometers (448 miles); Turkey 252 kilometers (156 miles)
- **Coastline:** 310 kilometers (192 miles)
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Georgia is located in southwestern Asia, east of the Black Sea. It borders Turkey and Armenia on the south, Azerbaijan on the southeast, and Russia on the north. With a total area of about 69,700 square kilometers (26,807 square miles), the country is slightly smaller than the state of South Carolina. Georgia is divided into fifty-three rayons, nine cities, and two autonomous republics.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Georgia has no outside territories or dependencies.

## 3 🌐 CLIMATE

The Georgian climate is notably humid, warm, and pleasant on the Black Sea coast. The Greater Caucasus Mountains to the north protect this area from truly cold weather. Even in midwinter, the average temperature is 5°C (41°F). The average summer temperature along the coast is 22°C (72°F). The plains region to the east, blocked from the sea by the Suram Mountains, is more continental in climate with hot summers and cold winters. Summer temperatures there range from 20°C (68°F) to 24°C (75°F),

while in winter they range from 2°C (36°F) to 4°C (39°F). The climate becomes cooler in the mountains, with alpine conditions starting at about 2,100 meters (6,800 feet). Above 3,600 meters (12,000 feet), the mountains are covered with snow and ice year-round.

The areas along the Black Sea coast and inland through the Kolkhida Lowlands experience high humidity and heavy precipitation of 100 to 200 centimeters (40 to 80 inches) per year. The Black Sea port of Batumi receives 254 centimeters (100 inches) of rain per year. At higher elevations, humidity is lower and rainfall averages 46 to 81 centimeters (18 to 32 inches) per year.

## 4 🌐 TOPOGRAPHIC REGIONS

Although it is a small country, Georgia features extremely diverse terrain, with both high mountain ranges and fertile coastal lowlands. Most of the country is mountainous, with the Greater Caucasus Mountains in the north and the Lesser Caucasus in the south. In the mountains, earthquakes and landslides frequently destroy life and property. In the west,

# GEORGIA



the Kolkhida Lowland borders the Black Sea, while the terrain in the east consists of the plains of the Kura River Basin. The country is situated in the isthmus between the Caspian and Black Seas.

Included within Georgia's boundaries are two autonomous republics: Ajaria in Georgia's southwestern corner, and Abkhazia in the northwest. Another autonomous region is South Ossetia, in the north-central part of Georgia. Separatists have sought to detach these areas from Georgia, especially in Abkhazia and South Ossetia.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Georgia's shoreline lies at the easternmost edge of the Black Sea. The Black Sea is a tideless, nearly landlocked body of water that lies between southeastern Europe and Asia Minor. It connects to the Sea of Marmara to the southwest through the Bosphorus Strait. The

principal Black Sea ports in Georgia are Pot'i and Batumi.

## 6 🌐 INLAND LAKES

The largest lake in Georgia is Lake Paravani, which is located in the south-central area of the country and covers an area of about 37 square kilometers (14 square miles). Lake Ritisa, located in the Caucasus Mountains in the northwest corner of the country, is the nation's deepest lake, at 116 meters (382 feet). Other major lakes include Paliastomi, Kartsakhi, and Yabatskuri. There are also several small lakes found in the mountains.

## 7 🌐 RIVERS AND WATERFALLS

The Kura (Mtkvari) River is the largest river in Georgia. It flows 1,514 kilometers (941 miles) from its source in Turkey across the plains of eastern Georgia, through the capital, Tbilisi, and on into Azerbaijan before entering the Caspian Sea. The largest river in western Georgia, the Rioni, flows from the Greater Caucasus into the Black Sea at the port of Pot'i. The

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# GEORGIA

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EPD/Saxifraga/Adriaan Dijkse

*The Lesser Caucasus Mountains near Mount Kazbek in Georgia.*

country's other rivers include the Iori, Khrami, and Inguri.

## **8** 🌐 **DESERTS**

There are no desert regions in Georgia.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

With a mostly mountainous terrain, Georgia has no significantly large sections of flatland or prairie.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

About 85 percent of the total land area of Georgia consists of rugged mountains. The Greater Caucasus Mountains, stretching across the northern border with Russia, is the tallest range in the country. Mount Shkhara (5,201 meters/17,064 feet), on the Georgian-Russian border, is the highest peak. Mount Kazbek (5,037 meters/16,526 feet), also in this chain, is the tallest mountain fully within Georgia's borders. In the south, the Lesser

Caucasus peaks rarely exceed 3,000 meters (10,000 feet). The Suram Mountains follow a northeast-southwest path across the center of the country, connecting the Greater and Lesser Caucasus Ranges.

## **11** 🌐 **CANYONS AND CAVES**

The cave towns of Georgia are considered to be among the most significant historical and cultural monuments of the nation. As the name suggests, these are ancient towns built entirely of caves that include both natural caves and those hand-carved into the mountains and hills. The mountain locations and underground structures served to protect the inhabitants from early invaders.

The ancient city of Uplistsikhe, dating from the sixth century B.C., was inhabited well into the ninth and tenth centuries. It is located near Gori and carved into a rocky plateau that forms a bank of the Kura River.

Besides living quarters, the complex includes huge banquet halls, long corridor-shaped streets, chapels for pagan worship and the remains of Georgia's oldest theater—with an auditorium, stage, and orchestra pit.

Vardzia is a cave monastery complex in southern Georgia, near the border with Armenia, that was built in the twelfth century by Queen Tamar, the daughter of King Giorgi III. The complex stretches for five hundred meters along the Kura River. It includes a large cathedral, as well as a number of smaller churches, wine cellars, feast halls, and hundreds of small cells, which served as living quarters for the monks.

The Gareji Complex is also a cave monastery system which was founded by the Syrian monk David Gareji, who lived in a natural cave that became the center of the complex. Located south of Tbilisi, it is built into a hill area near the separation of the Kura and Iori Rivers, and includes at least twelve individual cave dwellings. During the twelfth and thirteenth centuries, the monks of the Gareji order became famous for their own school of fresco painting. A number of the walls of the cave structures are covered with such paintings.

## 12 PLATEAUS AND MONOLITHS

A high plateau known as the Kartaliniya Plain follows the eastern side of the Suram Range, along the Kura River to the border with Azerbaijan. Further east, a semiarid region called the Iori Plateau borders the Iori River.

## 13 MAN-MADE FEATURES

In Georgia's Soviet period (1921-1991), engineers turned the Rioni River lowlands into prime subtropical agricultural land by

## DID YOU KNOW?

The Caucasus Region is the land area between the Black and Caspian Seas, which includes southwest Russia, Georgia, Azerbaijan, and Armenia. This area forms part of the traditional natural boundary between Europe and Asia.

straightening and banking much of the river and building an extensive network of canals.

Numerous man-made reservoirs exist throughout the country to provide water for drinking and irrigation. They include the Khrami, Djandari, Shaori, Tbilisi, Sioni, and Zhinvali, among others.

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# Germany

- **Official name:** Federal Republic of Germany
- **Area:** 357,021 square kilometers (137,847 square miles)
- **Highest point on mainland:** Zugspitze (2,963 meters/9,721 feet)
- **Lowest point on land:** Freepsum Lake (2 meters/6.6 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 853 kilometers (530 miles) from north to south; 650 kilometers (404 miles) from east to west
- **Land boundaries:** 3,618 kilometers (2,248 miles) total boundary length; Austria 784 kilometers (487 miles); Belgium 167 kilometers (104 miles); Czech Republic 646 kilometers (401 miles); Denmark 68 kilometers (42 miles); France 451 kilometers (280 miles); Luxembourg 135 kilometers (84 miles); Netherlands 577 kilometers (359 miles); Poland 456 kilometers (302 miles); Switzerland 334 kilometers (208 miles)
- **Coastline:** 2,389 kilometers (1,484 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Germany is located in central Europe, bordering the Baltic Sea and the North Sea between the countries of Poland and The Netherlands. The country also shares borders with Denmark, Belgium, Luxembourg, France, Switzerland, Austria, and the Czech Republic. With an area of about 357,021 square kilometers (137,847 square miles), the country is slightly smaller than the state of Montana. Germany is divided into sixteen states.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Germany has no outside territories or dependencies.

## 3 🌐 CLIMATE

Germany has a temperate and marine climate. The Gulf Stream westerly winds from the North Sea moderate temperatures throughout the year. In the lowlands, mid-winter temperatures average more than 1.6°C (35°F), while

summer temperatures average between 16° and 18°C (61° and 64°F). In the south, temperatures are somewhat more extreme, averaging about -2°C (28°F) in winter and 19.4°C (67°F) or higher in summer. The yearly mean for the entire country is 9°C (48°F).

Rainfall varies from 200 centimeters (79 inches) in the Alps to 40 centimeters (16 inches) in the vicinity of Mainz. In the maritime region, precipitation varies between 61 and 64 centimeters (24 and 25 inches), close to the national yearly average of between 60 and 80 centimeters (24 and 31.5 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Topographically, Germany is composed of northern lowlands, central uplands, Alpine foothills, and Bavarian Alps. The northern plain covers the upper one-third of the country and contains the coastal area in the far north. Inland, the plain becomes hilly and is

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crisscrossed by rivers and valleys. These hills open to the Alpine Foreland where north-south ranges interspersed with deep valleys climb to the wooded slopes and craggy peaks of the German-Austrian Alps. Germany lies on the Eurasian Tectonic Plate.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Germany faces the North Sea to the northwest and Baltic Sea to the northeast. A narrow strip of land on which Germany borders Denmark

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# GERMANY

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separates the two seas, both of which are extensions of the Atlantic Ocean.

## Sea Inlets and Straits

On the Baltic Sea, Mecklenburg Bay carves into the German coast.

## Islands and Archipelagos

In the North Sea, a line of inshore sand dunes became the East Frisian Islands when the shoreline sank during the thirteenth century. These islands have maximum elevations of less than 35 meters (115 feet) and they have been subject to eroding forces that have washed away whole sections of the coast during storms. In 1854, for example, the sea reclaimed the only village on Wangerooge, the easternmost of the main East Frisian Islands. The islands are strung along the coast in a nearly straight line roughly parallel to the coast.

The North Frisian Islands are located in the North Sea near the border with Denmark. They are irregularly shaped and haphazardly positioned.

At 927 square kilometers (358 square miles) in area, Germany's largest island is Rügen. It lies in the Baltic Sea off Stralsund. Another large island, Fehmarn, is located at the northern edge of Mecklenburg Bay in the Baltic Sea.

## Coastal Features

The North Sea coast has wide expanses of sand, marsh, and mudflats (watten). On the Baltic side, the northern sections of Schwerin and Neubrandenburg districts, which are also coastal, are dotted with marshes and numerous lakes.

On the North Sea side, the coastal mud flats between the Frisian Islands and the shore are exposed at very low tides and are crossed by innumerable channels. The mud

and sand are constantly shifting, making navigation treacherous.

The Schleswig-Holstein coast on the Baltic Sea differs markedly from that on the North Sea. It is indented by a number of small fjords with steep banks. The deep water and shelter of the fjords provide safe sailing conditions. Fishing villages are common on this coast, which is flat and sandy. Farther east, the coastline is uneven but also generally flat and sandy. The continuous action of wind and waves has created sand dunes and ridges. Sandbars connect the mainland with some of its offshore islands.

The Jasmund National Park, along the northeast shore of the Baltic Sea, is characterized by dramatic chalk cliffs. The Königsstuhl is the highest point of this coastline, reaching 117 meters (386 feet).

## 6 INLAND LAKES

The northern lowlands contain numerous lakes, particularly in northeastern Germany and around Berlin. Lakes in this region include Lake Müritz, Lake Kummerow, Lake Plau, and Lake Schwerin. In general, these lakes are of little commercial value because of their shallow depth.

The Alpine Foothills are speckled with many lakes of clear, clean water and steep, wooded banks. At higher elevations, glacial lakes add to the spectacular charm of the Alpine meadows. Several lakes dot the landscape in this area of southern Germany, including Ammer Lake, Lake Chiem, and Starnberger See. Lake Constance (Bodensee), through which passes the upper Rhine River, is shared with Switzerland and Austria. It is Germany's largest lake, with a surface area of 571.5 square kilometers (220.7 square miles), of which 305 square kilometers (118 square miles) lie within

## DID YOU KNOW?

**A**fter Germany was defeated in World War II, the victorious Allies had separated the country into two parts: East Germany, controlled by the Soviet Union, and West Germany, occupied by American, French, and British troops. The East German government constructed the Berlin Wall in 1961 to separate the entire border between East and West Germany. The concrete wall, topped with barbed wire and guarded by armed military personnel, was meant to keep East Germans from emigrating to the West. In 1989, when the Soviet Union abandoned its forced program of Communism for its outside territories, dismantling of the Wall began. In October 1990, East Germany was reunited with West Germany to form the present Federal Republic of Germany.

Today, most of the Berlin Wall is gone. Much of the concrete was crushed and recycled for road construction. Some large sections of the Wall were sold, and a few sections still stand today as memorials. In downtown Berlin, the line where the Wall once stood is marked with either a red line or a double row of cobblestones.

Germany. It is 74 kilometers (46 miles) long and reaches a maximum depth of 252 meters (827 feet).

## 7 RIVERS AND WATERFALLS

The greater part of the country drains into the North Sea via the Rhine, the Ems, the Weser, the Saale, and the Elbe Rivers. A small area north and northeast of Hamburg drains into the Baltic Sea via the Oder River on the Polish border.

Germany's two longest rivers are the Rhine and the Danube (Donau). The Rhine is one of the largest and most commercially important rivers in Western Europe. The western part of Germany is called the Rhineland. The Rhine rises in Switzerland, then flows into Lake Constance and to the west, along Germany's southern border with Switzerland, before turning north into Germany. The Rhine receives a steady flow from melting snow in the winter. In the summer, it is fed from the Neckar, the Main, and the Moselle, its three principal tributaries in Germany (the Moselle has its headwaters in France). The Rhine curves west again and branches into a delta shortly after exiting Germany for the Netherlands, after which it flows into the North Sea.

The Danube rises in the southwestern part of the country, not far from the Rhine, but the Danube flows northeast until it reaches the Bavarian Forest, where it curves southeast and exits into Austria at Passau. It then follows a winding, generally eastern course through Hungary, Yugoslavia, and Romania before finally emptying into the Black Sea 2,850 kilometers (1,771 miles) from its source. It flows for 647 kilometers (402 miles) within Germany itself. The second-longest river in Europe, the Danube is a vital commercial and transportation route.

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# GERMANY

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## 8 🌐 DESERTS

There are no desert regions in Germany.

## 9 🌐 FLAT AND ROLLING TERRAIN

Grasslands, pastures, and cultivated areas cover significant portions of the lowland plains, the Bavarian foothills, and the valleys and lower slopes of the Alps. Alpine meadows provide rich summer pastures. Barren moors cover the tops of the Harz Mountains in the Central Uplands.

At least a third of the country lies in an area of northern plains known as the central lowlands. These lowlands are part of a great plain that extends across north-central Europe, broadening from Belgium and the Netherlands until it reaches the Ural Mountains. The terrain is gentle and the landscape is marked by few sharp contrasts. Landform areas merge into one another, so no significant natural boundaries bar communications or distinguish one section of the country from another. Elevation in this region rarely exceeds 150 meters (492 feet). The land slopes imperceptibly toward the sea.

Germany's Central Uplands are part of the Central European Uplands extending from the Massif Central in France into Poland and the Czech Republic. The landscape consists of hills, high ridges, and broad, tilted blocks of sedimentary rocks interspersed with deep, trough-like valleys and lowlands.

The Central Uplands are bordered on the south by the south German scarplands, a succession of escarpments and intervening valleys stretching across the country from southern Baden-Württemberg to the northeastern corner of Bavaria. Sections of these uplands are formed by the extension of the Jura ranges from France and Switzerland. One of these ranges constitutes the Black Forest and a second chain forms the Swabian Alb

and its extension, the Franconian Alb. In the Black Forest, the Feldberg reaches an elevation of 1,496 meters (4,908 feet). The two albs are about 40 kilometers (25 miles) wide, and in several places peaks exceed altitudes of 900 meters (2,953 feet). They form an arc some 400 kilometers (248 miles) long, extending to the Central Uplands near Bayreuth.

Traditional passages into the Central Uplands include the Hessian Corridor, located between Hanover and Frankfurt, which runs through Kassel on the Weser River.

The deep incision of the valleys and their spectacular landscapes make the south German scarplands most distinctive. They give way to the gentle Alpine Foothills, which comprise all of Bavaria and the eastern portion of Baden-Württemberg. Most of this region is in the upper Danube River basin and is crossed by the Danube's main Alpine tributaries: the Iller, the Lech, the Isar, and the Inn.

Germany is dotted with patches of forest. A mixture of deciduous and conifer forests is found in the Central Uplands and southern scarplands such as the Thüringer Wald, the Bavarian and Bohemian Forests on the eastern frontiers, and the Black Forest in the southwest. In addition, the upper elevations in the Uplands surrounding the Rhine River are heavily forested, as are the Harz at lower levels. Conifers cover Alpine slopes. Good agricultural land is found at the base of the Thüringer Wald surrounding Erfurt, but soils in the southernmost districts are poor and are not favorable for cultivation.

In the southern highlands, the Haardt Mountains stretch into southwestern Germany from France, following the Rhine River. Moving northwest along the Rhine, the elevations gradually diminish, reaching the Taunus Mountains, then finally lowering to the Seven Hills and Rothaar Hills in western Germany.

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# GERMANY

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EPD/German Information Center

*Snow-capped mountains in Germany.*

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Bavarian Alps, high mountains that extend in a narrow strip along the country's southern boundary, are vital to the country's tourism industry. Three sections range eastward from Lake Constance on the Swiss border to just west of Salzburg on the Austrian border. The Allgäuer portion extends from Lake Constance to the Lech River and contains attractions such as Neuschwanstein, site of King Ludwig's whimsical mountain castle at Königsee. The central Bavarian Alps, between the Lech and the Inn Rivers, contain the highest point in Germany, the Zugspitze (2,963 meters/9,721 feet). From the Inn to the Salzburg Alps lies the third and easternmost section, which includes the Berchtesgaden resort, home of Hitler's infamous retreat, the Eagle's Nest. There are several other peaks which top 2,500

meters (8,202 feet); these include Watzmann, at 2,713 meters (8,901 feet); Hochfrottspitze, at 2,649 meters (8,691 feet); and Madelgabel, at 2,645 meters (8,678 feet). These summits rise majestically over the Bavarian Alps.

In the center of Germany are the Rhon Mountains, whose highest point is Mount Grosser Beer at 982 meters (3,221 feet). Just north and slightly to the east of this range are the Kyffhäuser Mountains. The Harz range forms the northwest section and its highest point, Brocken Peak, reaches a height of 1,141 meters (3,743 feet). To the southeast along the Czech border are the Ore Mountains, with elevations reaching 1,213 meters (3,980 feet) at Fichtelberg. Many major industrial centers are situated along the base of the Ores.

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# GERMANY

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## 11 🌐 CANYONS AND CAVES

The Schlossberg caves near Hamburg are Europe's largest sandstone caves. Long corridors connect their vast, multi-tiered, and multicolored sandstone rooms; visitors may explore about 1,000 meters (3,000 feet) of these tunnels. Part of a fortress that was destroyed in 1714, the caves were not rediscovered until around 1930.

The Messel Pit Fossil Site, a UNESCO World Heritage Site, has produced the largest known collection of fossils from the Eocene Age, which occurred between 36 million and 57 million years ago. Mammals began to evolve during the Eocene Age. Besides skeleton fossils, researchers also have found well-preserved organ fossils, such as animal stomachs and their contents.

## 12 🌐 PLATEAUS AND MONOLITHS

The Central German Uplands consist of a massive rectangular block of slate and shale covered by a gently rolling plateau averaging 400 meters (1,312 feet) in elevation, with peaks from 800 to 900 meters (2,625 to 2,952 feet). The plateau extends from the Rheinisch Uplands on the French border to the Ore Mountains, part of the Bohemian Massif, on the Czech border. The plateau contains several river valleys: the Rhine and the Moselle in the west, the Weser in the center, and the Elbe on the east. The southern edge is demarcated by the Main River, which flows westerly to the Rhine.

## 13 🌐 MAN-MADE FEATURES

Germany has an extensive system of canals that effectively link all of its major rivers together. A series of canals runs across the middle of the country, including the Dortmund-Ems Canal, connecting the Rhine with the Ems; the Mittelland Canal, connecting the Ems with the Weser and the Elbe; as well as other shorter canals. The Main-Danube Canal crosses through the Franconian Alb to connect those two rivers. In northern Germany, the Nord-Ostsee Canal (Kiel Canal) connects the estuary of the Elbe River on the North Sea with the Baltic Sea at Kiel. It is one of the world's busiest canals.

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German Embassy, Washington, D.C.: Country Profile. <http://www.germany-info.org/relaunch/index.html> (accessed May, 2003).

# Ghana

- **Official name:** Republic of Ghana
- **Area:** 238,533 square kilometers (92,098 miles)
- **Highest point on mainland:** Mt. Afadjato (885 meters/2,905 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 458 kilometers (285 miles) from north-northeast to south-southwest; 297 kilometers (178 miles) from east-southeast to west-northwest
- **Land boundaries:** 2,617 kilometers (1,626 miles) total boundary length; Togo 877 kilometers (545 miles); Côte d'Ivoire 668 kilometers (415 miles); Burkina Faso 544 kilometers (338 miles)
- **Coastline:** 528 kilometers (328 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Slightly smaller than the state of Oregon, Ghana is in western Africa, situated between Togo on the east, Côte d'Ivoire (Ivory Coast) on the west, and Burkina Faso on the north and northwest.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Ghana has no territories or dependencies.

## 3 🌐 CLIMATE

Ghana has a tropical climate that is relatively mild for that latitude. The harmattan, a dry desert wind, blows from the northeast from December to March, lowering the humidity and causing hot days and cool nights in the north. Average temperatures range from 21°C to 31°C (70 to 90°F) with a relative humidity between 50 percent and 80 percent. Except in the north, there are two rainy seasons: April through June and September through November. Squalls occur in the north during March and April, followed by occasional rain

until August and September, when the rainfall reaches its peak. Rainfall ranges from 83 to 220 centimeters (33 to 87 inches) a year.

## 4 🌐 TOPOGRAPHIC REGIONS

Ghana faces the Gulf of Guinea in the great bulge of West Africa. Average elevation is relatively low, mostly between sea level and about 305 meters (1,000 feet).

Ghana has five major geographical regions. In the southern part of the country are the low plains, part of the belt that extends along the entire coastal area of the Gulf of Guinea. To the north of these plains are three distinct regions: the Ashanti Uplands, the Volta Basin, and the Akwapim-Togo Ranges. The fifth region, the high plains, occupies the northern and northwestern parts of the country. These plains also form part of a belt stretching generally from east to west through West Africa.



# GHANA



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Ghana's coast stretches for 528 kilometers (328 miles) along the Gulf of Guinea in the Atlantic Ocean. It is characterized by strong surfs, which make landing ships difficult, except at artificially constructed harbors.

### Coastal Features

The coast consists mostly of a low sandy shore, behind which stretches the coastal plain. Except in the west, where the forest comes down to the sea, the plain is mostly flat and generally covered with grass and scattered fan palms. Most of Ghana's rivers

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# GHANA

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UNESCO/Dominique Fernandez

*Men fold their nets at the end of a day of fishing in Ghana's coastal waters.*

terminate in brackish lagoons along the coast, but there are no natural harbors.

The Volta Delta projects out into the Gulf of Guinea in the extreme southeast. As this delta grew outward over the centuries, sandbars developed across the mouth of the Volta River and also in some smaller rivers nearby, forming numerous large lagoons. Dense groves of coconut palms also grow here, and oil palms may be found at places inland in the drier, older section of the delta.

## **6** 🌐 **INLAND LAKES**

Ghana's one large natural lake, Lake Bosomtwi (46 square kilometers/18 square miles), is located about twenty miles southeast of Kumasi.

It occupies the steep-sided caldera (crater) of a former volcano. Several small streams flow into this lake, but because there is no drainage, its level is gradually rising.

## **7** 🌐 **RIVERS AND WATERFALLS**

Streams and rivers run across the entire country. The largest river, the Volta, has three branches, all of which originate in Burkina Faso. The Black Volta forms the northwest border, then flows southeastward into Ghana to the east. The White Volta and the Red Volta both enter the country in the northeast. About 40 kilometers (25 miles) inside the border, the Red Volta joins the White Volta, which eventually flows into Lake Volta behind the Akosombo Dam.

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# GHANA

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Almost all streams and rivers north and east of the country's major drainage divide are part of the vast Volta drainage system, which covers some 157,989 square kilometers (61,000 square miles), or more than two-thirds of the country. To the south and southwest of the plateau several smaller independent river systems flow directly into the Gulf of Guinea. The most important of these are the Pra, the Ankobra, and the Tano. Only the Volta, Ankobra, and Tano Rivers are navigable, and only in their lower sections.

Small, seasonal waterfalls can be found in Boegoro and Huhunya.

## **8** 🌐 **DESERTS**

Although Ghana has some dry lands and areas that may be subject to desertification, there are no notable deserts.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Grasslands dominate the south, mixed with coastal scrub. Ghana's forest belt extends northward from the western coast on the Gulf of Guinea about 320 kilometers (200 miles) and eastward for a maximum of about 270 kilometers (170 miles). It is broken up into heavily wooded hills and steep ridges. Cultivation, grazing, mining, and harvesting of timber and firewood have taken a heavy toll on forests and woodland; deforestation proceeds at an annual rate of 720 square kilometers (278 square miles).

The Ashanti Uplands lie just to the north of the Akan Lowlands area. They extend from the Ivory Coast border, through the western and part of the northern Brong-Ahafo Region and the Ashanti Region (excluding its eastern section), to the eastern end of the Kwahu Plateau. With the exception of the Kwahu Plateau, the uplands slope gently toward the south, gradually decreasing in elevation from about 304 to 152 meters (1,000 to 500 feet). In the

southernmost part, their valleys become more open, and the region merges into the Akan Lowlands at an elevation between sea level and 152 meters (500 feet). These lowlands make up the greater part of the low plains. Several hill ranges also appear here. Although most high points do not top 304 meters (1,000 feet), a few hills exceed 609 meters (2,000 feet).

The Volta Basin region occupies the central part of the country and covers about 45 percent of the country's total area. Much of the southern and southwestern part of this basin is less than 152 meters (500 feet) in elevation; in the northern section, however, above the upper part of Lake Volta and the Black Volta, elevations are from about 152 to 228 meters (500 to 750 feet).

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Akwapim-Togo Ranges in the eastern part of the country have many prominent heights composed of volcanic rocks. The ranges begin west of Accra and cross the border into the Republic of Togo. The average elevation of the Akwapim section of the mountains is about 475 meters (1,500 feet). The Togo section has broader valleys and generally low ridges. Several peaks rise above 762 meters (2,500 feet). The country's highest point, Mount Afadjato (885 meters/2,905 feet), is located in this area.

## **11** 🌐 **CANYONS AND CAVES**

Small caves can be found near the Kwahu Plateau and in the upland areas.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The northern and northwestern part of the country outside the Volta Basin region consists of a plateau, which averages between 152 and 304 meters (500 and 1,000 feet) in elevation.

The Kwahu Plateau, forming the northeastern and eastern part of the uplands,

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# GHANA

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has an elevation that averages 457 meters (1,500 feet) and its high points rise to over 762 meters (2,500 feet). The greater height of the plateau gives it a comparatively cooler climate.

## **13** 🌐 **MAN-MADE FEATURES**

Lake Volta is the world's largest man-made lake (8,485 square kilometers/3,276 square miles), formed by the accumulation of water from the Volta River behind Akosombo Dam. Although the dam provides much of the country's hydroelectric power, it also contributes significantly to coastal erosion. It reduces the amount of water flowing in the river, and thus it also reduces the amount of sediment the river carries to its mouth along the coast. The coast continues to erode at its natural rate,

and since less sediment is being deposited to replace it, the coast diminishes.

## **14** 🌐 **FURTHER READING**

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# Greece

- **Official name:** Hellenic Republic
- **Area:** 131,940 square kilometers (50,942 square miles)
- **Highest point on mainland:** Mount Olympus (2,917 meters/9,571 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 772 kilometers (480 miles) from east to west; 940 kilometers (584 miles) from north to south
- **Land boundaries:** 1,210 kilometers (752 miles) total boundary length; Albania 282 kilometers (175 miles); Bulgaria 494 kilometers (307 miles); Turkey 206 kilometers (128 miles); Macedonia 228 kilometers (142 miles)
- **Coastline:** 13,676 kilometers (8,498 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Greece is located at the southern tip of the Balkan Peninsula in southern Europe. Several seas surround the mainland: the Aegean, Mediterranean, and Ionian Seas. In addition, one-fifth of the country is made up of hundreds of islands, many of them uninhabited, that lie in all three of these bodies of water. With a total area of 131,940 square kilometers (50,942 square miles), Greece is almost as large as the state of Alabama. Greece is divided into fifty-one prefectures.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Greece has no territories or dependencies.

## 3 🌐 CLIMATE

Greece has a temperate Mediterranean climate moderated by both sea and mountain breezes. Summers are hot and dry, while winters are generally cool and rainy. The weather at the higher elevations is colder and wetter. Average January temperatures range from 6°C (43°F) in the northern city of Thessaloníki, to 10°C

(50°F) in Athens near the southern end of the mainland peninsula, to 12°C (54°F) at Iráklion on Crete. The average July temperature at sea level is near 27°C (80°F), with the thermometer topping 38°C (100°F) on the hottest days. Rainfall increases from south to north, ranging from 41 centimeters (16 inches) in Athens to about 127 centimeters (50 inches) on the island of Corfu.

## 4 🌐 TOPOGRAPHIC REGIONS

The northern part of mainland Greece consists of a long strip of land between the northern shore of the Aegean Sea and the southern borders of Bulgaria and the former Yugoslav republic of Macedonia. The Rhodope Mountains occupy most of this region. The central part of the mainland, corresponding to the bulk of the Greek peninsula, is dominated by the Pindus Mountains, Greece's most extensive mountain range. To the east, between mountain spurs, lie the plains of Thessaly and to the southeast, Boeotia and Attica. To the west lie the regions of Epirus and, farther south, Arkananía.

# GREECE



The southern part of the mainland, located south of the Gulf of Corinth, is a large, irregularly shaped peninsula called the Peloponnese. With an area of 21,446 square kilometers (8,278 square miles), it is connected to Attica by an isthmus that is only 6.4 kilometers (4 miles) across at its narrowest point. Although mountainous, it has a narrow coastal plain around its entire periphery.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Greece is bounded on the west by the Ionian Sea, on the south by the Mediterranean, and on the east by the Aegean Sea, an arm of the Mediterranean.

Greece has 13,676 kilometers (8,498 miles) of seacoast.



EPD/Saxifraga/Jan van der Straaten

*A road winds over the island of Chios, Greece, one of the Southern Sporades.*

## Sea Inlets and Straits

The Corinth Canal cuts through the isthmus connecting the Peloponnese to the rest of the Greek mainland, linking the Gulf of Corinth with the Saronic Gulf and making the Peloponnese technically an island. Numerous other gulfs and straits separate Greece's islands and peninsulas in the Aegean, Mediterranean, and Ionian Seas.

## Islands and Archipelagos

Greece's major island regions are the Ionian Islands, which hug the western coast from Albania to the Peloponnese; the Aegean Islands, scattered about the sea of the same name; and Crete, which separates the Aegean and Mediterranean Seas. The Aegean Islands include the Cyclades, the Northern and Southern Sporades groups, and numerous individual islands. Crete, the site of the first European

civilization, is the largest of the Greek islands and the fifth-largest Mediterranean island, with an area of 8,308 square kilometers (3,207 square miles).

## Coastal Features

The coast of the Greek peninsula is mostly rocky, although there are some strips of lowland along the shore. The most distinctive formation along the coast of the Greek mainland is the Chalcidice (Chalkidhiki) Peninsula in northern Greece, from which three narrow, smaller peninsulas jut into the Aegean. The port city of Thessaloniki is located on a natural harbor at the western end of this peninsula. Farther to the east, the Thracian coastline is generally smooth and uniform. The coast of central Greece has deeply indented bays about halfway down its length on both the east and west and is also indented to the south. The coast of the Peloponnese has good harbors



EPD/Saxifraga/Jan van der Straaten

*Mount Olympus in Greece.*

and includes some plains areas. At its southern end, cliffs meet the sea on the capes of Akirítas, Matapan, and Maléa.

## **6** 🌐 **INLAND LAKES**

Lake Korónia and Lake Vólvi mark the northern end of the Chalkidhiki Peninsula. Lake Vistonis in western Thrace, although called a lake, is actually a lagoon. Another major lake is Lake Trichonida near the southern end of the Pindus Mountains.

## **7** 🌐 **RIVERS AND WATERFALLS**

Greece has relatively few rivers. Those it does have are short, and none are commercially navigable. In the north, the Evros (Maritsa), Néstos, Struma, and Vardar flow across the plains of Thrace and Macedonia and into the northern Aegean Sea. With a total length of 480 kilometers (300 miles), the Evros is the country's longest river. It forms part of Greece's

border with Bulgaria in the north as well as its border with Turkey in the east. The rivers of central Greece are the Aliákman, Arakhthos, Akhelóos, Piniós, and Sperkhiós. The Aliákman (320 kilometers/200 miles) is the longest river located entirely in Greece. The major rivers of the Peloponnese are the Alpheus (Alfiós) and Evrótas.

## **8** 🌐 **DESERTS**

There are no desert regions in Greece.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The most extensive plains in Greece are found at the mouths of the Struma and Nestos Rivers in the northern part of the country and in Thessaly, whose lowlands constitute the country's most fertile farmland. Attica is mountainous in the north but levels off to plains that extend from Athens to the end of the peninsula.



Fertile lowlands are also found in the alluvial plains of the Peloponnese.

## 10 🌐 MOUNTAINS AND VOLCANOES

Greece's terrain is generally rugged, with mountain ranges and their spurs running northwest to southeast through much of the mainland. Altogether, mountains cover four-fifths of Greece. The Rhodope Mountains in northern Greece rise to over 1,800 meters (7,000 feet) in many places. Their highest peak is Mount Órivos, at 2,212 meters (7,287 feet). The Pindus Mountains, Greece's major mountain range, belong to the Dinaric mountain system that also spans Croatia, Serbia and Montenegro, and Albania. In central Greece, the range is divided into three segments by the Métsovon Pass and, farther south, by Mount Timfristós. Its spurs extend into the eastern part of central Greece, separated by structural depressions. The mountain spur north of Thessaly is home to Greece's highest peak, the legendary Mount Olympus, mythic home of the Greek gods. The Pindus range extends southeastward through the mainland peninsula to the Gulf of Corinth, where Mount Parnassus is located. A series of ridges extending southward into the Peloponnese give the peninsula its distinctive "four-fingered" shape.

## 11 🌐 CANYONS AND CAVES

An extensive system of caves runs southward to the sea at the Gulf of Laconia under the southern part of the Peloponnese region. The caves include an underground river, accessible to tourists by guided boat since 1963. The caves are filled with extensive stalactite and stalagmite deposits. The first documented exploration of the caves was in 1895, when

## DID YOU KNOW?

To explain their barren, rocky landscape, the Greeks adopted the legend that the gods poured the world's soil through a sieve and created Greece from the rocks that remained.

spelunkers found evidence of human bones and prehistoric fossils.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no major plateau regions in Greece.

## 13 🌐 MAN-MADE FEATURES

With a height of 160 meters (525 feet), the Kremasta Dam on the Achelos River is the tallest dam in Europe.

## 14 🌐 FURTHER READING

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# Grenada

- **Official name:** Grenada
- **Area:** 340 square kilometers (131 square miles)
- **Highest point on mainland:** Mount Saint Catherine (840 meters/2,756 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 34 kilometers (21 miles) from northeast to southwest; 19 kilometers (12 miles) from southeast to northwest
- **Land boundaries:** No international boundaries
- **Coastline:** 121 kilometers (75 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Located about 160 kilometers (100 miles) north of Trinidad, Grenada is the most southerly of the Windward Islands. Comprising the main island of Grenada and a number of smaller islands and islets, Grenada has an area of 340 square kilometers (131 square miles), or nearly twice the size of Washington, D.C. Grenada's capital, Saint George's, is located on the southwestern coast of the main island. Grenada is divided into six parishes.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Grenada has no territories or dependencies.

## 3 🌐 CLIMATE

Grenada has a tropical climate moderated by cooling trade winds, with temperatures ranging from 24°C (75°F) to 30°C (87°F) year round. The lowest temperatures occur between November and February. Annual rainfall is roughly 150 centimeters (60 inches) along the coast, although it can be double that in the central highlands. The driest season is between January and May. Even during the rainy season, from June to December, it rarely

rains for more than an hour at a time and generally not every day. Hurricanes are a danger between June and November.

## 4 🌐 TOPOGRAPHIC REGIONS

The country consists of the island of Grenada, the most southerly of the Windward Islands; the islands of Carriacou, Ronde, and Petit Martinique to the north; and a number of smaller islets of the Grenadines. (The remaining islands of the Grenadines extend north to form part of the country of St. Vincent and the Grenadines.)

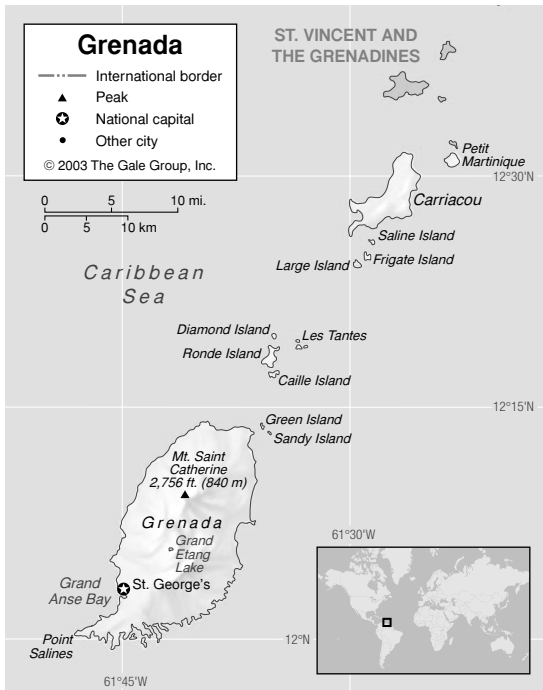
## 5 🌐 OCEANS AND SEAS

Grenada is in the southeastern corner of the Caribbean Sea.

## Seacoast and Undersea Features

Lying beneath the sea off the coasts of both Grenada and Carriacou is some of the Caribbean's most dramatic underwater scenery. Abundant coral reefs fringe the islands.

# GRENADA



## Islands and Archipelagos

The small islets of the Grenadines that belong to Grenada include Diamond, Green, Sandy, Caille, Les Tantes, Frigate, Large, and Saline Islands.

## Coastal Features

The coastline of Grenada is dotted with many small bays and both white-sand and black-sand beaches. The best-known beach and principal tourist area is Grand Anse Bay, near St. George's, a broad beach with white sand. The bay is formed by Point Salines, which juts westward at the southern end of Grenada. Mangrove swamps can be found along the coast.

## 6 🌐 INLAND LAKES

Lakes have formed in some of the extinct volcanic craters on Grenada. Grand Etang, at the center of the main island, is the largest

of the crater lakes. Lake Antoine and Levera Pond are close by.

## 7 🌐 RIVERS AND WATERFALLS

While many short, fast-running streams cross the terrain of the main island, there are no rivers of note in the country.

## 8 🌐 DESERTS

There are no deserts in Grenada.

## 9 🌐 FLAT AND ROLLING TERRAIN

Carriacou, the second-largest island, is hilly.

## 10 🌐 MOUNTAINS AND VOLCANOES

Volcanic in origin, the terrain of Grenada is very rugged. The mountain mass in the center of the main island consists of a number of ridges fanning out across the island. Mount Saint Catherine, the country's highest point (840 meters/2,756 feet), is located in these central highlands.

## 11 🌐 CANYONS AND CAVES

The coast at Halifax Bay, a popular diving site, forms a natural wall with sponge-filled caves.

## 12 🌐 PLATEAUS AND MONOLITHS

Carriacou's hilly interior rises to a low wooded plateau called Belair Park, 244 meters (800 feet) above sea level.

## 13 🌐 MAN-MADE FEATURES

One of Grenada's best-known landmarks is the 104-meter (340-foot) Sendall Tunnel in the city of St. George's, which connects the city's inner harbor (the Carenage) with its Caribbean coast.

## DID YOU KNOW?

The wreck of the *S.S. Bianca C*, the largest shipwreck in the Caribbean, lies near Grenada.

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# GRENADA

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### Books

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- Philpot, Don. *Grenada*. Lincolnwood, IL: Passport Books, 1996.

Thorndike, Tony. *Grenada: Politics, Economics, and Society*. Boulder, CO: L. Rienner Publishers, 1985.

### Web Sites

- About Grenada. <http://www.countryreports.org/grenada.htm> (accessed June 17, 2003).
- Grenada: Official Travel Guide. <http://www.geographia.com/grenada/> (accessed June 17, 2003).

# Guatemala

- **Official name:** Republic of Guatemala
- **Area:** 108,890 square kilometers (42,042 square miles)
- **Highest point on mainland:** Tajumulco Volcano (4,211 meters/13,830 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 7 A.M. = noon GMT
- **Longest distances:** 457 kilometers (284 miles) from south-southeast to north-northwest; 428 kilometers (266 miles) from east-northeast to west-southwest
- **Land boundaries:** 1,687 kilometers (1,046 miles) total boundary length; Belize 266 kilometers (165 miles); El Salvador 203 kilometers (126 miles); Honduras 256 kilometers (159 miles); Mexico 962 kilometers (597 miles)
- **Coastline:** 205 miles (330 kilometers)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Guatemala is located at the northwestern end of Central America and is bordered by Belize to the northeast, Honduras and El Salvador to the east, and Mexico to the north and west. Guatemala covers an area of 108,890 square kilometers (42,042 square miles), or slightly less than the state of Tennessee.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Guatemala has no territories or dependencies.

## 3 🌐 CLIMATE

The climate ranges from hot and humid in parts of the lowlands to very cold in the highlands, where frosts are common in some months and snow falls occasionally. Average annual temperatures at the coast range from 25°C to 30°C (77°F to 86°F); in the central highlands, they average 20°C (68°F); and in the higher mountain areas, they average 11°C (59°F). The rainy season lasts from May

through October inland, and into December along the coast; the dry season thus extends from November (or January) to April. Annual rainfall is heavy in the El Petén, the largest geographic region, averaging 203 centimeters (80 inches) in the north and 441 centimeters (150 inches) in the south.

## 4 🌐 TOPOGRAPHIC REGIONS

Most of the southern half of Guatemala consists of an interior upland region that includes high mountains and some thirty active volcanoes, as well as the plateaus and hills where the great majority of people live. There is a coastal plain to the south and swampy lowlands to the north.

## 5 🌐 OCEANS AND SEAS

In the east, Guatemala borders on the Caribbean Sea at the Gulf of Honduras. To the south lies the Pacific Ocean.

# GUATEMALA



## Sea Inlets and Straits

Amatique Bay, in the Gulf of Honduras, is 16 kilometers (10 miles) wide and 40 kilometers (25 miles) long.

## Coastal Features

Guatemala's Pacific coast is straight and open, with no natural harbors and relatively shallow offshore waters. Long stretches of black sand

# GUATEMALA



UNESCO/André Abbe

*Fishing is an important activity for those living near Lake Atitlan in Guatemala.*

line the coast, flanked by mangrove swamps and a coastal plain farther inland. The coast along the Gulf of Honduras is flat and open to Caribbean storms.

## **6** 🌐 **INLAND LAKES**

There are two important lakes of volcanic origin in the Sierra Madre highlands. Lake Atitlán is said to be one of the most beautiful lakes in the world. The volcanoes Atitlán, San Pedro, and Toliman line its shores. The lake is over 304 meters (1,000 feet) deep in places. Lake Amatitlán, just south of Guatemala City, is smaller and less spectacular. Steam rises from this warm-water lake, and medicinal sulfur springs are found along its banks. In the east is Lake Izabal, the largest lake in the country (43 kilometers/27 miles long and 19 kilometers/12 miles wide). Lake Petén Itzá is in the north.

## **7** 🌐 **RIVERS AND WATERFALLS**

Guatemala's eighteen principal rivers, which flow from the mountains to the Pacific Ocean, are relatively short. The Motagua River, flowing east for about 402 kilometers (250 miles), serves as part of the boundary between Guatemala and Honduras. The Polochic River empties into Lake Izabal, the largest lake in the country. The outlet of Lake Izabal is the Dulce River, which flows into Amatique Bay. The Sarstún River, to the south, serves as the boundary between Belize and Guatemala and links the El Petén region with the coast. Farther to the north, the Usumacinta River flows northeast along the Mexican border before continuing into that country. The Belize River and the Azul River both rise in El Petén and empty into the Caribbean.

# GUATEMALA

## 8 🌐 DESERTS

There are no deserts in Guatemala.

## 9 🌐 FLAT AND ROLLING TERRAIN

The swampy Polochic River-Lake Izabal lowland lies north of the Sierra de las Minas and the Mico Mountains. The Pacific coastal plain is predominantly savannah.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Sierra Madre system extends from Mexico, through Guatemala, to El Salvador and Honduras; it includes several active volcanoes. The country's highest peak, Tajumulco, is part of this system. The Sierra de Chuacús branches due east from the Sierra Madre in the central part of the country. To the east-northeast lie the Sierra de las Minas and the Mico Mountains. The Sierra de los Cuchumatanes, a great limestone massif that enters Guatemala from Mexico in the northwest, ranges from 2,743 to 3,352 meters (9,000 to 11,000 feet). To the east lie the Sierra de Chama and the Sierra de Santa Cruz.

## 11 🌐 CANYONS AND CAVES

Deep ravines often separate the lava plateaus and ash-filled basins of the mountains; these can be difficult to cross, even on foot.

## 12 🌐 PLATEAUS AND MONOLITHS

The vast area of El Petén, comprising about one-third of Guatemala, extends to the north of the mountain ranges into the Yucatan Peninsula at elevations between 152 and 213 meters (500 and 700 feet). Other smaller plateaus to the south reach elevations of 2,438 meters (8,000 feet).

## DID YOU KNOW?

**T**ikal National Park contains a major center of the native Mayan civilization, which was inhabited from the sixth century B.C. to the tenth century A.D.

## 13 🌐 MAN-MADE FEATURES

The Chiquimulilla Canal, which runs 112 kilometers (70 miles) from the port of San Jose to the Salvadoran border, is part of the coastal lagoon but has been dredged to allow river traffic.

## 14 🌐 FURTHER READING

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Perl, Lila. *Guatemala, Central America's Living Past*. New York: Morrow, 1982.

### Web Sites

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Lonely Planet Destination Guide. [http://www.lonelyplanet.com/destinations/central\\_america/guatemala/](http://www.lonelyplanet.com/destinations/central_america/guatemala/) (accessed June 17, 2003).



# Guinea

- **Official name:** Republic of Guinea
- **Area:** 245,857 square kilometers (94,926 square miles)
- **Highest point on mainland:** Mount Nimba (1,752 meters/5,748 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 831 kilometers (516 miles) from southeast to northwest; 493 kilometers (306 miles) from northeast to southwest
- **Land boundaries:** 3,399 kilometers (2,112 miles) total boundary length; Senegal 330 kilometers (205 miles); Mali 858 kilometers (533 miles); Cote d'Ivoire 610 kilometers (379 miles); Liberia 563 kilometers (350 miles); Sierra Leone 652 kilometers (405 miles); Guinea-Bissau 386 kilometers (240 miles)
- **Coastline:** 320 kilometers (199 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Guinea is located on the coast of the great western bulge of Africa, bordering the North Atlantic Ocean. The country shares borders with Senegal, Mali, Côte d'Ivoire, Liberia, Sierra Leone, and Guinea-Bissau. With an area of about 245,857 square kilometers (94,926 square miles), the country is slightly smaller than the state of Oregon. Guinea is divided into thirty-three prefectures and one special zone.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Guinea has no outside dependencies or territories.

## 3 🌐 CLIMATE

The temperature in Guinea varies according to region and season. Conakry is humid nearly all year-round, with fairly uniform temperatures from 23°C (73°F) to 29°C (84°F). Temperatures in the Fouta Djallon and Forest

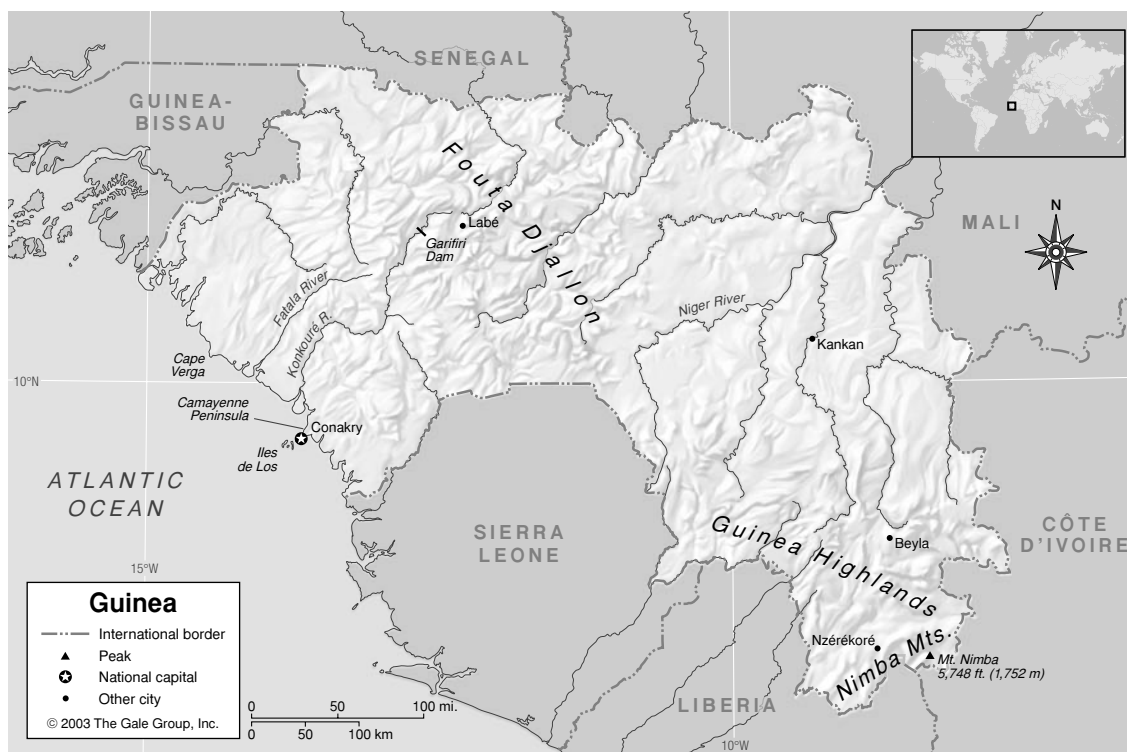
Highlands are more moderate, and in the dry season they may vary daily by 14°C (25°F).

Conakry and the maritime region receive as much as 430 centimeters (169 inches) of monsoon rains annually, with half of the rainfall in July and August. The Fouta receives about 150 to 200 centimeters (60 to 80 inches), while the Forest Highlands receive 280 centimeters (110 inches) annually.

## 4 🌐 TOPOGRAPHIC REGIONS

Guinea has four main geographic regions. Lower Guinea, or Maritime Guinea, consists mainly of a coastal plain that rises steeply to high central plateaus known as the Fouta Djallon, or "The Fouta," in Middle Guinea. To the northeast are broad savannahs in Upper Guinea. To the southeast are a combination of mountains and uplands in the Forest Highlands.

# GUINEA



## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Guinea's irregular coast is broken up by a number of bays and estuaries facing the Atlantic Ocean.

### Islands and Archipelagoes

The Îles de Los, a cluster of small volcanic islands off Conakry, are inhabited and draw tourists during the dry season when seas are calm.

### Coastal Features

Mangroves line much of Guinea's coast. The coast is broken at only two points, where spurs of resistant rock formations jut into the ocean. One is found at Cape Verga in the north, and the other is the Camayenne (or Kaloum) Peninsula on which Conakry is situated. Tides are

high along the entire coast, reaching fifteen or more feet, which results in brackish water in estuaries many miles inland. Behind the coastal swamps lies an alluvial plain which averages about 48 kilometers (30 miles) wide but is considerably narrower in its central section.

## 6 🌐 INLAND LAKES

There are no major lakes in Guinea.

## 7 🌐 RIVERS AND WATERFALLS

Guinea is the "water tower" of West Africa. Over one-half of West Africa's principal rivers rise either in the Fouta Djallon or the Forest Highlands. The longest river in Guinea is the Niger River, at 4,100 kilometers (2,460 miles). It rises in the Fouta Djallon and flows northward into Mali. A little more than halfway through Mali, the river curves to the south and flows through the countries of Niger and Nigeria before reaching the Gulf of Guinea.

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# GUINEA

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EPD/Robert J. Groelsema

*Dense rainforest characterizes the Forest Highlands.*

The Niger River system in Guinea drains more than one-third of the country's total area. During the rainy season flooding occurs frequently along the sluggish rivers in the Niger River basin, including parts of the Niger itself.

Many short rivers, originating either in the Fouta Djallon or in its foothills, cascade through the coastal plain to estuaries along the Atlantic Ocean. Among the most important for navigation purposes are the Rio Nunez and the Fatala River. The Konkouré River, north of Conakry, provides hydroelectric power for the capital.

Tidal marshes and swampy flats surround Atlantic coast estuaries.

## **8** 🌐 **DESERTS**

There are no significant desert regions in Guinea.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Tall grasses, interspersed with lightly wooded savannah, dominate Upper Guinea. Grasses also have colonized deforested areas of the Forest Highlands.

Dense rainforest, now largely secondary growth, characterizes the Forest Highlands in areas below 609 meters (2,000 feet). Higher areas are more lightly forested. The area around Beyla and Nzérékoré consists of rolling plains that were at one time probably covered by rainforest.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Guinea Highlands in the Forest Region have general elevations ranging from about 457 meters (1,500 feet) above sea level in the west to over 914 meters (3,000 feet) in the east. Peaks at several points attain 1,219 meters (4,000 feet) and higher. Southeast of Nzérékoré are the Nimba Mountains on the Liberian and Côte d'Ivoire frontiers. Located in this range is Mount Nimba, Guinea's highest point at 1,752 meters (5,748 feet).

## **11** 🌐 **CANYONS AND CAVES**

There are no major caves or canyons in Guinea.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The Fouta Djallon occupies most of Middle Guinea and consists of a complex, elevated, relatively level plateau. About 12,950 square kilometers (5,000 square miles) of this area reach elevations over 914 meters (3,000 feet). The plateaus are deeply cut in many

## DID YOU KNOW?

Guinea is the second-largest bauxite producer in the world, possessing more than 30 percent of the world's bauxite reserves. Bauxite is a main ingredient in the production of aluminum. Major bauxite deposits are found across western and central Guinea. Since these deposits are generally close to the surface, open pit mining operations are typical.

places by narrow valleys, many of which run at roughly right angles, giving the region a checkerboard appearance. A number of major valleys extend for long distances, providing important lines of communication; the railroad from Conakry to Kankan runs in part through one of these valleys. In the south, foothills occur in steep steps having escarpments well over 304 meters (1,000 feet) high.

## 13 MAN-MADE FEATURES

The Garifiri hydroelectric dam on the Konkouré River features a 75-megawatt power plant, a reservoir of 2 billion cubic meters (7.51 billion cubic feet), and a spillway that evacuates 2,000 cubic meters (70,580 cubic feet) of water per second.

## 14 FURTHER READING

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- O'Toole, Thomas. *Historical Dictionary of Guinea*. Third Edition. Lanham, MD, and London: Scarecrow Press, 1994.

### Web Sites

- Wild World: Terrestrial Ecoregions of the World*. National Geographic Society. <http://www.nationalgeographic.com/wildworld/terrestrial.html> (accessed May, 2003).

# Guinea-Bissau

- **Official name:** Republic of Guinea-Bissau
- **Area:** 36,120 square kilometers (13,946 square miles)
- **Highest point on mainland:** An unnamed point located on the Gabú Plateau (300 meters/984 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 11 A.M. = noon GMT
- **Longest distances:** 336 kilometers (209 miles) from north to south; 203 kilometers (126 miles) from east to west
- **Land boundaries:** 724 kilometers (450 miles) total boundary length; Senegal 338 kilometers (210 miles); Guinea 386 kilometers (240 miles)
- **Coastline:** 350 kilometers (217 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Guinea-Bissau is located on the North Atlantic coast of West Africa, between the countries of Guinea and Senegal. With an area of about 36,120 square kilometers (13,946 square miles), the country is slightly less than three times the size of the state of Connecticut. Guinea-Bissau is divided into nine administrative regions.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Guinea-Bissau has no outside territories or dependencies.

## 3 🌐 CLIMATE

Guinea-Bissau has a very moderate, tropical climate. The average temperature does not vary significantly throughout the year. In the cooler rainy season, temperatures average from 26° to 28°C (79° to 82°F) and during the dry harmattan season, temperatures do not exceed 24°C (75°F) on average.

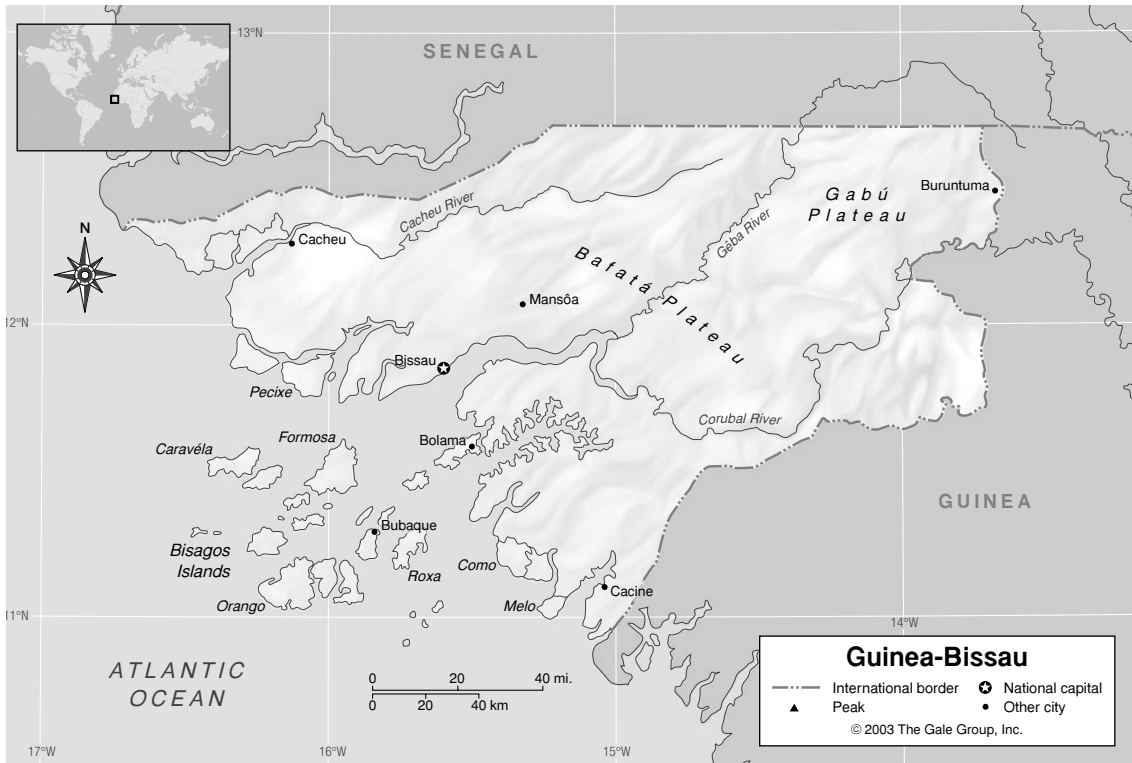
The rainy season lasts from mid-May to mid-November, with rainfall exceeding 198 centimeters (78 inches). Because of monsoon

winds blowing off the ocean, the bulk of the rain falls during July and August. The harmattan season reverses the wind direction, blowing dry, dusty air from the Sahel across the country from mid-December to mid-April. This wind brings cooler temperatures and almost no precipitation. The country is prone to drought and brush fires.

## 4 🌐 TOPOGRAPHIC REGIONS

Guinea-Bissau is located on the coast of West Africa where a large cluster of islands is found on the extensive continental shelf. The country is made up of a mainland, the Bisagos Islands (Arquipélago dos Bijagós), and various coastal islands. The mainland consists of a coastal plain and a transition plateau forming the Bafatá Plateau (Planalto de Bafatá) in the center and the Gabú Plateau (Planalto de Gabú), which borders the Fouta Djallon highland region of neighboring Guinea.

# GUINEA-BISSAU



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Guinea-Bissau faces the Atlantic Ocean to the west. Coral reefs and islands dominate the coastal region.

### Sea Inlets and Straits

The Gêba Canal is an inlet that connects the Gêba River to the Atlantic Ocean.

### Islands and Archipelagos

Guinea-Bissau contains many islands. Located to the southwest of the capital city of Bissau, the Bisagos chain consists of over eighteen islands, including Caravéla, Caraxe, Formosa, Uno, Orango, Orangozinho, Bubaque, and Roxa. The country also includes various other

coastal islands such as Jeta, Bolama, Melo, Pecixe, Bissau, Areicas, and Como.

### Coastal Features

The coast of Guinea-Bissau is very irregular and deeply indented by swampy estuaries called “rias.” Serpentine, mangrove-lined tidal rivers feed the rias. The capital, Bissau, is located on the largest of these estuaries that snakes into the center of the country.

## 6 INLAND LAKES

Guinea-Bissau has no significant lakes.

## 7 RIVERS AND WATERFALLS

There are six main rivers in Guinea-Bissau. The first, the Cacheu, flows near the northern border with Senegal and is also known as Farim for part of its course. The Mansôa

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# GUINEA-BISSAU

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EPD/Richard Lobban

*Harbor scene in Guinea-Bissau.*

flows from the center of the country and dumps into the Atlantic Ocean near the city of Bissau. The Gêba originates in Senegal and bisects the country. The Corubal originates in Guinea and meanders close to the southern border. On the southern border with Guinea is the Cacine. The last of the major rivers is the Rio Grande. These rivers provide the principal means of transportation. Ocean-going vessels of shallow draught can reach most of the main towns, and flat-bottomed tugs and barges can reach most of the smaller settlements, except for those in the northeast.

## **8** 🌐 **DESERTS**

There are no significant desert regions in Guinea-Bissau; however, the country's climate is affected by the dry, harmattan winds of the Sahel region of neighboring countries. Sahel

is an Arabic word meaning "shore." It refers to the 5,000-kilometer (3,125-mile) stretch of savannah that is the shore or edge of the Sahara Desert. The Sahel spreads west to east from Mauritania and Senegal to Somalia.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The low-lying coastal plain is characterized by wetlands that are submerged at high tide. Owing to excessive monsoon rains during the rainy season, swamps and marshes appear further inland as well.

About 46 percent of the land in Guinea-Bissau is meadows and pastures. Savannah predominates in the east and northeast, providing a mixture of lightly wooded forest interspersed with grasses.

# GUINEA-BISSAU

About 38 percent of the land is covered in forests and woodlands. Mangroves dominate the coastal region, while tangled forests are found in the interior plains. Thick forests give way to less dense savannah cover and grasses on the planaltos.

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no significant mountain regions in Guinea-Bissau.

## 11 🌐 CANYONS AND CAVES

There are no significant caves or canyons in Guinea-Bissau.

## 12 🌐 PLATEAUS AND MONOLITHS

Aside from the low-lying coastal plain and islands, Guinea-Bissau's most defining characteristic is the transitional plateau, rising gradually from the plain to a few hundred feet in elevation. In the center of the country this plateau is called the Bafatá Plateau, and along the eastern border with Guinea it is called the Gabú Plateau. The highest point in the country is an unnamed spot on the Gabú Plateau near the city of Buruntuma, where the plateau rises to a height of about 300 meters (984 feet).

## 13 🌐 MAN-MADE FEATURES

At high tide, about 10 percent of Guinea-Bissau's coastland is submerged. This causes erosion and also allows for a high level of salt deposits to remain in the soil of the coastal plain. In order to prevent this damage, many "anti-salt" dams have been constructed along the Atlantic coast.

## 14 🌐 FURTHER READING

### Books

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Galli, Rosemary. *Guinea-Bissau*. Santa Barbara, CA: Clio Press, 1990.

## DID YOU KNOW?

In 1996, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) designated the Bisagos Islands (Bijagós Archipelago) and parts of the coastal region as a biosphere reserve. A biosphere reserve is a terrestrial or coastal ecosystem that serves as a living laboratory for testing and demonstrating techniques that manage an integrated system of land, water, and biodiversity. The reserve in Guinea-Bissau includes several islands with mangroves, swamp forest, estuaries, mudflats, intact palm groves, hippos, green turtle breeding site, manatee, dolphins, winter ground for wading birds, and key natural resources for the local population.

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### Web Sites

United Nations Educational, Scientific and Cultural Organization: Man and the Biosphere Programme (MAB). <http://www.unesco.org/mab/> (accessed May, 2003).



# Guyana

- **Official name:** Cooperative Republic of Guyana
- **Area:** 214,970 square kilometers (83,000 square miles)
- **Highest point on mainland:** Mt. Roraima (2,835 meters/9,302 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 436 kilometers (271 miles) from east to west; 807 kilometers (501 miles) from north to south
- **Land boundaries:** 2,462 kilometers (1,530 miles) total boundary length; Brazil 1,119 kilometers (695 miles)
- **Coastline:** 285 miles (459 kilometers)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 LOCATION AND SIZE

Guyana is a small independent republic located on the northeastern coast of South America, between Suriname and Venezuela. A former British colony, it is the only member of the British Commonwealth—and the only English-speaking country—in South America. With an area of 214,970 square kilometers (83,000 square miles), Guyana is almost as large as the state of Idaho.

Native animals include the anteater, the tapir, and the anaconda. Endangered species include the jaguar, black cayman, and giant otter. As the rainforest environments around the world are destroyed, Guyana is one of the few places where the world's largest eagle, the harpy, still has a native habitat.

## 2 TERRITORIES AND DEPENDENCIES

Guyana has no territories or dependencies.

## 3 CLIMATE

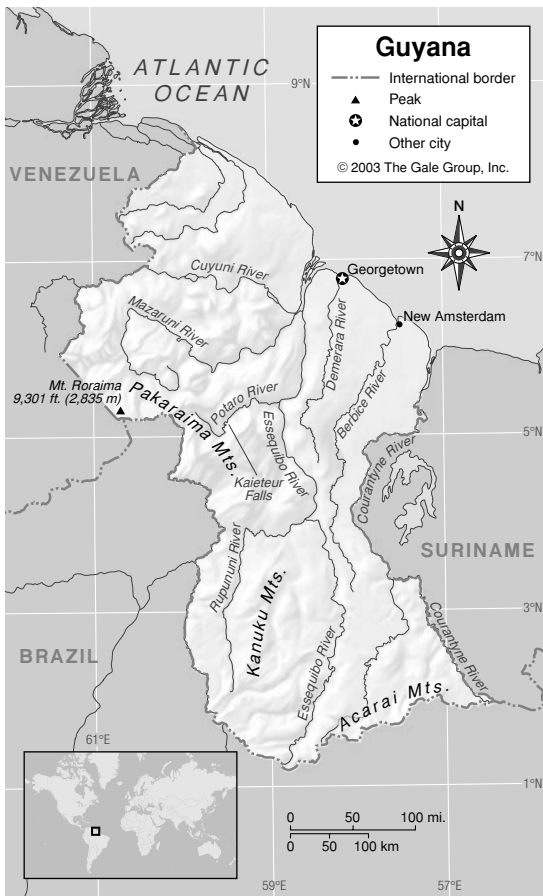
Guyana has a hot, humid subtropical climate moderated by trade winds off the Atlantic. There is little temperature variation between

seasons. Temperatures rarely rise above 32°C (90°F) or fall below 21°C (70 °F). The average annual temperature in the capital city of Georgetown is 27°C (81°F). Average annual rainfall ranges from about 165 centimeters (65 inches) in the savannah regions to 229 centimeters (90 inches) on the coast and in elevated parts of the interior. The coastal areas have two rainy seasons—one between November and January and the other between May and July—while the savannah has only one, between April and August.

## 4 TOPOGRAPHIC REGIONS

Guyana has four major types of terrain. A narrow but densely populated strip of plains extends the full length of the coast. Beyond the coastal plain lies a hilly, forested interior that covers most of the country. The interior also includes two major savannah regions, and highlands that rise in the south and west. The country has rich deposits of bauxite and manganese. Discovery of gold and diamond deposits likely will lead to development of greater mining.

# GUYANA



## 5 🌐 OCEANS AND SEAS

The northern coast of Guyana borders the southeastern North Atlantic Ocean.

### Seacoast and Undersea Features

Silt carried on the rivers that drain into the Atlantic Ocean keeps the water off Guyana a brown churning mass of sandbars and mud. Mud flats continue up to 24 kilometers (15 miles) offshore before navigation is considered free. Guyana's seacoast, much of which lies below sea level, is in danger of being submerged if the ocean levels rise due to global warming.

## Coastal Features

The deep indentation at the mouth of the Essequibo River divides Guyana's coast into two nearly equal sections. The one to the west is smooth, while the one to the east is more indented, especially at the mouths of the Essequibo and Courentyne Rivers.

## 6 🌐 INLAND LAKES

There are no notable inland lakes in Guyana.

## 7 🌐 RIVERS AND WATERFALLS

Guyana has four major rivers—the Courantyne, Berbice, Demerara, and Essequibo—which flow northward and empty into the Atlantic. The longest and widest is the Essequibo, which has its source in Brazil, as does the Courantyne, whose course forms Guyana's border with Suriname. The Potaro, Mazaruni, and Cuyuni rivers, all tributaries of the Essequibo, drain the northwestern part of the country. The Rupununi River flows through the savannah land in the southwest that bears its name. Kaieteur Falls, in the Pakaraima Mountains, is the world's seventh most forceful waterfall. Kaieteur is only one of many waterfalls in Guyana, including several other large ones.

## 8 🌐 DESERTS

There are no desert regions in Guyana.

## 9 🌐 FLAT AND ROLLING TERRAIN

The narrow coastal plain varies in width from 16 to 65 kilometers (10 to 40 miles). It is cut off from the forested interior zone by a barrier of swamps. Poor drainage has

### DID YOU KNOW?

Guyana's name comes from an Amerindian word meaning "Land of Many Waters."

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# GUYANA

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EPD Photos/Evangelical Lutheran Church in America

*Many Guyanese travel daily on the rivers of Guyana.*

also created swampland along Guyana's rivers. Guyana has two savannah regions. The largest is the Rupununi in the extreme southwestern part of the country. The Rupununi features broad areas of grassland dotted with large termite mounds. Visitors to the Rupununi region must get a permit from the government. A second area, the "intermediate savannah," lies about 96 kilometers (60 miles) inland from the mouth of the Berbice River. Guyana's hilly zanderij ("white-sand") area extends down the center of the country in a band that widens in the southeast and covers over three-fourths of the country. The hills, whose elevations range from 15 meters (50 feet) to 120 meters (400 feet), gradually rise from west to east.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Pakaraima Mountains rise from the Kaieteurian Plateau in the western part of the

country. Their peaks rise to over 2,743 meters (9,000 feet) near Venezuela and Brazil and include the country's highest point, Mount Roraima. Farther south the Kanuku Mountains extend from east to west in the southwestern part of Guyana. Reaching heights of 914 meters (3,000 feet), they cut the Rupununi savannah region into two sections. The Acarai Mountains rise to elevations of over 610 meters (2,000 feet) in the southeast.

## **11** 🌐 **CANYONS AND CAVES**

There are no notable canyons or caves in Guyana.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The Kaieteurian Plateau, which, together with the Pakaraima range, dominates west-central Guyana, is generally less than 610 meters (2,000 feet) in elevation. This ancient crystal-line plateau was once below sea level.

## DID YOU KNOW?

**K**ourou, located at 5°14" N latitude on the northeast coast of Guyana, is perfectly situated to serve as a rocket launch site. The European Space Agency (ESA) has been launching rockets from the rocket launch site at Kourou since 1977.

### 13 MAN-MADE FEATURES

The coast is protected by 225 kilometers (140 miles) of seawall and an extensive system of drainage canals to keep it from flooding at high tide, as much of it lies below sea level. The swamps of the coastal plain are prevented from intruding into the croplands farther inland by a series of “back-dams.”

As of late 2002, plans for the Amaila Falls Hydroelectricity Project were progressing. The

dam is being planned at the place where the Amaila and Kuribrong Rivers join, about 250 kilometers (125 miles) southwest of Georgetown and about 195 kilometers (120 miles) north of Kaieteur Falls.

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# Haiti

- **Official name:** Republic of Haiti
- **Area:** 27,750 square kilometers (10,714 square miles)
- **Highest point on mainland:** Mount La Selle (Chaîne de la Selle) (2,680 meters/ 8,793 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 7 A.M. = noon GMT
- **Longest distances:** 485 kilometers (300 miles) from east-northeast to west-southwest; 385 kilometers (240 miles) from south-southeast to north-northwest
- **Land boundaries:** 275 kilometers (170.7 miles) total boundary length; all with the Dominican Republic
- **Coastline:** 1,771 kilometers (1,098 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Haiti is located in the western third of the island of Hispaniola, which is bordered by the Atlantic Ocean to the north, the Dominican Republic to the east, and the Caribbean Sea to the south and west.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Haiti claims the uninhabited island of Navassa, presently a U.S. possession, about 50 kilometers (31 miles) west of Hispaniola.

## 3 🌐 CLIMATE

Haiti enjoys a tropical climate, which changes depending on the season and on the area's elevation. The average annual temperature ranges from 22 to 30°C (70 to 86°F), but is generally lower in highland areas. Rainfall increases with elevation; the higher the region, the greater the rainfall. Haiti has two rainy seasons: April through June and October through November. The dry season runs from November to January. Average annual rainfall near Port-au-Prince is 137 centimeters (54 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Located on Hispaniola, the second-largest island in the Caribbean, Haiti is composed mainly of mountains and hills. About 80 percent of the country is more than 183 meters (600 feet) above sea level, and half of that land lies at elevations about 257 meters (1,500 feet). On the western shoreline is the Gulf of Gonâve (Golfe de la Gonâve). The long and narrow Tiburon Peninsula (sometimes called the Jacmel Peninsula) is located in the south.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Much of the Haitian shoreline with the Caribbean Sea is rimmed by an underwater sedimentary platform that extends around the island of Hispaniola. Waters close to the shoreline tend to be shallow. Coral reefs are common, especially around Vache Island and the Cayemites.

### Sea Inlets and Straits

Haiti is located between the Atlantic Ocean in the north and the Caribbean Sea in the

# HAITI



south; the Windward Passage and the Jamaica Channel connect the two bodies of water. The Windward Passage is between Haiti and Cuba; the Jamaica Channel lies between Haiti and Jamaica.

## Islands and Archipelagos

Haiti includes the islands of Tortuga, Gonave, Les Cayemites, and Vache. The largest of these islands is Gonave, located in the Gulf of Gonave (Golfe de la Gonave) off Port-au-Prince. Its approximately 207 square kilometers (80 square miles) is made up of rugged terrain; its highest point, Morne la Pierre, rises to more than 762 meters (2,500 feet). Second in size is Tortuga, with an area of 181 square kilometers (70 square miles). It lies in the Atlantic Ocean off Port-de-Paix.

## Coastal Features

Haiti's coastline is irregular, with a long southern peninsula, the Tiburon, as well as a shorter northern one. The peninsulas surround the large Gulf of Gonave. At its eastern end the Gulf forms the Bay of Port-au-Prince (Baie de Port-au-Prince).

## 6 🌐 INLAND LAKES

Lake Saumatre (Etang Saumatre) is located close to the border with the Dominican Republic. It is a saltwater lake and is the habitat of many exotic species of tropical wildlife. It is the largest lake in the country. Reptiles including crocodiles, lizards, and the rose boa can be found in its waters.

## 7 🌐 RIVERS AND WATERFALLS

Although over a hundred streams flow throughout Haiti, the only large river is the Artibonite, which is 245 kilometers (145 miles) in length. It is shallow but long, and its

# HAITI

flow averages ten times that of any of the others. Second in length is the Les Trois Rivières, which spills into the Atlantic at the town of Port-de-Paix.

Forty miles from Port-Au-Prince, the Saut d' Eau waterfalls stand 30.5 meters (100 feet) tall and are considered sacred by the people of Haiti.

## 8 🌐 DESERTS

There are no deserts in Haiti.

## 9 🌐 FLAT AND ROLLING TERRAIN

Cul-de-Sac lowland is a fertile plain that extends from Port-au-Prince to Lake Saumâtre (Etang Saumâtre). Only 20 percent of Haitian land is considered arable (suitable for cultivation). Forest land can be found south of Port-au-Prince, where some pine forests have been preserved. Only 5 percent of Haiti's land is forested.

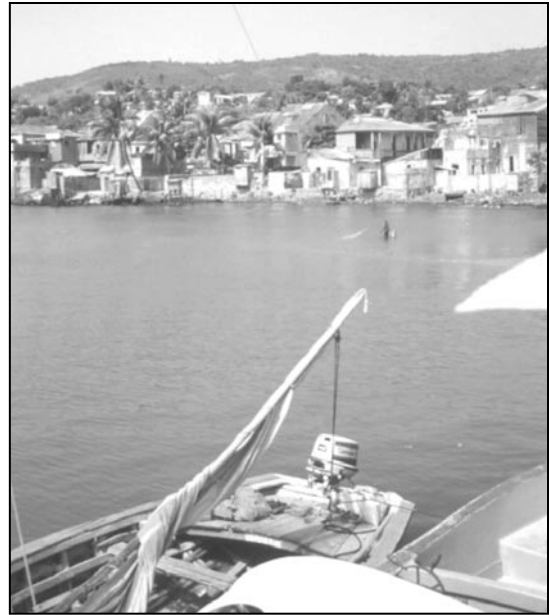
Rolling hills can be found throughout the country, especially near the mountain ranges that dominate the country's landscape. These hills are not particularly well suited for crop growth.

## 10 🌐 MOUNTAINS AND VOLCANOES

Many of the mountain ranges of Haiti are shared with the Dominican Republic, since they are located along the border between the two countries.

There are at least five major systems; these ranges meet one another to form a highland area. The highlands are broken in the south where the Cul-de-Sac lowland extends east from the Gulf of Gonâve at Port-au-Prince to the Dominican border.

In the north, the most extensive of the mountain systems is the Massif du Nord, which slants southeastward from the Atlantic Ocean near Port-de-Paix across the Domini-



EPD/Evangelical Lutheran Church in America

*The coastal waters of Haiti are filled with small boats.*

can border. It is rugged and has a complex geology including sedimentary, magmatic, and plutonic rock, with limestone cliffs scarring its slopes. To its west, at the extremity of the island, satellite ranges extend to Môle St.-Nicolas. To the southwest, the Noires Mountains have peaks as high as 610 meters (2,000 feet). This range extends across the country to the Artibonite River. Across the Artibonite is the Chaîne de Mateaux, a mountain range that extends from the Gulf of Gonâve into the Dominican Republic, where it is known as the Sierra de Neiba.

Separated from the northern mountains by the Cul-de-Sac is another system that extends the full length of the long southern peninsula of Haiti to the frontier; in the Dominican Republic, this range is called the Sierra de Bahoruco. In the west, it is the Massif de la Hotte, and in the east it is the Massif de la Selle. The latter range contains several peaks with elevations of over 2,133 meters (7,000 feet), as well

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# HAITI

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as the country's highest peak, Mount La Selle (2,680 meters /8,793 feet).

## 11 CANYONS AND CAVES

Some caves in Hinche contain drawings that may have come from the island's first inhabitants.

## 12 PLATEAUS AND MONOLITHS

South of the Massif du Nord, the Central Plateau extends east from the Noires Mountains to the Dominican Republic border. Its more than 1,351 kilometers (840 miles) of rolling terrain make it the largest of the country's flatlands. The plateau has an average elevation of about 305 meters (1,000 feet) and its relatively thin soils are useful for raising sheep and goats.

## 13 MAN-MADE FEATURES

A reservoir known as Lake Péligre (Lac de Péligre) is located in the middle of the country

near the Dominican Republic border. A dam constructed on the upper Artibonite River formed this lake.

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# Honduras

- **Official name:** Republic of Honduras
- **Area:** 112,090 square kilometers (43,267 square miles)
- **Highest point on mainland:** Cerro Las Minas (2,870 meters/9,417 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 6 A.M. = noon GMT
- **Longest distances:** 663 kilometers (412 miles) from east-northeast to west-southwest; 317 kilometers (197 miles) from north-northwest to south-southeast
- **Land boundaries:** 2,340 kilometers (1,454 miles) total boundary length; El Salvador 342 kilometers (212 miles); Guatemala 256 kilometers (159 miles); Nicaragua 922 kilometers (572.6 miles)
- **Coastline:** 710 kilometers (440 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Honduras is located in Central America and is bordered by the Caribbean Sea to the north and east, Nicaragua and the Pacific to the south, El Salvador to the southwest, and Guatemala to the west. With a total area of about 112,090 square kilometers (43,267 square miles), the country is slightly larger than the state of Tennessee. Honduras is administratively divided into eighteen departments.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Honduras has no territories or dependencies.

## 3 🌐 CLIMATE

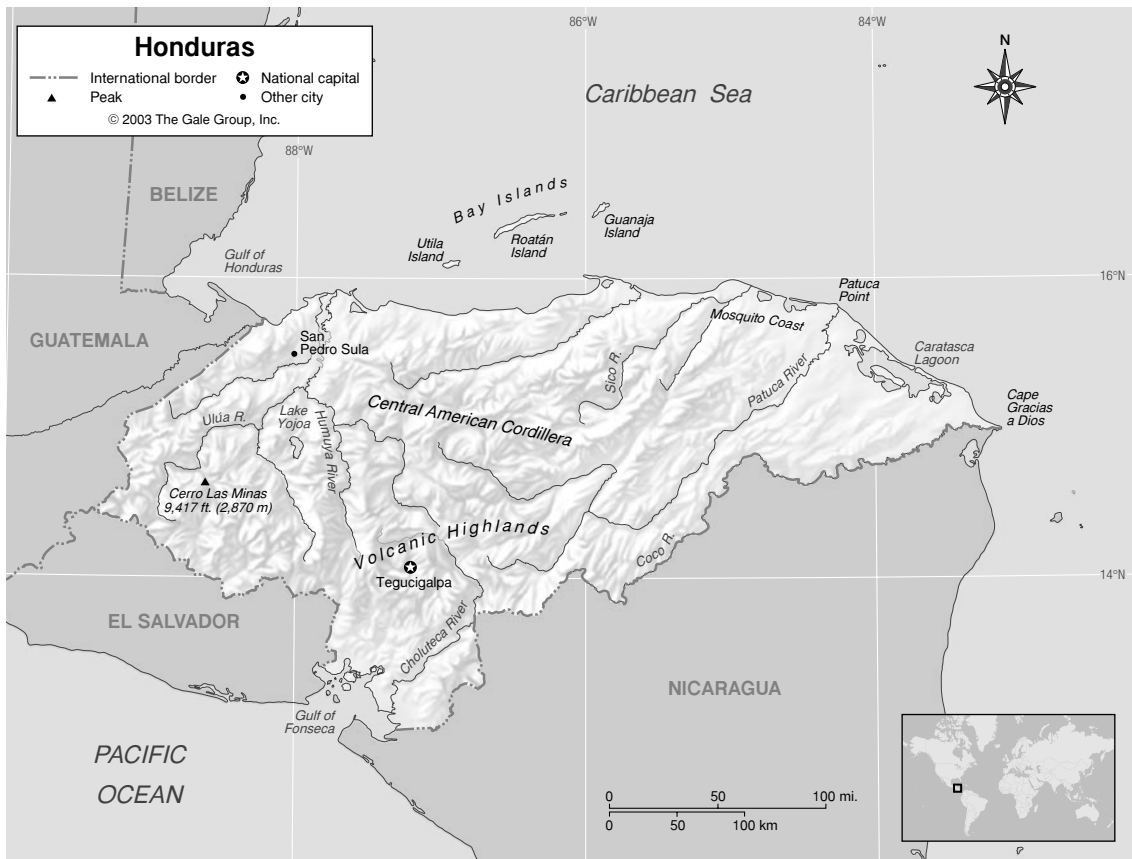
Honduras is generally warm throughout the year, with varying rainfall and humidity. Coastal temperatures average 31°C (84°F), with lower temperatures at the higher elevations. The country has only two seasons: a dry season lasting from November through April, and a wet season from May through

October. Rainfall is highest in the coastal areas, where it can exceed 240 centimeters (95 inches). The southern regions are the driest, receiving an average annual rainfall of 84 centimeters (33 inches). The Caribbean coast is subject to hurricanes.

## 4 🌐 TOPOGRAPHIC REGIONS

Honduras, part of the isthmus of Central America, is the second-largest Central American republic, with coasts on both the Pacific and the Caribbean Sea. It has four main regions: the eastern lowlands, the northern coastal plains, the central highlands, and the Pacific lowlands. Honduras also has many rivers, some of which have extensive valleys. Honduras is located on the Caribbean Tectonic Plate, near its boundaries with the Cocos and the North American Plates. Consequently, earthquakes are frequent, although they are generally mild.

# HONDURAS



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Honduras has a large northern coastline along the Caribbean Sea and a shorter one to the south along the Pacific Ocean. There are many large coral reefs in the Caribbean off Honduras's northern coast.

### Sea Inlets and Straits

The Caratasca Lagoon, a major inlet on the Caribbean Coast, provides a natural harbor for the city of Puerto Lempira.

### Islands and Archipelagos

The small Swan Islands (Cajones Cays) are about 177 kilometers (110 miles) north-north-

east of Patuca Point in the Caribbean Sea. Also in the Caribbean are the Bay Islands (Islas de la Bahía) which include Guanaja, Utila, and the largest, Roatán. Honduras also controls some small islands in the Gulf of Fonseca (Gulfo de Fonseca).

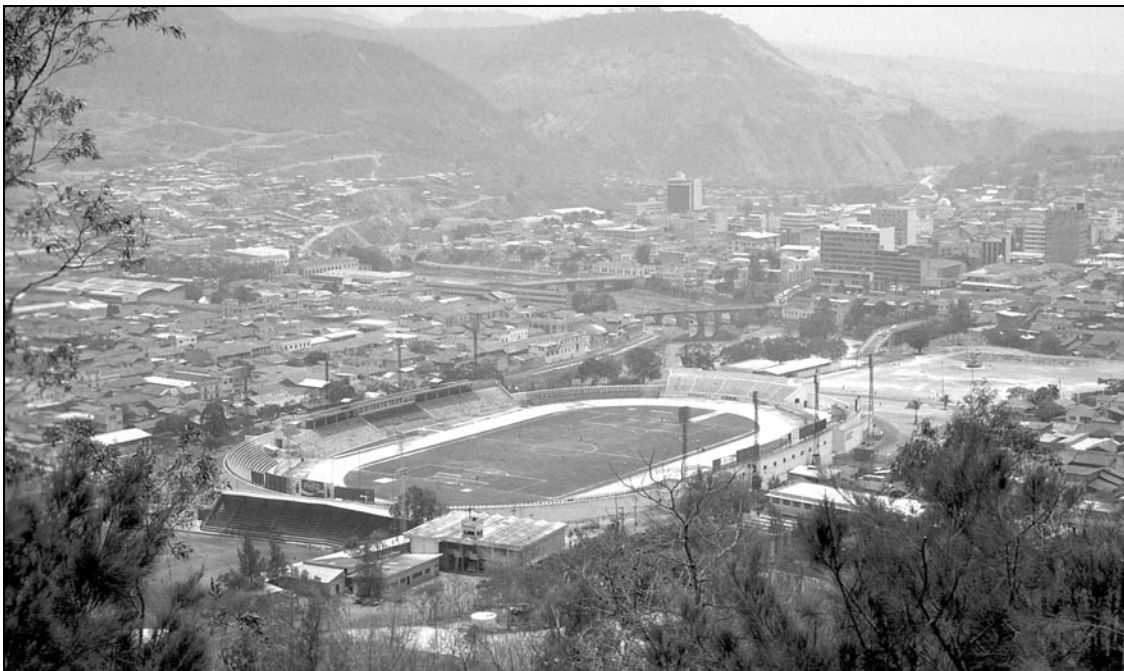
### Coastal Features

Honduras's northern coast is long and even, running east from the Gulf of Honduras for most of its length before curving south as it approaches the Nicaraguan border at Cape Gracias a Dios. The Pacific coast is much shorter and uneven. It is all on the sheltered waters of the Gulf of Fonseca.

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# HONDURAS

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UNESCO/Y. Nagata

*View of soccer stadium and the Honduran capital of Tegucigalpa.*

## 6 INLAND LAKES

Lake Yojoa (Lago de Yojoa) is the only large natural lake in Honduras. Surrounded by massive mountains, the lake itself sits at an altitude of approximately 669 meters (2,200 feet) above sea level. The Tepemecón River drains the lake on the south and the Blanco River empties the lake on the north.

## 7 RIVERS AND WATERFALLS

There are many large river systems in Honduras. They have formed the valleys in which many of the people live, and their alluvial deposits have contributed to the fertility of the soil. In the north, from west to east, are the Chamelecón, the Ulúa, the Aguán, the Sico, the Paulaya, the Platano, the Sicre, the Patuca, and the Coco Rivers. All the rivers in the north flow into the Caribbean Sea. The Ulúa and its tributaries drain one-third of the country. The

Coco actually rises in the south, then flows north along the border with Nicaragua. It is the longest river in Honduras.

Other than the Coco, all the rivers that arise in the south flow toward the Pacific Ocean. The Lempa, Sumpul, and the Goascoran Rivers run nearly the entire length of Honduras's border with El Salvador. Further east are the Nacaome and the Choluteca; the latter drains into the Gulf of Fonseca.

## 8 DESERTS

There are no notable deserts in Honduras.

## 9 FLAT AND ROLLING TERRAIN

Tropical lowland areas are found on both coasts, but are much larger in the north. The plains extend particularly far inland along the Ulúa River valley, about 121 kilometers (75 miles). The southern coastal plains are much shorter, with lowlands extending only about 40 kilometers (25 miles).

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# HONDURAS

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Inland from the northern coast, Caribbean pines cover large portions of land. Other trees include hardwoods such as walnut, mahogany, cedar, and ebony. It is estimated that about 54 percent of Honduras is covered with forest and woodland areas.

Much of the small amount of cultivated area is located in the flatlands and river valleys that are between, and parallel to, the mountains. These temperate valleys and flatlands are also the primary areas of settlement, except for the north coast banana district, which was reclaimed from tropical forests in the twentieth century.

## 10 🌐 MOUNTAINS AND VOLCANOES

Honduras is the most mountainous country in Central America, and two distinct series of mountain ranges divide the country roughly into two halves: the north and the south. Over 80 percent of the land is mountainous, thereby limiting the area suitable for cultivation and pastures.

In the north, mountain ranges extend from the Guatemala border on the west to the Platano River on the east. These northern ranges are all extensions of the Central American Cordillera, a mountain chain that travels across Central America from Mexico to Nicaragua. The chains of the Central American Cordillera run largely parallel to the coast and to each other. The northern mountain ranges were formed by changes in the earth's crust several million years ago. Underneath the surface cover of limestone and sandstone, the mountains are composed of granite, mica, slate, and other materials.

The Volcanic Highlands extend from the border with El Salvador in the southwest and across the southern part of the country to the border with Nicaragua in the east. Unlike the mountains of the north, these southern ranges are newer, consisting of lava formed by volcanic eruption some twelve million years ago. Volca-

nic material has both eroded and been ejected from these highlands and forms fertile soil.

The Volcanic Highlands are higher overall than the Central American Cordillera chains. The highest peaks in the country, Cerro Las Minas (2,870 meters/9,417 feet) and Mount Celaque (2,848 meters/9,345 feet) are found here.

## 11 🌐 CANYONS AND CAVES

Various caves are located in the rainforest areas of central Honduras, including Talgua Cave, which is also known as the "Cave of the Glowing Skulls." Caves often have been used as burial grounds for the dead.

## 12 🌐 PLATEAUS AND MONOLITHS

In the areas between one mountain range and the other, in both the Central American Cordillera ranges and the Volcanic Highlands, are various plateaus. These intermountain flatlands average 3 to 11 kilometers (2 to 7 miles) in width and are flanked by mountains from 914 to 2,133 meters (3,000 to 7,000 feet) in height. Historically, these level lands have been the most highly populated regions.

## 13 🌐 MAN-MADE FEATURES

There are no notable man-made features in Honduras.

## 14 🌐 FURTHER READING

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# Hungary

- **Official name:** Republic of Hungary
- **Area:** 93,030 square kilometers (35,919 square miles)
- **Highest point on mainland:** Mount Kékes (1,014 meters/3,327 feet)
- **Lowest point on land:** Tisza River (78 meters/256 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 528 kilometers (328 miles) from east to west; 268 kilometers (167 miles) from north to south
- **Land boundaries:** 2,009 kilometers (1,248 miles) total boundary length; Austria 366 kilometers (227 miles); Croatia 329 kilometers (204 miles); Romania 443 kilometers (275 miles); Serbia and Montenegro 151 kilometers (94 miles); Slovakia 515 kilometers (320 miles); Slovenia 102 kilometers (63 miles); Ukraine 103 kilometers (64 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Located in the Carpathian Basin, in the heart of Central Europe, Hungary occupies one-third of the territory of the pre-World War I Austro-Hungarian Empire. Hungary is a landlocked, predominantly flat country, with more than four-fifths of its terrain at elevations below 656 feet (200 meters). It covers an area of 93,030 square kilometers (35,919 square miles), or slightly less than the state of Indiana.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Hungary has no territories or dependencies.

## 3 🌐 CLIMATE

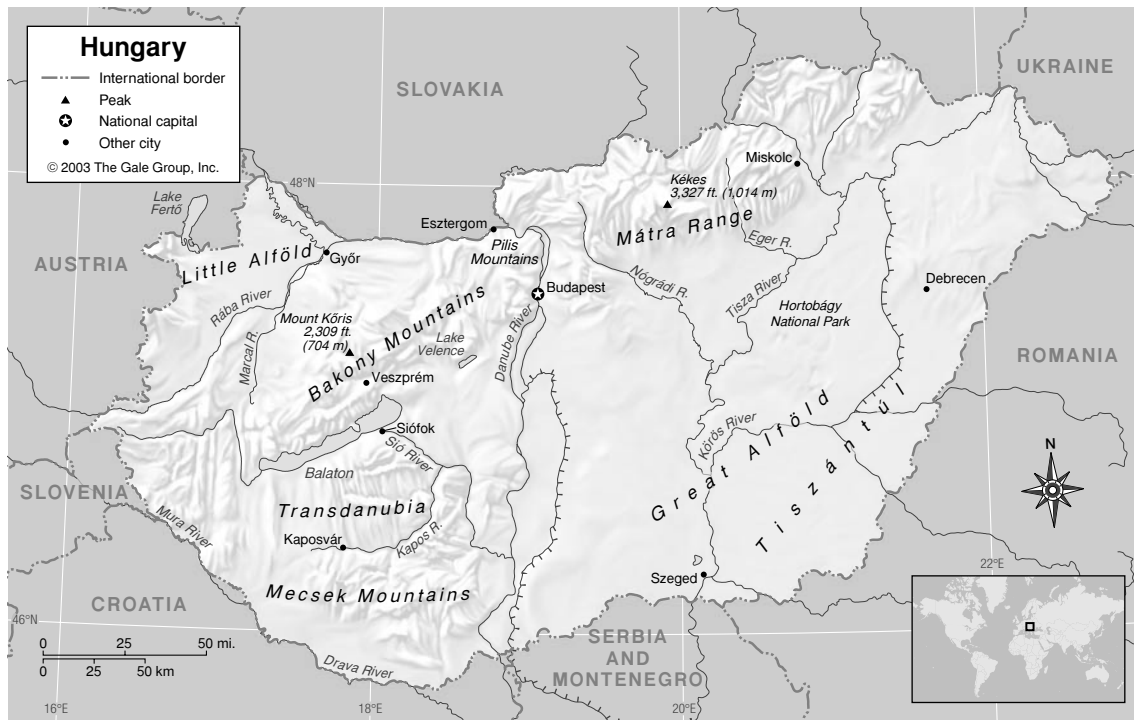
Hungary has a continental climate, with Atlantic and Mediterranean influences. It has cold winters, warm summers, and abrupt seasonal transitions. The mean temperature ranges from -4°C to 0°C (25°F to 32°F) in January, and 18°C to 23°C (64°F to 73°F) in July. Temperatures as high as 43°C (109°F)

have been recorded, however, while the record low is -34°C (-29°F). Rainfall decreases from west to east; the plains around the Tisza River depend on irrigation to prevent crop failure from summer drought. Average annual rainfall ranges from around 51 centimeters (20 inches) in the east to approximately 76 centimeters (30 inches) in the west.

## 4 🌐 TOPOGRAPHIC REGIONS

Hungary can be divided into four major regions. To the north, a long system of low mountains and hills stretches across the country for 400 kilometers (250 miles) from southwest to northeast. East of the Danube River and south of this mountain system is the Great Alföld, Hungary's largest region and its agricultural heartland. The northern mountains divide the land west of the Danube into two regions. In the northeast corner of the country is the Little Alföld. To the south is the hilly region known as Transdanubia, between the mountains and the Danube.

# HUNGARY



## 5 🌐 OCEANS AND SEAS

Hungary is a landlocked country.

## 6 🌐 INLAND LAKES

Lake Balaton, 120 kilometers (75 miles) southwest of Budapest, is Hungary's largest lake; it is also the largest freshwater lake in Central Europe. About 72 kilometers (45 miles) long, its width varies, never exceeding 13 kilometers (8 miles). It averages a little more than 10 feet in depth. There are few other lakes in Hungary. Lake Fertő (also known as Neusiedler See), on the northwestern border, is shared with Austria; Hungary's portion is only about one-fourth of the total. Lake Velence, between Lake Balaton and Budapest, is adjusted artificially to maintain water depths between 1 and 2 meters (3 and 6 feet). Hungary has many mineral springs, which are used for both health and recreational purposes.

## 7 🌐 RIVERS AND WATERFALLS

Hungary's longest and most important river is the Danube (Duna), which enters the country in the northwest, where it forms the western portion of the border with Slovakia. It flows eastward until it bends north of Budapest and then flows south, roughly at the center of the country, until it crosses the border with Serbia and Montenegro. Altogether, about 386 kilometers (240 miles) of the Danube's total length of 2,776 kilometers (1,725 miles) border or flow through Hungary. The Rába River flows into the Danube on the Slovakian border, and the Drava joins it much farther south. The Tisza River, which drains much of eastern Hungary, is a tributary of the Danube. It rises in the Carpathian Mountains of Ukraine, enters Hungary in the northeast, and flows southward through the Great Plain, joining the Danube farther south in Serbia and Montenegro. Other notable rivers in Hungary include the

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# HUNGARY

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EPD/Péter Borzsák

*Beke (Peace) Cave at Aggteleki Park in Hungary.*

Mura River, the Kapos River, the Sió River, and the Marcal River.

## **8** 🌐 **DESERTS**

There are no desert regions in Hungary.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Hungary has two distinct plains regions. The larger and more important one is the Great Alföld, which spreads across central and eastern Hungary, occupying all of the land south of the northern mountain system. It is a fertile basin with average elevations of slightly more

than 91 meters (300 feet). The Danube forms its western boundary, and it is traversed from north to south by the Tisza River.

In the northwest corner of the country is the Little Alföld, whose composition and elevation are similar to those of the larger plain to the south.

The hills of Hungary's northern uplands rise to elevations of 244 to 305 meters (800 to 1,000 feet). A few isolated parts of the Alpine foothills on the Austrian border rise to nearly 914 meters (3,000 feet). Farther south, the

# HUNGARY

Transdanubia region is composed of rolling, hilly land that rises to elevations of 610 meters (2,000 feet).

## 10 MOUNTAINS AND VOLCANOES

Reaching elevations of 400 to 700 meters (1,300 to 2,300 feet), the Bakony Mountains constitute the major geographical feature west of the Danube River. Farther east, the Pilis Mountains rise between the Bakony range and the Danube. The hills and mountains east of the Danube account for 4,988 square kilometers (3,100 square miles) of the country's area. They are the only uplands in the country that are part of the Carpathian system. The individual ranges in the group extend northeastward from the gorge of the Danube River near Esztergom for about 225 kilometers (140 miles). Their highest point—and the highest point in Hungary—is Mount Kékes (1,014 meters/3,327 feet) in the Mátra range.

## 11 CANYONS AND CAVES

The caverns of Aggteleki Park are small but fascinating.

## 12 PLATEAUS AND MONOLITHS

There are no significant plateaus or monoliths in Hungary.

## 13 MAN-MADE FEATURES

An extensive series of levees have been built on Hungary's plains to prevent disastrous flooding of the Tisza and Danube Rivers. In the nineteenth century, floods around these

## DID YOU KNOW?

**G**eothermal aquifers underlie nearly all of Hungary, sending large volumes of water between 40°C (104°F) and 70°C (158°F) to the earth's surface. Much of this water is used to heat greenhouses.

rivers came close to destroying the two cities that currently combine to make up Budapest. The city is located on both banks of the Danube, and eight bridges across the river link its two sectors.

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# Iceland

- **Official name:** Republic of Iceland
- **Area:** 103,000 square kilometers (39,769 square miles)
- **Highest point on mainland:** Öraefajökull (Hvannadalshnukur) (2,119 meters/ 6,952 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 490 kilometers (304 miles) from east to west; 312 kilometers (194 miles) from north to south
- **Land boundaries:** None
- **Coastline:** 4,988 kilometers (3,099 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The westernmost European country, Iceland is an island nation in the North Atlantic Ocean just below the Arctic Circle. It is northwest of the United Kingdom and southeast of Greenland. With a total area of about 103,000 square kilometers (39,769 square miles), the country is slightly smaller than the state of Kentucky. Iceland is administratively divided into twenty-three counties and fourteen independent towns.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Iceland claims no territories or dependencies.

## 3 🌐 CLIMATE

Iceland has a relatively mild and steady climate despite its high altitude and its proximity to the Arctic. Because of oceanic influences such as the North Atlantic Drift (a continuation of the Gulf Stream), climatic conditions are moderate in all sections of the island. The mean annual temperature at Reykjavík is about 5°C (about 41°F), with a range from -1°C (31°F) in January to 11°C (52°F) in July. In the northwestern, northern, and eastern coastal regions, which

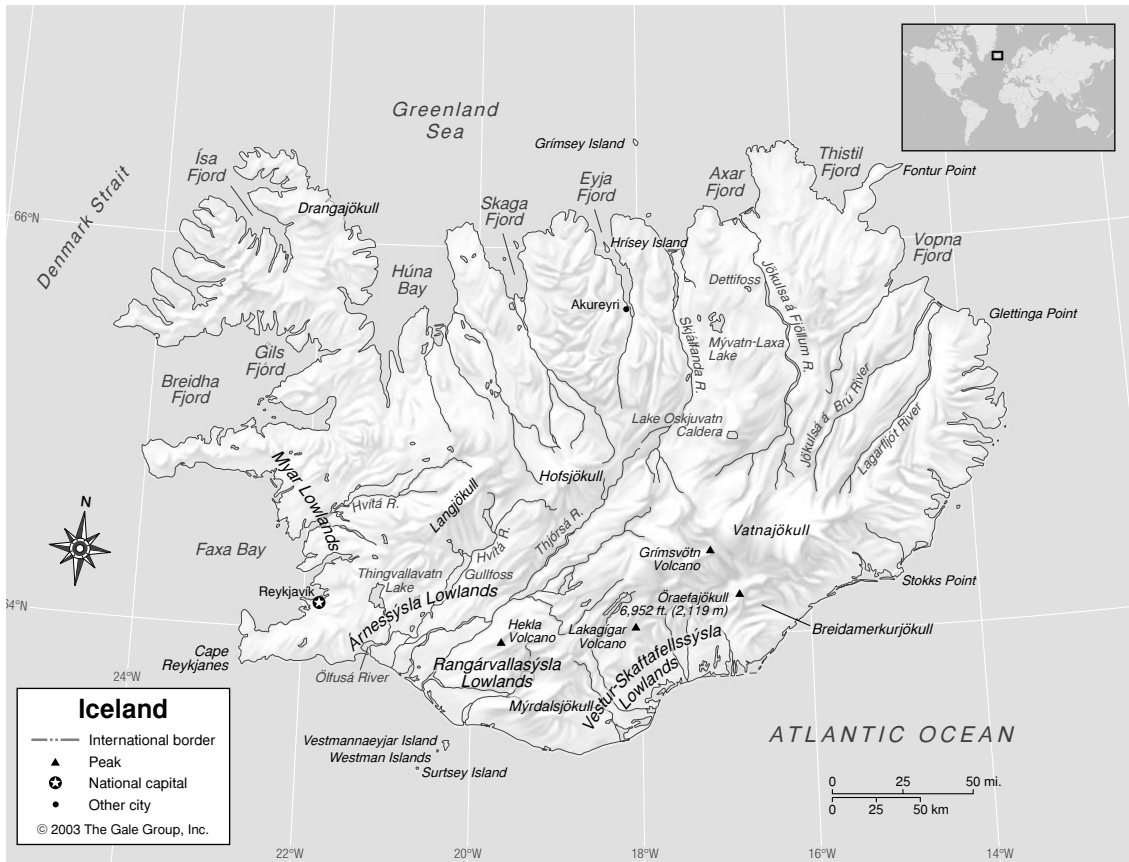
are subject to the effects of polar currents and drifting ice, temperatures are generally lower. Windstorms of considerable violence are characteristic during much of the winter season.

Annual precipitation ranges between about 127 and 203 centimeters (about 50 and 80 inches) along the southern coast, but is only about 51 centimeters (about 20 inches) along the northern coast. The southern slopes of some of Iceland's interior mountains receive up to about 457 centimeters (about 180 inches) of precipitation per year.

## 4 🌐 TOPOGRAPHIC REGIONS

Iceland consists mainly of a central volcanic plateau that has elevations ranging from 700 to 800 meters (2,297 to 2,625 feet) and is ringed by mountains. Lava fields cover about one-ninth of the country and glaciers cover about one-eighth. Geologically, the country is still very young and bears signs of still being in the making. It appears abrupt and jagged without the softness of outline that characterizes more mature landscapes. The average height is 500 meters (1,640 feet) above sea level.

# ICELAND



The largest lowland areas include Árnessýsla, Rangárvallasýsla, and Vestur-Skaftafellssýsla in the south and Myrar in the west. In the plateaus, land is broken into more or less tilted blocks, with most leaning toward the interior of the country. Glacial erosion has played an important role in giving the valleys their present shape. In some areas, such as between Eyjafjörður and Skagafjörður, the landscape possesses alpine characteristics. There are numerous and striking gaping fissures within the glacially active volcanic belts.

Iceland straddles the Mid-Atlantic Ridge, which is a large fissure resulting from the continuing separation of the North American Plate and the Eurasian Plate. This plate activ-

ity is responsible for most of the volcanic and seismic activity in the country.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The Greenland Sea, an extension of the Arctic Ocean, borders Iceland on the north. It also has a southern coastline on the Atlantic Ocean.

### Sea Inlets and Straits

The Denmark Strait lies to the northwest of Iceland and separates the country from Greenland. The Strait connects the Arctic Ocean with the Atlantic Ocean.

The peninsula on which Reykjavík sits encloses the Faxa Bay.

The rugged northern coast offers many good natural harbors where the fjords have been deepened by glacial erosion. From east to west, some of these fjords are: Vopna Fjord, separated from Thistil Fjord by Fontur Point; Axar Fjord; Eyja Fjord; and Skaga Fjord. West of Skaga Fjord the coast sweeps in, forming Húna Bay, then turns north toward Denmark Strait. The western coast also contains many fjords; among these are Ísa Fjord, Gils Fjord, and Breidha Fjord.

## Islands and Archipelagos

Numerous islands, some of which are inhabited, lie off the coast. The largest ones are the Westman Islands in the south, Hrísey Island in the north, and Grímsey Island at the edge of the Arctic Circle. Several small islands were formed due to underwater volcanic eruptions. The last such eruption, which began in 1963 and ended in 1967, built up the island of Surtsey, which now covers an area of 2.8 square kilometers (1.1 square miles). Other islands have been destroyed by similar eruptions, such as that of Vestmannaeyjar crater in 1973, which erupted and buried one-third of the island of the same name.

## Coastal Features

Icelandic coasts can be divided into two main types. In regions not drained by the debris-laden glacial rivers, the coasts are irregular, incised with numerous fjords and smaller inlets. The other type of coast is sand, with smooth outlines featuring extensive offshore bars with lagoons behind them. The beaches from Djúpivogur in the southeast to Ölfusá in the southwest belong to this category.

Cape Reykjanes lies at the tip of the same peninsula where Reykjavík is located. Moving around the coast to the southeast, one can travel halfway around the island without encountering any notable features other than

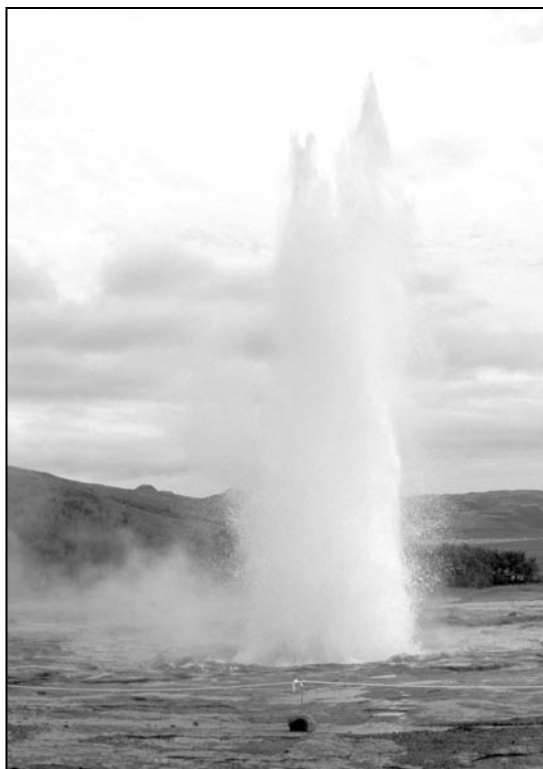
## DID YOU KNOW?

**S**prouting hot springs, or geysers, are found in areas of low temperatures (near glacial regions for instance), where underwater hot springs are located. The most famous is the Great Geysir in Haukadalur in South Iceland, from which the international word *geyser* is derived. It has been known to eject a column of hot water to a height of about 60 meters (200 feet). Another renowned geyser in the vicinity of the Great Geysir is Strokkur.

Stokks Point. Glettinga Point is located at the northeast corner of the country.

## 6 INLAND LAKES

Iceland possesses numerous lakes, mostly of tectonic origin (created by the shifting of tectonic plates). Others resulted from the deepening of valleys by glacial erosion or damming of rivers by lava flows, glacial deposits, and rockslides. Small crater lakes are common, especially in the Landmannalaugar-Veidivötn area, where the Lake Oskjuvatn Caldera has an area of 11 square kilometers (4.2 square miles) and a depth of 217 meters (712 feet). On the sandy shores, lagoon lakes are common. The largest lake in the country is Thingvallavatn in the southwest, at 84 square kilometers (32 square miles). Mývatn-Laxa Lake, in the northeast, is well-known, both for the large variety of birds that inhabits its shores and for its excellent fishing.



EPD/Saxifraga/Janus Verkerk

*One of the most active geysers in the world is Strokkur, in Iceland, with 30-meter (100-foot) eruptions.*

## **7** **RIVERS AND WATERFALLS**

Due to the heavy rainfall, Icelandic rivers are numerous and relatively large. Thjórsá, the longest river, has a length of 237 kilometers (147 miles). Jökulsá á Fjöllum, the second-longest river, is 206 kilometers (128 miles) long. Other major rivers include Hvítá and Ölfusá in the south, Skjálfanda in the north, and Lagarfljót and Jökulsá á Brú in the east.

Icelandic rivers are mainly of two types: glacial and clear-water rivers. Glacial rivers usually divide into numerous intertwined tributaries that constantly change their courses and swing over the plains lying below the glaciers. This is especially true of the rivers running south from Vatnajökull. In that area,

it is extremely difficult to build a permanent road, since the bridges and parts of the roads are constantly being washed away when the glacial rivers reach their maximum discharge, usually in July and August.

Clear-water rivers are of two kinds. One drains the old basalt areas and has a variable amount of water with maximum flow in late spring. The other kind drains regions covered with post-glacial lava and usually has small variations in water volume, which makes them ideally suited for hydroelectric power production. Swift currents make Icelandic rivers for the most part unnavigable.

An impressive characteristic of the youthful Icelandic landscape is its waterfalls. The most famous are Gullfoss in Hvítá, Dettifoss in Jökulsá á Fjöllum, Aldeyjarfoss and Godhafoss in Skjálfandaflljót, Hraunfossar in Hvítá in Borgarfjörður, and Skógafoss in Skógá.

Iceland presently has three sites designated as wetlands of international importance by the Ramsar Convention on Wetlands. The sites cover a total area of 590 square kilometers (228 square miles). The Grudnarfjörður wetland is an estuary and sea bay consisting of mudflats rich in invertebrates, supporting musselbanks, and saltmarsh vegetation. Part of the region of Mývatn-Laxa Lake is a marsh complex fed by both cold and thermal springs. The site supports freshwater marshes, a rich submerged variety of flora, algal communities, woodland, bog, and moorland. The abundant invertebrate fauna here provide food for large numbers of waterfowl. The site is especially important for two duck species that nest only in Iceland and for a large number of molting Anatidae (another type of waterfowl). The last site, Thjórsárver, includes abundant pools and lakes and extensive marshland dominated by sedges.

## DID YOU KNOW?

The Arctic Circle is the imaginary line that circles the globe at about 66.5° north latitude. Areas north of the circle experience the phenomenon known as the midnight sun, which is a period of time when the sun is visible for twenty-four hours or longer. During the summer solstice (usually June 21 or 22), the sun is visible on the horizon at midnight from all points along the Arctic Circle. As you move farther north, seasons of sunshine get longer, so that at the North Pole, there are six months of continuous sunshine from the vernal equinox (usually March 21 or 22) until the autumnal equinox (usually September 21 or 22). The Arctic Circle also serves as a boundary between the North Temperate and the North Frigid climate zones.

### 8 🌐 DESERTS

There are no desert regions in Iceland.

### 9 🌐 FLAT AND ROLLING TERRAIN

Glaciers cover an area of 11,200 square kilometers (4,323 square miles), or 11 percent of the total land area. Nearly all types of glaciers, from small cirque glaciers to extensive plateau icecaps, are represented. The biggest of these icecaps, Vatnajökull, with an area of 8,300 square kilometers (3,204 square miles)

and a maximum thickness of 1,000 meters (3,281 feet), is larger than all the glaciers in continental Europe put together. One of its southern outlets, Breidamerkurjökull, reaches more than 120 meters (394 feet) below sea level. Other large icecaps are Langjökull (1,025 square kilometers/396 square miles) and Hofsjökull (953 square kilometers/368 square miles), both located in the Central Highlands; Mýrdalsjökull (700 square kilometers/270 square miles) in the south; and Drangajökull (160 square kilometers/62 square miles) in the northwest. The altitude of the glaciation limit is lowest in the northwest, at about 600 meters (1,961 feet), and highest in the highlands north of Vatnajökull, at over 1,500 meters (4,922 feet).

### 10 🌐 MOUNTAINS AND VOLCANOES

Many mountain peaks form a ring around the central plateau. Most of these peaks are volcanic in nature, affected by the underlying thermal activity that characterizes most of the country. Nearly every type of volcanic activity is found underground in Iceland. Fissures creating lava fountains, which are called “crater rows,” are the most common. The most notable one is the Lakagígar (The Laki Eruption), which in 1783 poured out the most extensive lava flow in history, covering 565 square kilometers (218 square miles). Other crater rows include Reykjanes, Krisuvik, and Brennisteinsfjöll. Shield volcanoes such as the Skjaldbreiðhur are built up over time from repeated lava eruptions.

Iceland also has active volcanoes fed by magma chambers. Many of them are blanketed by perpetual ice, such as those under the Vatnajökull glacier: Grímsvötn and Bardarbunga. Each eruption of these volcanic centers is accompanied by flooding as volcanic activity melts the ice. These floods occur about every five to ten years even without volcanic eruptions, due to underground thermal activity.

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# ICELAND

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In 1362, the eruption of Öraefajökull (Hvannadalshnukur) devastated the settlement at the foot of the volcano. Öraefajökull, a three-peaked volcano, is the highest point in the country at a height of 2,119 meters (6,952 feet) on the southeastern coast of the island. The Vatnajökull glacier covers this volcano. The most famous Icelandic volcano is Hekla, which was renowned throughout the Roman Catholic world during the Middle Ages as the so-called “Abode of the Damned.”

## 11 🌐 CANYONS AND CAVES

The Kverkfjöll Glacial Cave is one of the most famous of its kind. It is located at the northern rim of the Vatnajökull glacier and extends for about 2,850 meters (9,350 feet) long and 525 meters (1,722 feet) deep. Glacial caves such as this are carved out by hot water volcanic springs below the glaciers.

Viðgelmir, Surtshellir, and Stafanshellir are lava tubes found in the Hallmundarhraun area. These caverns are formed when lava streams flow continuously in the same river-like channel for many hours or even many days. The outer edges of the flow may begin to cool and form a solid crust, creating a tube through which the molten lava continues to flow. Parts of the tube remain once the initial eruption is completed and the molten lava drains to lower ground, leaving behind a long tunnel. Lava tubes sometimes feature lava stalactites and stalagmites. The Surtshellir Cave (also known as the Fire Giants Cave) is one of the longest lava tubes in the world: 1,970 meters (6,463 feet) long and about 37 meters (121 feet) high.

Ásbyrgi is a horseshoe-shaped canyon that is part of Jökulsárgljúfur National Park, east of Húsavík and north of Dettifoss. Eldgjá is a fifteen-mile-long canyon-like rift located northeast of Mýrdalsjökull. It is actually one of the most extensive explosion fissures in the

world. It also contains one of Iceland’s most beautiful waterfalls, the Ofaerufoss.

## 12 🌐 PLATEAUS AND MONOLITHS

The inland plateau is a rugged, barren area above sea level. The Mid-Atlantic Ridge runs directly under the center of this region. It makes the plateau the land of violent natural wonders, including volcanoes, hot springs, steaming geysers, glaciers, and glistening lava fields. Earthquakes are frequent in Iceland, but they are rarely dangerous.

## 13 🌐 MAN-MADE FEATURES

A 1995 avalanche, resulting in twenty deaths, led the small village of Flateyri (population 300) to construct a massive barrier dam system to protect the area from future avalanche dangers. The “A”-shaped structure stretches uphill from the village, which lies on the coast of the Denmark Strait, and serves to deflect the massive snow slides around the village.

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# India

- **Official name:** Republic of India
- **Area:** 3,287,590 square kilometers (1,269,345 square miles)
- **Highest point on mainland:** Kanchenjunga (8,595 meters/28,208 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zones:** 3:30 P.M. = noon GMT in West; 6:30 P.M. = noon GMT in East.
- **Longest distances:** 3,214 kilometers (1,997 miles) from north to south; 2,933 kilometers (1,822 miles) from east to west
- **Land boundaries:** 14,103 kilometers (8,744 miles) total boundary length; Bangladesh 4,053 kilometers (2,513 miles); Bhutan 605 kilometers (375 miles); China 3,380 kilometers (2,096 miles); Myanmar 1,463 kilometers (907 miles); Nepal 1,690 kilometers (1,048 miles); Pakistan 2,912 kilometers (1,805 miles)
- **Coastline:** 7,000 kilometers (4,340 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

India is located in the southern part of Asia and borders the Arabian Sea, the Indian Ocean, and the Bay of Bengal. It occupies most of the South Asian continent and is one of the largest countries on Earth and one of the most heavily populated. India consists of twenty-eight states and seven union territories.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Part of the southern border with Bangladesh is undefined, as is part of the border with China in the northeast (the McMahon Line). Since their creation as independent countries in 1947, India and Pakistan have disputed ownership of the northern regions of Jammu and Kashmir, a simmering conflict that has broken into fighting between the neighbors in 1948, 1965, and 1971, and continues to be a source of sporadic conflict. China also occupies portions of northeastern Jammu and Kashmir that are claimed by India, which caused fighting in 1962. A line of control divides Jammu

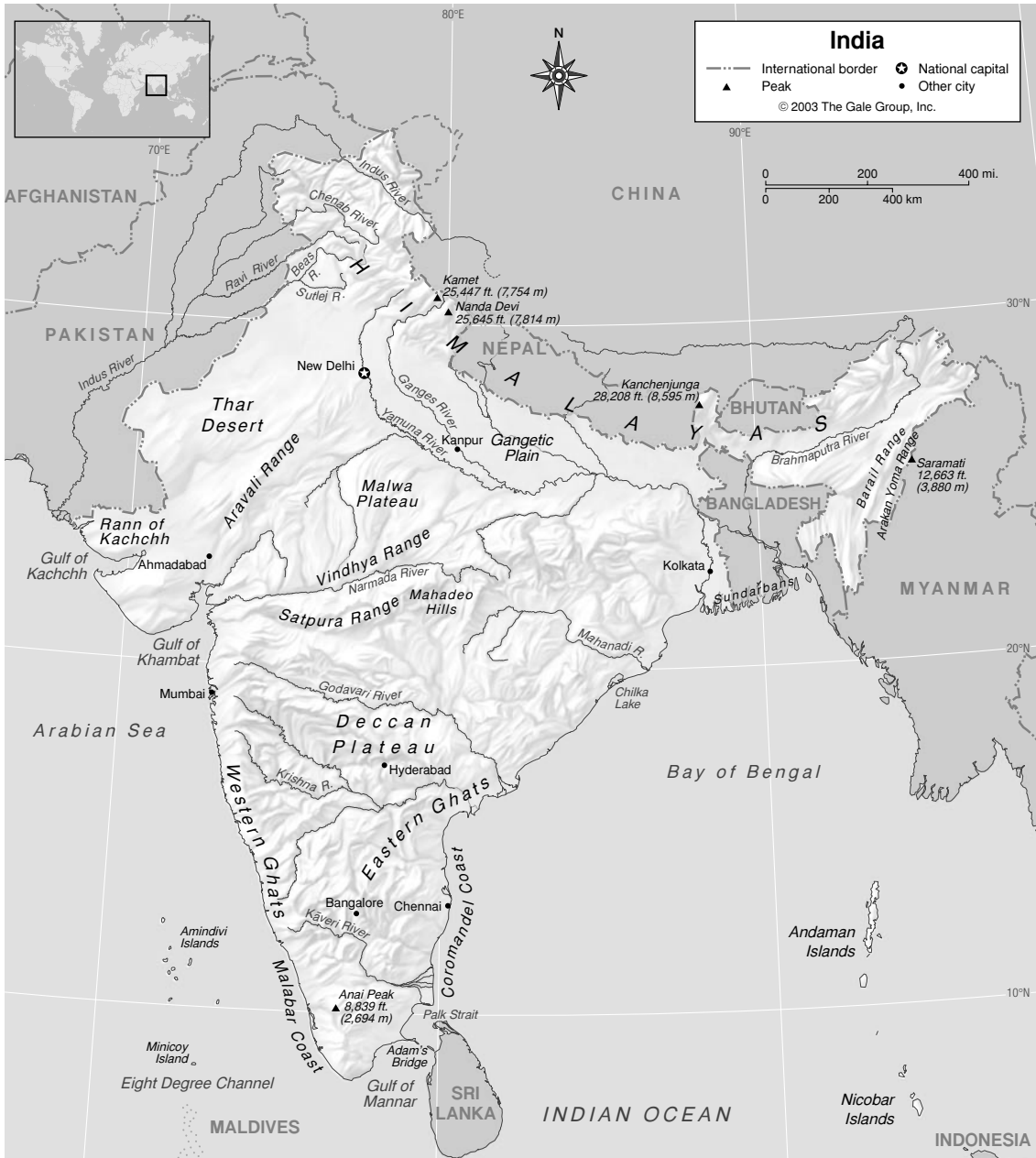
and Kashmir, excluding the eastern sector along the Siachen Glacier.

## 3 🌐 CLIMATE

India experiences a variety of different climate conditions due to its great size and varying terrain. The Greater Himalayan region has a dry, subarctic climate, but the valleys and outer ranges are temperate or subtropical. The inland of the peninsula ranges from subtropical to temperate. The coasts of the peninsula are humid and tropical.

India's four seasons are determined by the monsoons, a pattern of winds sweeping across southern Asia. There is a dry, cool season (winter) from December through March; a hot season (spring) in April and May; the rainy season (summer) from June through September; and a less-rainy season (autumn) in October and November. India's north has frost in the cool season and temperatures as high as 49°C (120°F) in the hot season. As an example of

# INDIA



South India's climate, the city of Chennai has an average temperature of 28°C (83°F). Temperatures for the entire nation reach an average high of 38° to 40°C (100° to 104°F) and dip to an average low of 10°C (50°F).

India's weather is characterized by intense, sudden changes, such as the onset of the monsoon, flash floods, or violent thunderstorms. Cyclones from the Indian Ocean often affect the coastal areas in April through June and



September through December. Rainfall varies extremely in India, from the Thar Desert which receives less than 13 centimeters (five inches) yearly, to Cherrapunji in the northeastern mountains, known as the world's rainiest place, with an average of 1,270 centimeters (500 inches) per year. Rainfall for the entire nation of India averages 105 centimeters (41 inches). Snow falls in the Himalayan area, which also produces hailstorms that sweep down over the peninsula. Dust storms affect many regions of India.

## 4 🌐 TOPOGRAPHIC REGIONS

One of the largest countries on Earth, as well as one of the most heavily populated, India is a nation of great geographic diversity. The extraordinary geographic variety of India can be divided into three main regions: the Himalayan mountain range of the north; the broad and flat alluvial plain of the Ganges River to the south of the mountains; and, even further south, the vast peninsula that juts into the Indian Ocean, creating the Arabian Sea and the Bay of Bengal, with small island chains offshore. India's mountainous northeastern region is nearly separated from the rest of the country by Bangladesh and Nepal. India's wonderfully diverse geographical features, encompassing everything from snowy peaks to desert to rainforest, are at risk from environmental damage, mostly due to population pressure. Many local groups have organized to fight pollution and protect wildlife.

Local political parties changed the names of several well-known Indian locations during the 1990s. Most noteworthy of these changes are the cities of Mumbai (formerly Bombay), Chennai (formerly Madras) and Kolkata (formerly Calcutta), and the state of Bangla (formerly West Bengal).

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

India's peninsula juts into the Indian Ocean, with the Arabian Sea on the east and the Bay of Bengal on the west. The country is situated on vital maritime trade routes between the Middle East, Africa, and East Asia.

### Sea Inlets and Straits

The Eight Degree Channel separates the Lakshadweep islands from the small island nation of the Republic of Maldives. Inlets of the Indian Ocean surrounding India include the Arabian Sea to the west, the Laccadive Sea between the Indian peninsula and the Maldives to the southwest, and the Bay of Bengal in the east. In the northwest, the Gulf of Kachchh and the Gulf of Khambhat are inlets of the Arabian Sea. In the southeast, the Palk Strait separates India from Sri Lanka.

### Islands and Archipelagos

Two groups of islands belonging to India lie on each side of the southern tip of the country. The areas and populations of these island chains are very small.

The eastern group, the Andaman and Nicobar Islands, formed from an undersea mountain range, are located in the Bay of Bengal. The total land area of these lightly populated islands is roughly 8,287 square kilometers (3,200 square miles).

In the Arabian Sea are the Laccadive, Minicoy, and Amindivi Islands. They are collectively named Lakshadweep. The total area of these small coral islands is only about 50 square kilometers (18.5 square miles). Most, although not all, of these low-lying small islands are occupied, and population density is high on the inhabited islands.

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# INDIA

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EPD/Cynthia Bassett

*Dal Lake in northern India.*

## Coastal Features

Not far south of where the India-Pakistan border meets the ocean, the broad and short Kathiwar Peninsula projects into the Arabian Sea. To the north of this peninsula lies the Gulf of Kachchh, and the Gulf of Khambhat extends to the south and east. The Gulf of Kachchh includes a Marine National Park, which is an effort to protect coral reefs and wetland wildlife habitat. South of the Gulf of Kachchh, the coast continues, with few inlets and a flat sandy shore, to its southernmost point, Cape Comorin. The southern section of this coastline is known as the Malabar Coast.

The eastern coast of India, on the Bay of Bengal, begins in the northeast at the fragmented Ganges River delta and continues generally southwest before curving to the south, at which point it becomes known as the Coromandel Coast. The Gulf of Mannar indents

India's southern tip, where Cape Comorin joins the two coasts of the immense Indian peninsula.

## 6 INLAND LAKES

India's landscape contains a variety of lakes—salt water and fresh water as well as natural and artificial.

Chilka Lake is the largest lake in India, with an area of 1,100 square kilometers (425 square miles). Wular Lake, in India-controlled Jammu and Kashmir, is India's largest freshwater lake (202 square kilometers/78 square miles). It contains large quantities of floating vegetation, and it is also an important source of fish and of irrigation water.

## 7 RIVERS AND WATERFALLS

The Indus River, rising in the Tibetan Himalayas of China, flows through Indian-controlled Jammu and Kashmir before entering Pakistan.

The Indus has five principal tributaries, also of Himalayan origin, that are of importance to India: the Sutlej, Beas, Ravi, Chenab, and Jhelum. These rivers drain part of the Indian state of Punjab, whose name is derived from panch ab, meaning five waters or rivers.

South of Punjab and east of the desert region of western India is the most revered and mightiest of India's rivers, the Ganges. The origin of the Ganges is identified in an ice cave about 48 kilometers (30 miles) north of Nanda Devi, almost on the border with China. The river is about 2,510 kilometers (1,560 miles) in length. The Yamuna, the major tributary of the Ganges, also rises in the Himalayas. The Ganges has shifted its course many times over the years, and as it approaches the border with Bangladesh it branches into many streams and rivers to the south. They are the beginnings of the enormous Ganges Delta, most of which is found within Bangladesh. After entering Bangladesh, the Ganges merges with the Brahmaputra River before emptying into the Bay of Bengal. Most of the course of the Brahmaputra is in China, but it enters India in its northeastern corner. The river then curves west and flows through northeast India in the Assam Valley along a narrow plain, before entering Bangladesh, where it merges with the Ganges.

South of the Gangetic Plain there are six major rivers. Four of these rivers—the Mahanadi, the Godavari, the Krishna, and the Kâeri—flow into the Bay of Bengal. Several of the rivers have waterfalls and cascades in their upper courses.

The Mahanadi River, which rises in Madhya Pradesh, is about 900 kilometers (560 miles) long and is an important source of irrigation water in Orissa state.

Only two major rivers of the peninsula flow into the Arabian Sea: the Narmada and the Tâpi. The Narmada rises in eastern Mad-

hya Pradesh, flows through Gujarat State, then forms a thirteen-mile-wide estuary at the Gulf of Khambhat. The shorter Tâpi River follows a companion course south of the Narmada.

## 8 🌐 DESERTS

Below the state of Punjab and extending southwest along the Pakistani border is the sparsely populated Thar Desert. This desert covers most of the state of Rajasthan, and 3,000 square kilometers (1,158 square miles) of its terrain of sand dunes and flat thorn scrub is protected as the Thar Desert National Park.

## 9 🌐 FLAT AND ROLLING TERRAIN

The Gangetic (or Indo-Gangetic) Plain lies at the foot of the Himalayan mountain barrier, extending from Assam and the Bay of Bengal on the east into Pakistan and to the Arabian Sea on the west. Covering some 776,996 square kilometers (300,000 square miles), it extends roughly 2,414 kilometers (1,500 miles) from east to west. The entire region is very fertile and very densely populated.

Other grasslands in India include the Terai region in the low mountains along the border of Nepal, which includes savannah and alpine grassland types. Bamboo grasslands occur across the Himalayan foothills, especially in northeast India.

India's forest cover is estimated at approximately 19 percent of the country. Madhya Pradesh in the center of the country and Arunachal Pradesh in the extreme northeast are the states with the most forest cover. There is a great range of forest types, including alpine scrub in the Himalayan regions; temperate evergreen in Jammu and Kashmir and other hill areas; tropical rainforest in the Western Ghats, northeastern states, and islands; and mangroves in the Sundarbans on the Bay of Bengal and in Gujarat.

**DID YOU KNOW?**

The Silk Road is an ancient seven thousand-mile-long trading route that extended from east-central China through the present-day countries of India, Pakistan, Iran, Iraq, and Syria. It essentially connected the region of the Yellow River Valley in China to the Mediterranean Sea. From there, costly Chinese silk could be transported throughout the Roman Empire. The Silk Road served not only as a transportation route for trade but also as a route of cultural exchange, as travelers and traders from different regions shared religious, political, and social beliefs and customs.

**10 🌐 MOUNTAINS AND VOLCANOES**

The name Himalaya, which means “abode of snow” in Sanskrit, is given to the tremendous system of mountain ranges, the loftiest in the world, that extends along the northern frontiers of Pakistan, India, Nepal, and Bhutan. The Himalayas are made up of three parallel ranges. The northernmost and highest are the Greater Himalayas. The world’s tallest mountains are found in this range, with most peaks over 6,096 meters (20,000 feet). India’s highest mountain is in this range, the five-peaked Kanchenjunga (8,595 meters/28,208 feet) on the border between Nepal and India. Other great peaks include Kamet (7,756 meters/25,447 feet) and Nanda Devi (7,817 meters/

25,645 feet), which lie north of New Delhi and west of Nepal.

South of the Greater Himalayas is the Lesser Himalayas range. Their peaks are mostly between 1,524 and 3,657 meters (5,000 and 12,000 feet) in height; although some exceed 4,572 meters (15,000 feet). The Outer Himalayas are the southernmost and lowest of the three ranges, with peaks between 914 and 1,219 meters (3,000 and 4,000 feet) in height.

There are many other mountain ranges in India, although none nearly so large and high as the Himalayas. At the southern end of the country are the two mountain ranges called the Ghats. The Western and Eastern Ghats run parallel to the coasts and separate the interior plateau from the coastal plains. The mountains called the Western Ghats have an average elevation of 1,066 meters (3,500 feet). The Eastern Ghats are disconnected and much lower than the Western Ghats, averaging only about 610 meters (2,000 feet) in elevation.

The easternmost part of India, nearly separated from the rest of the country by Bangladesh, is very mountainous. The chief ranges here are the Barail Range and the Arakan Yoma Range along the border with Myanmar, whose highest peak is Saramati (3,866 meters/12,683 feet). These ranges are sometimes considered a southern extension of the Himalayas.

**11 🌐 CANYONS AND CAVES**

The Himalayan regions of Ladakh, Zaskar, and Sikkim possess many deep canyons, as do the hill regions, such as Madhya Pradesh at India’s center. The Brahmaputra River cuts a deep gorge through the mountains of north-east India, as does the Ganges at its source in the Himalayas

**12 🌐 PLATEAUS AND MONOLITHS**

The largest of India’s plateaus are the central Malwa Plateau between the Aravali and

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# INDIA

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EPD/Saxifraga/Sytske Dijkse

*The Thar Desert lies along India's border with Pakistan.*

Vindhya Ranges, the Chota Nagpur in the northeast of the peninsula, and the Deccan Plateau. The name Deccan, which means “south,” is often applied loosely to all the elevated land of southern India. More properly, however, it refers to the western portions of the irregular central plateau. The Deccan is actually not a single plateau but a series of plateaus topped by rolling hills and intersected by many rivers. The Deccan plateau system averages about 762 meters (2,500 feet) in elevation in the west and about 305 meters (1,000 feet) in the eastern parts.

## **13** 🌐 **MAN-MADE FEATURES**

India has a number of artificial lakes. In Tamil Nadu state, an extensive system of shallow irrigation reservoirs known as “tanks” has been maintained since the eighth century A.D. Nagarjuna Lake, on which the extensive

Nagarjuna Dam is located, is the third-largest man-made lake in the world.

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# APPENDIX A

## A CONTINENTS BY AREA, FROM LARGEST TO SMALLEST

RANK	CONTINENT	AREA (SQ MI)	AREA (SQ KM)
1	Asia	17,139,445	44,391,162
2	Africa	11,677,239	30,244,049
3	North America	9,361,791	24,247,039
4	South America	6,880,706	17,821,029
5	Antarctica	5,500,000	14,245,000
6	Europe	3,997,929	10,345,636
7	Australia	2,967,909	7,686,884

## B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
1	Russia	6,592,735	17,075,200	11.0
2	Antarctica	5,405,000	14,000,000	9.4
3	Canada	3,851,788	9,976,140	6.7
4	United States of America	3,717,792	9,629,091	6.4
5	China	3,705,386	9,596,960	6.4
6	Brazil	3,286,470	8,511,965	5.7
7	Australia	2,967,893	7,686,850	5.1
8	India	1,269,338	3,287,590	2.3
9	Argentina	1,072,157	2,776,890	1.9
10	Kazakhstan	1,049,150	2,717,300	1.8
11	Sudan	967,493	2,505,810	1.7
12	Algeria	919,590	2,381,740	1.6
13	Congo, Democratic Republic of the	905,563	2,345,410	1.6
15	Mexico	761,606	1,972,550	1.3
16	Saudi Arabia	756,984	1,960,582	1.3
17	Indonesia	741,096	1,919,440	1.3
18	Libya	679,358	1,759,540	1.2
19	Iran	636,293	1,648,000	1.1
20	Mongolia	604,247	1,565,000	1.0
21	Peru	496,223	1,285,220	0.9
22	Chad	495,755	1,284,000	0.9
23	Niger	489,189	1,267,000	0.8
24	Angola	481,350	1,246,700	0.8
25	Mali	478,764	1,240,000	0.8

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
26	South Africa	471,008	1,219,912	0.8
27	Colombia	439,733	1,138,910	0.8
28	Ethiopia	435,184	1,127,127	0.8
29	Bolivia	424,162	1,098,580	0.7
30	Mauritania	397,953	1,030,700	0.7
31	Egypt	386,660	1,001,450	0.7
32	Tanzania	364,879	945,037	0.6
33	Nigeria	356,667	923,768	0.6
34	Venezuela	352,143	912,050	0.6
35	Namibia	318,694	825,418	0.6
36	Pakistan	310,401	803,940	0.5
37	Mozambique	309,494	801,590	0.5
38	Turkey	301,382	780,580	0.5
39	Chile	292,258	756,950	0.5
40	Zambia	290,584	752,614	0.5
41	Myanmar	261,969	678,500	0.5
42	Afghanistan	250,000	647,500	0.4
43	Somalia	246,199	637,657	0.4
44	Central African Republic	240,534	622,984	0.4
45	Ukraine	233,089	603,700	0.4
46	Botswana	231,803	600,370	0.4
47	Madagascar	226,656	587,040	0.4
48	Kenya	224,961	582,650	0.4
49	France	211,208	547,030	0.4
50	Yemen	203,849	527,970	0.4
51	Thailand	198,455	514,000	0.3
52	Spain	194,896	504,782	0.3
53	Turkmenistan	188,455	488,100	0.3
54	Cameroon	183,567	475,440	0.3
55	Papua New Guinea	178,703	462,840	0.3
56	Sweden	173,731	449,964	0.3
57	Uzbekistan	172,741	447,400	0.3
58	Morocco	172,413	446,550	0.3
59	Iraq	168,753	437,072	0.3

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
60	Paraguay	157,046	406,750	0.3
61	Zimbabwe	150,803	390,580	0.3
62	Japan	145,882	377,835	0.3
63	Germany	137,846	357,021	0.2
64	Congo, Republic of	132,047	342,000	0.2
65	Finland	130,127	337,030	0.2
66	Malaysia	127,316	329,750	0.2
67	Vietnam	127,243	329,560	0.2
68	Norway	125,181	324,220	0.2
69	Côte d'Ivoire	124,502	322,460	0.2
70	Poland	120,728	312,685	0.2
71	Italy	116,305	301,230	0.2
72	Philippines	115,830	300,000	0.2
73	Ecuador	109,483	283,560	0.2
74	Burkina Faso	105,869	274,200	0.2
75	New Zealand	103,737	268,680	0.2
76	Gabon	103,347	267,667	0.2
77	Guinea	94,926	245,857	0.2
78	United Kingdom	94,525	244,820	0.2
79	Ghana	92,100	238,540	0.2
80	Romania	91,699	237,500	0.2
81	Laos	91,428	236,800	0.2
82	Uganda	91,135	236,040	0.2
83	Guyana	83,000	214,970	0.1
84	Oman	82,031	212,460	0.1
85	Belarus	80,154	207,600	0.1
86	Kyrgyzstan	76,640	198,500	0.1
87	Senegal	75,749	196,190	0.1
88	Syria	71,498	185,180	0.1
89	Cambodia	69,900	181,040	0.1
90	Uruguay	68,039	176,220	0.1
91	Tunisia	63,170	163,610	0.1
92	Suriname	63,039	163,270	0.1
93	Bangladesh	55,598	144,000	0.1



## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
94	Tajikistan	55,251	143,100	0.1
95	Nepal	54,363	140,800	0.1
96	Greece	50,942	131,940	0.1
97	Nicaragua	49,998	129,494	0.1
98	Eritrea	46,842	121,320	0.1
99	Korea, North (Democratic People's Republic of)	46,540	120,540	0.1
100	Malawi	45,745	118,480	0.1
101	Benin	43,483	112,620	0.1
102	Honduras	43,278	112,090	0.1
103	Liberia	43,000	111,370	0.1
104	Bulgaria	42,822	110,910	0.1
105	Cuba	42,803	110,860	0.1
106	Guatemala	42,042	108,890	0.1
107	Iceland	39,769	103,000	0.1
108	Serbia and Montenegro	39,517	102,350	0.1
109	Korea, South (Republic of)	38,023	98,480	0.1
110	Hungary	35,919	93,030	0.1
111	Portugal	35,672	92,391	0.1
112	Jordan	35,637	92,300	0.1
114	Azerbaijan	33,436	86,600	0.1
115	Austria	32,378	83,858	0.1
116	United Arab Emirates	32,000	82,880	0.1
117	Czech Republic	30,450	78,866	0.1
118	Panama	30,193	78,200	0.1
119	Sierra Leone	27,699	71,740	0.05
120	Ireland	27,135	70,280	0.05
121	Georgia	26,911	69,700	0.05
122	Sri Lanka	25,332	65,610	0.04
123	Lithuania	25,174	65,200	0.04
124	Latvia	24,938	64,589	0.04
125	Togo	21,925	56,785	0.04
126	Croatia	21,831	56,542	0.04
127	Bosnia and Herzegovina	19,741	51,129	0.03

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
128	Costa Rica	19,730	51,100	0.03
129	Slovakia	18,859	48,845	0.03
130	Dominican Republic	18,815	48,730	0.03
131	Bhutan	18,147	47,000	0.03
132	Estonia	17,462	45,226	0.03
133	Denmark	16,638	43,094	0.03
134	Netherlands	16,033	41,526	0.03
135	Switzerland	15,942	41,290	0.03
136	Guinea-Bissau	13,946	36,120	0.02
137	Moldova	13,067	33,843	0.02
137	Taiwan	13,892	35,980	0.02
138	Belgium	11,780	30,510	0.02
139	Lesotho	11,720	30,355	0.02
140	Armenia	11,506	29,800	0.02
141	Albania	11,100	28,748	0.02
142	Solomon Islands	10,985	28,450	0.02
143	Equatorial Guinea	10,831	28,051	0.02
144	Burundi	10,745	27,830	0.02
145	Haiti	10,714	27,750	0.02
146	Rwanda	10,169	26,338	0.02
147	Macedonia	9,781	25,333	0.02
148	Belize	8,867	22,966	0.02
149	Djibouti	8,494	22,000	0.01
150	El Salvador	8,124	21,040	0.01
151	Israel	8,019	20,770	0.01
152	Slovenia	7,820	20,253	0.01
153	Fiji	7,054	18,270	0.01
154	Kuwait	6,880	17,820	0.01
155	Swaziland	6,704	17,363	0.01
156	East Timor	5,640	14,609	0.01
157	Bahamas	5,382	13,940	0.01
158	Vanuatu	4,710	12,200	0.01
159	Qatar	4,416	11,437	0.01
160	Gambia, The	4,363	11,300	0.01

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
161	Jamaica	4,243	10,990	0.01
162	Lebanon	4,015	10,400	0.01
163	Cyprus	3,571	9,250	0.01
164	Brunei	2,228	5,770	0.004
164	Puerto Rico	3,515	9,104	0.01
165	Trinidad and Tobago	1,980	5,128	0.003
166	Cape Verde	1,557	4,033	0.003
167	Samoa	1,104	2,860	0.002
168	Luxembourg	998	2,586	0.002
169	Comoros	838	2,170	0.001
170	Mauritius	718	1,860	0.001
171	São Tomé and Príncipe	386	1,001	0.0007
172	Dominica	291	754	0.0005
173	Tonga	289	748	0.0005
174	Kiribati	277	717	0.0005
175	Micronesia	271	702	0.0005
176	Palau	177	458	0.0003
177	Bahrain	239	620	0.0004
178	Saint Lucia	239	620	0.0004
179	Andorra	181	468	0.0003
181	Singapore	250	647.5	0.0004
181	Seychelles	176	455	0.0003
182	Antigua and Barbuda	171	442	0.0003
183	Barbados	166	430	0.0003
184	Saint Vincent and the Grenadines	150	389	0.0003
185	Malta	122	316	0.0002
186	Maldives	115	300	0.0002
187	Saint Kitts and Nevis	101	261	0.0002
188	Marshall Islands	70	181.3	0.0001
189	Liechtenstein	62	160	0.0001
190	San Marino	24	61.2	--
191	Tuvalu	10	26	--
192	Nauru	8.1	21	--
193	Monaco	0.7	1.95	--
194	Vatican City	0.17	0.44	--

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
1	China	Asia	1,284,303,705
2	India	Asia	1,045,845,226
3	United States of America	North America	280,562,489
4	Indonesia	Asia	231,328,092
5	Brazil	South America	176,029,560
6	Pakistan	Asia	147,663,429
7	Russia	Europe	144,978,573
8	Bangladesh	Asia	133,376,684
9	Nigeria	Africa	129,934,911
10	Japan	Asia	126,974,628
11	Mexico	North America	103,400,165
12	Philippines	Asia	84,525,639
13	Germany	Europe	83,251,851
14	Vietnam	Asia	81,098,416
15	Egypt	Africa	70,712,345
16	Ethiopia	Africa	67,673,031
17	Turkey	Asia	67,308,928
18	Iran	Asia	66,622,704
19	Thailand	Asia	62,354,402
20	United Kingdom	Europe	59,778,002
21	France	Europe	59,765,983
22	Italy	Europe	57,715,625
23	Congo, Democratic Republic of the	Africa	55,225,478
24	Ukraine	Europe	48,396,470
25	Korea, South (Republic of)	Asia	48,324,000
26	South Africa	Africa	43,647,658
27	Myanmar	Asia	42,238,224
28	Colombia	South America	41,008,227
29	Spain	Europe	40,077,100
30	Poland	Europe	38,625,478
31	Argentina	South America	37,812,817
32	Tanzania	Africa	37,187,939
33	Sudan	Africa	37,090,298

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
34	Algeria	Africa	32,277,942
35	Canada	North America	31,902,268
36	Morocco	Africa	31,167,783
37	Kenya	Africa	31,138,735
38	Peru	South America	27,949,639
39	Afghanistan	Asia	27,755,775
40	Nepal	Asia	25,873,917
41	Uzbekistan	Asia	25,563,441
42	Uganda	Africa	24,699,073
43	Venezuela	South America	24,287,670
44	Iraq	Asia	24,001,816
45	Saudi Arabia	Asia	23,513,330
46	Malaysia	Asia	22,662,365
47	Taiwan	Asia	22,548,009
48	Romania	Europe	22,317,730
49	Korea, North (Democratic People's Republic of)	Asia	22,224,195
50	Ghana	Africa	20,244,154
51	Mozambique	Africa	19,607,519
52	Sri Lanka	Asia	19,576,783
53	Australia	Australia	19,546,792
54	Yemen	Asia	18,701,257
55	Syria	Asia	17,155,814
56	Côte d'Ivoire	Africa	16,804,784
57	Kazakhstan	Asia	16,741,519
58	Madagascar	Africa	16,473,477
59	Cameroon	Africa	16,184,748
60	Netherlands	Europe	16,067,754
61	Chile	South America	15,498,930
62	Ecuador	South America	13,447,494
63	Guatemala	North America	13,314,079
64	Cambodia	Asia	12,775,324
65	Burkina Faso	Africa	12,603,185

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
66	Zimbabwe	Africa	11,376,676
67	Mali	Africa	11,340,480
68	Cuba	North America	11,224,321
69	Malawi	Africa	10,701,824
70	Serbia and Montenegro	Europe	10,656,929
71	Greece	Europe	10,645,343
72	Niger	Africa	10,639,744
73	Angola	Africa	10,593,171
74	Senegal	Africa	10,589,571
75	Belarus	Europe	10,335,382
76	Belgium	Europe	10,274,595
77	Czech Republic	Europe	10,256,760
78	Portugal	Europe	10,084,245
79	Hungary	Europe	10,075,034
80	Zambia	Africa	9,959,037
81	Tunisia	Africa	9,815,644
82	Chad	Africa	8,997,237
83	Sweden	Europe	8,876,744
84	Dominican Republic	North America	8,721,594
85	Bolivia	South America	8,445,134
86	Austria	Europe	8,169,929
87	Azerbaijan	Asia	7,798,497
88	Guinea	Africa	7,775,065
89	Somalia	Africa	7,753,310
90	Bulgaria	Europe	7,621,337
91	Rwanda	Africa	7,398,074
92	Switzerland	Europe	7,301,994
93	Haiti	North America	7,063,722
94	Benin	Africa	6,787,625
95	Tajikistan	Asia	6,719,567
96	Honduras	North America	6,560,608
97	El Salvador	North America	6,353,681
98	Burundi	Africa	6,373,002

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
99	Israel	Asia	6,029,529
100	Paraguay	South America	5,884,491
101	Laos	Asia	5,777,180
102	Sierra Leone	Africa	5,614,743
103	Slovakia	Europe	5,422,366
104	Denmark	Europe	5,368,854
105	Libya	Africa	5,368,585
106	Jordan	Asia	5,307,470
107	Togo	Africa	5,285,501
108	Finland	Europe	5,183,545
109	Papua New Guinea	Asia	5,172,033
110	Nicaragua	North America	5,023,818
111	Georgia	Asia	4,960,951
112	Kyrgyzstan	Asia	4,822,166
113	Turkmenistan	Asia	4,688,963
114	Norway	Europe	4,525,116
115	Eritrea	Africa	4,465,651
116	Singapore	Asia	4,452,732
117	Moldova	Europe	4,434,547
118	Croatia	Europe	4,390,751
119	Bosnia and Herzegovina	Europe	3,964,388
120	Puerto Rico	North America	3,957,988
121	New Zealand	Asia	3,908,037
122	Ireland	Europe	3,883,159
123	Costa Rica	North America	3,834,934
124	Lebanon	Asia	3,677,780
125	Central African Republic	Africa	3,642,739
126	Lithuania	Europe	3,601,138
127	Albania	Europe	3,544,841
128	Uruguay	South America	3,386,575
129	Armenia	Europe	3,330,099
130	Liberia	Africa	3,288,198
131	Congo, Republic of the	Africa	2,958,448

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
132	Panama	North America	2,882,329
133	Mauritania	Africa	2,828,858
134	Mongolia	Asia	2,694,432
135	Jamaica	North America	2,680,029
136	Oman	Asia	2,713,462
137	United Arab Emirates	Asia	2,445,989
138	Latvia	Europe	2,366,515
139	Kuwait	Asia	2,111,561
140	Lesotho	Africa	2,207,954
141	Bhutan	Asia	2,094,176
142	Macedonia, The Former Yugoslav Republic of	Europe	2,054,800
143	Slovenia	Europe	1,932,917
144	Namibia	Africa	1,820,916
145	Botswana	Africa	1,591,232
146	Estonia	Europe	1,415,681
147	Gambia, The	Africa	1,455,842
148	Guinea-Bissau	Africa	1,345,479
149	Gabon	Africa	1,233,353
150	Mauritius	Africa	1,200,206
151	Trinidad and Tobago	South America	1,163,724
152	Swaziland	Africa	1,123,605
153	East Timor	Asia	952,618
154	Fiji	Asia	856,346
155	Qatar	Asia	793,341
156	Cyprus	Asia	767,314
157	Guyana	South America	698,209
158	Bahrain	Asia	656,397
159	Comoros	Africa	614,382
160	Equatorial Guinea	Africa	498,144
161	Solomon Islands	Asia	494,786
162	Djibouti	Africa	472,810
163	Luxembourg	Europe	448,569
164	Suriname	South America	436,494



## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
165	Cape Verde	Africa	408,760
166	Malta	Europe	397,499
167	Brunei Darussalam	Asia	350,898
168	Maldives	Asia	320,165
169	Bahamas, The	North America	300,529
170	Iceland	Europe	279,384
171	Barbados	North America	276,607
172	Belize	North America	262,999
173	Vanuatu	Asia	196,178
174	Samoa	Asia	178,631
175	São Tomé and Príncipe	Africa	170,372
176	Saint Lucia	North America	160,145
177	Micronesia, Federated States of	Asia	135,869
178	Saint Vincent and the Grenadines	North America	116,394
179	Tonga	Asia	106,137
180	Kiribati	Asia	96,335
181	Grenada	North America	89,211
182	Seychelles	Africa	80,098
183	Marshall Islands	Asia	73,630
184	Dominica	North America	70,158
185	Andorra	Europe	68,403
186	Antigua and Barbuda	North America	67,448
187	Saint Kitts and Nevis	North America	38,736
188	Liechtenstein	Europe	32,842
189	Monaco	Europe	31,987
190	San Marino	Europe	27,730
191	Palau	Asia	19,409
192	Nauru	Asia	12,329
193	Tuvalu	Asia	11,146
194	Holy See	Europe	900
195	Antarctica	Antarctica	No permanent population

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA

All measurements are approximate and are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
1	Pacific Ocean	60,060,000	155,557,000
2	Atlantic Ocean	29,638,000	76,762,000
3	Indian Ocean	26,469,000	68,556,000
4	Southern Ocean	7,848,000	20,327,000
5	Arctic Ocean	5,427,000	14,056,000
6	Coral Sea	1,850,000	4,791,000
7	Arabian Sea	1,492,000	3,864,000
8	South China Sea (Nan Hai)	1,423,000	3,685,000
9	Weddell Sea	1,080,000	2,796,000
10	Caribbean Sea	1,063,000	2,753,000
11	Mediterranean Sea	971,000	2,515,000
12	Tasman Sea	900,000	2,331,000
13	Bering Sea	890,000	2,305,000
14	Bay of Bengal	839,000	2,173,000
15	Sea of Okhotsk	614,000	1,590,000
16	Gulf of Mexico	596,000	1,544,000
17	Gulf of Guinea	592,000	1,533,000
18	Barents Sea	542,000	1,405,000
19	Norwegian Sea	534,000	1,383,000
20	Gulf of Alaska	512,000	1,327,000
21	Hudson Bay	476,000	1,233,000
22	Greenland Sea	465,000	1,205,000
23	Bellinghausen Sea	430,000	1,110,000
24	Amundsen Sea	400,000	1,036,000
25	Arafura Sea	400,000	1,036,000
26	Philippine Sea	400,000	1,036,000
27	Sea of Japan	378,000	979,000
28	Mozambique Channel	376,000	975,000
29	Ross Sea	370,000	958,000
30	East Siberian Sea	361,000	936,000
31	Scotia Sea	347,000	900,000

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA *(continued)*

All measurements are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
32	Kara Sea	341,000	883,000
33	Labrador Sea	309,000	800,000
34	East China Sea (Dong Hai / Tung Hai)	290,000	752,000
35	Solomon Sea	278,000	720,000
36	Laptev Sea	270,000	700,000
37	Baffin Bay	268,000	695,000
38	Banda Sea	268,000	695,000
39	Drake Passage	240,000	620,000
40	Timor Sea	237,000	615,000
41	Andaman Sea	232,000	601,000
42	North Sea	232,000	601,000
43	Davis Strait	230,000	596,000
44	Chukchi Sea	225,000	582,000
45	Great Australian Bight	187,000	484,000
46	Beaufort Sea	184,000	476,000
47	Celebes Sea	182,000	472,000
48	Black Sea	178,000	461,000
49	Red Sea	175,000	453,000
50	Java Sea	167,000	433,000
51	Sulu Sea	162,000	420,000
52	Yellow Sea (Huang Hai)	161,000	417,000
53	Baltic Sea	147,000	382,000
54	Gulf of Carpentaria	120,000	310,000
55	Molucca Sea	119,000	307,000
56	Persian Gulf	93,000	241,000
57	Gulf of Thailand	92,000	239,000
58	Gulf of St. Lawrence	92,000	239,000
59	Bismarck Sea	87,000	225,000
60	Gulf of Aden	85,000	220,000
61	Makassar Strait	75,000	194,000
62	Ceram Sea	72,000	187,000

# APPENDIX E

## E OCEAN DEPTH

All measurements are approximate.

RANK	NAME	OCEAN	DEPTH (FT)	DEPTH (M)
1	Mariana Trench	Pacific	38,635	11,784
2	Philippine Trench	Pacific	37,720	11,505
3	Tonga Trench	Pacific	37,166	11,336
4	Izu Trench	Pacific	36,850	11,239
5	Kermadec Trench	Pacific	34,728	10,592
6	Kuril Trench	Pacific	34,678	10,577
7	New Britain Trench	Pacific	31,657	9,655
8	Puerto Rico Trench	Atlantic	31,037	9,466
9	Bonin Trench	Pacific	29,816	9,094
10	Japan Trench	Pacific	29,157	8,893
11	South Sandwich Trench	Atlantic	28,406	8,664
12	Palau Trench	Pacific	27,972	8,531
13	Peru-Chile Trench	Pacific	27,687	8,445
14	Yap Trench	Pacific	27,552	8,403
15	Aleutian Trench	Pacific	26,775	8,166
16	Roanoke Gap	Atlantic	26,542	8,095
17	Cayman Trench	Atlantic	26,519	8,088
18	New Hebrides Trench	Pacific	25,971	7,921
19	Ryukyu Trench	Pacific	25,597	7,807
20	Java Trench	Indian	24,744	7,547
21	Diamantina Trench	Indian	24,249	7,396
22	Mid America Trench	Pacific	22,297	6,801
23	Brazil Basin	Atlantic	22,274	6,794
24	Ob Trench	Indian	21,785	6,644
25	Vema Trench	Indian	19,482	5,942
26	Agulhas Basin	Indian	19,380	5,911
27	Ionian Basin	Mediterranean Sea	17,306	5,278
28	Eurasia Basin	Arctic	16,122	4,917

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
1	Greenland	North America	Atlantic Ocean	840,000	2,175,600
2	New Guinea	Oceania	Pacific Ocean	305,000	790,000
3	Borneo	Asia	South China Sea	285,000	737,000
4	Madagascar	Africa	Indian Ocean	226,657	587,040
5	Baffin	North America	Baffin Bay	196,000	507,000
6	Sumatra	Asia	Andaman Sea	164,000	425,000
7	Honshu	Asia	Pacific Ocean	88,000	228,000
8	Great Britain	Europe	North Sea	84,400	219,000
9	Victoria	North America	Viscount Melville Sound	83,900	217,000
10	Ellesmere	North America	Arctic Ocean	75,800	196,000
11	Sulawesi (Celebes)	Asia	Celebes Sea	67,400	174,000
12	South Island (New Zealand)	Oceania	Pacific Ocean	58,200	151,000
13	Java	Asia	Indian Ocean	50,000	129,000
14	North Island (New Zealand)	Oceania	Pacific Ocean	44,200	114,000
15	Newfoundland	North America	Atlantic Ocean	42,000	109,000
16	Cuba	North America	Caribbean Sea	40,500	105,000
17	Luzon	Asia	Pacific Ocean	40,400	105,000
18	Iceland	Europe	Atlantic Ocean	39,769	103,000
19	Mindanao	Asia	Pacific Ocean	36,500	94,600
20	Ireland	Europe	Atlantic Ocean	32,500	84,100
21	Hokkaido	Asia	Pacific Ocean	30,100	78,000
22	Sakhalin	Asia	Sea of Okhotsk	29,500	76,400
23	Hispaniola	North America	Atlantic Ocean	29,200	75,600
24	Banks	North America	Arctic Ocean	27,000	70,000
25	Sri Lanka	Asia	Indian Ocean	25,332	65,610
26	Tasmania	Australia	Indian Ocean	24,900	64,400
27	Devon	North America	Baffin Bay	21,300	55,200
28	Novaya Zemlya	Europe	North Kara Sea	18,900	48,900
29	Grande de Tierra del Fuego	South America	Atlantic Ocean	18,700	48,400
30	Marajo	South America	Atlantic Ocean	18,500	48,000
31	Alexander	Antarctica	Bellingshausen Sea	16,700	43,200
32	Axel Heiberg	North America	Arctic Ocean	16,700	43,200
33	Melville	North America	Viscount Melville Sound	16,300	42,100

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
34	Southampton	North America	Hudson Bay	15,900	41,200
35	West Spitsbergen	Europe	Arctic Ocean	15,300	39,500
36	New Britain	Oceania	Bismarck Sea	14,600	37,800
37	Taiwan	Asia	Pacific Ocean	13,892	35,980
38	Kyushu	Asia	Pacific Ocean	13,800	35,700
39	Hainan	Asia	South China Sea	13,100	34,000
40	Prince of Wales	North America	Viscount Melville Sound	12,900	33,300
41	Novaya Zemlya	Europe	Barents Sea	12,800	33,300
42	Vancouver	North America	Pacific Ocean	12,100	31,300
43	Timor	Asia	Timor Sea	10,200	26,300
44	Sicily	Europe	Mediterranean	9,810	25,400
45	Somerset	North America	Lancaster Sound	9,570	24,800
46	Sardinia	Europe	Mediterranean	9,190	23,800
47	Bananal	South America	Araguaia River	7,720	20,000
48	Halmahera	Asia	Molucca Sea	6,950	18,000
49	Shikoku	Asia	Pacific Ocean	6,860	17,800
50	Ceram	Asia	Banda Sea	6,620	17,200
51	New Caledonia	Oceania	Coral Sea	6,470	16,700
52	Bathurst	North America	Viscount Melville Sound	6,190	16,000
53	Prince Patrick	North America	Arctic Ocean	6,120	15,800
54	North East Land	Europe	Barents Sea	5,790	15,000
55	Flores	Asia	Flores Sea	5,520	14,300
56	Oktyabrskoy Revolyutsii	Asia	Arctic Ocean	5,470	14,170
57	Sumbawa	Asia	Indian Ocean	5,160	13,400
58	King William	North America	Queen Maud Gulf	5,060	13,100
59	Samar	Asia	Pacific Ocean	5,050	13,100
60	Negros	Asia	Sulu Sea	4,900	12,700
61	Palawan	Asia	South China Sea	4,550	11,800
62	Kotelnyy	Asia	Arctic Ocean	4,500	11,700
63	Panay	Asia	Sulu Sea	4,450	11,500
64	Bangka	Asia	Java Sea	4,370	11,320
65	Ellef Ringnes	North America	Arctic Ocean	4,360	11,300
66	Bolshevik	Asia	Arctic Ocean	4,350	11,270
67	Sumba	Asia	Indian Ocean	4,310	11,200

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
68	Bylot	North America	Baffin Bay	4,270	11,100
69	Jamaica	North America	Caribbean Sea	4,243	10,990
70	Dolak	Asia	Arafura Sea	4,160	10,800
71	Hawaii	Oceania	Pacific Ocean	4,040	10,500
72	Viti Levu	Oceania	Pacific Ocean	4,010	10,400
73	Cape Breton	North America	Atlantic Ocean	3,980	10,300
74	Bougainville	Oceania	Pacific Ocean	3,880	10,000
75	Mindoro	Asia	South China Sea	3,760	9,730
76	Prince Charles	North America	Foxe Basin	3,680	9,520
77	Kodiak	North America	Pacific Ocean	3,670	9,510
78	Cyprus	Asia	Mediterranean	3,571	9,250
79	Komsomolets	Asia	Arctic Ocean	3,480	9,010
80	Buru	Asia	Banda Sea	3,470	9,000
81	Corsica	Europe	Mediterranean	3,370	8,720
82	Puerto Rico	North America	Atlantic Ocean	3,350	8,680
83	New Ireland	Oceania	Pacific Ocean	3,340	8,650
84	Disco	North America	Davis Strait	3,310	8,580
85	Chiloe	South America	Pacific Ocean	3,240	8,390
86	Crete	Europe	Mediterranean	3,190	8,260
87	Anticosti	North America	Gulf of St. Lawrence	3,070	7,940
88	Wrangel	Asia	Chukchi Sea	2,820	7,300
89	Leyte	Asia	Visayan Sea	2,780	7,210
90	Zealand	Europe	Baltic Sea	2,710	7,020
91	Cornwallis	North America	Barrow Strait	2,700	7,000
92	Wellington	South America	Trinidad Gulf	2,610	6,750
93	Iturup (Etorofu)	Asia	Pacific Ocean	2,600	6,720
94	Prince of Wales	North America	Pacific Ocean	2,590	6,700
95	Graham	North America	Pacific Ocean	2,460	6,360
96	East Falkland	South America	Atlantic Ocean	2,440	6,310
97	Melville	Asia	Timor Sea	2,400	6,220
98	Novaya Sibir	Asia	East Siberian Sea	2,390	6,200
99	Kerguelen	Antarctica	Indian Ocean	2,320	6,000
100	Andros	North America	Grand Bahama Bank	2,300	5,960

## APPENDIX G

### G DESERTS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (SQ MI)	AREA (SQ KM)
1	Sahara	Africa	Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Sudan, and Tunisia	3,475,000	9,000,000
2	Arabian*	Asia	Saudi Arabia, Kuwait, Qatar, the United Arab Emirates, Oman, Yemen, Jordan, Syria, Iraq	900,000	2,330,000
3	Gobi	Asia	China, Mongolia	500,000	1,300,000
4	Kalahari	Africa	Botswana, Namibia, South Africa	360,000	930,000
5	Great Victoria	Australia	Australia	134,652	348,750
6	Taklimakan (Takla Makan)	Asia	China	125,000	320,000
7	Sonoran	North America	United States of America, Mexico	120,000	310,000
8	Kara-Kum	Asia	Kazakhstan, Turkmenistan	115,830	300,000
9	Kyzyl Kum	Asia	Kazakhstan, Uzbekistan	115,000	297,850
10	Namib	Africa	Namibia, South Africa	110,000	285,000
11	Great Sandy	Australia	Australia	103,185	267,250
12	Somali	Africa	Somalia	100,000	260,000
13	Thar	Asia	India, Pakistan	90,000	233,000
14	Tanami	Australia	Australia	71,235	184,500
15	Atacama	South America	Chile, Peru	70,000	180,000
16	Simpson	Australia	Australia	68,150	176,500
17	Gibson	Australia	Australia	60,230	156,000
18	Little Sandy	Australia	Australia	43,050	111,500

\* Two deserts are commonly referred to by this name. This entry refers to the deserts of the Arabian Peninsula and not the Arabian Desert of Egypt, which is part of the Sahara.



## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT

All measurements are approximate.  
Note that many mountains have multiple peaks, which will appear separately in the table.

#### AFRICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Kibo (Mt. Kilimanjaro)	Tanzania	19,341	5,895
2	Mawensi (Mt. Kilimanjaro)	Tanzania	17,100	5,210
3	Batian (Mt. Kenya)	Kenya	17,058	5,203
4	Nelion (Mt. Kenya)	Kenya	17,020	5,190
5	Margherita Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,756	5,110
6	Alexandra Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,700	5,094
7	Albert Peak (Mt. Stanley)	Dem. Rep. of the Congo	16,690	5,090
8	Savoia Peak (Mt. Stanley)	Uganda	16,330	4,981
9	Elena Peak (Mt. Stanley)	Uganda	16,300	4,972
10	Elizabeth Peak (Mt. Stanley)	Uganda	16,170	4,932
11	Phillip Peak (Mt. Stanley)	Uganda	16,140	4,923
12	Moebius Peak (Mt. Stanley)	Uganda	16,130	4,920
13	Vittorio Emanuele (Mt. Speke)	Uganda	16,040	4,892
14	Ensonga (Mt. Speke)	Uganda	15,960	4,868
15	Johnston (Mt. Speke)	Uganda	15,860	4,834
16	Edward (Mt. Baker)	Uganda	15,890	4,846
17	Umberto (Mt. Emin)	Dem. Rep. of the Congo	15,740	4,798
18	Semper (Mt. Baker)	Uganda	15,730	4,795
19	Kraepelin (Mt. Emin)	Dem. Rep. of the Congo	15,720	4,791
20	Iolanda (Mt. Gessi)	Dem. Rep. of the Congo	15,470	4,751
21	Bottego (Mt. Gesi)	Dem. Rep. of the Congo	15,418	4,699
22	Sella (Mt. Luigi)	Dem. Rep. of the Congo	15,178	4,626
23	Ras Deshen	Ethiopia	15,157	4,620
24	Weismann (Mt. Luigi)	Dem. Rep. of the Congo	15,157	4,620
25	Okusoma (Mt. Luigi)	Dem. Rep. of the Congo	15,020	4,578

#### ANTARCTICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Vinson	Antarctica	16,860	5,142
2	Tyree	Antarctica	16,290	4,968
3	Shinn	Antarctica	15,750	4,800
4	Gardner	Antarctica	15,370	4,690
5	Epperly	Antarctica	15,100	4,600

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Everest (Zhumulangma Feng)	Nepal, China	29,030	8,850
2	K2	China, Pakistan	28,251	8,611
3	Kanchenjunga	India, Nepal	28,169	8,586
4	Lhotse	China, Nepal	27,890	8,500
5	Makalu	China, Nepal	27,824	8,481
6	Kanchenjunga, south peak	India, Nepal	27,800	8,479
7	Kanchenjunga, west peak	India, Nepal	27,620	8,424
8	Lhotse Shar	China, Nepal	27,500	8,388
9	Dhaulagiri	Nepal	26,813	8,172
10	Man slu	Nepal	26,775	8,155
11	Cho Oyu	China, Nepal	26,750	8,150
12	Nanga Parbat I	Pakistan	26,660	8,130
13	Masherbrum I	Pakistan	26,610	7,810
14	Annapurna I	Nepal	26,500	8,080
15	Gasherbrum I	Pakistan	26,470	8,070
16	Broad, highest peak	Pakistan	26,400	8,050
17	Gasherbrum II	Pakistan	26,360	8,030
18	Gosainthan	China	26,290	8,010
19	Broad, middle peak	Pakistan	26,250	8,000
20	Gasherbrum III	Pakistan	26,090	7,950
21	Annapurna II	Nepal	26,040	7,940
22	Gasherbrum IV	Pakistan	26,000	7,930
23	Gyachung Kang	China, Nepal	25,990	7,927
24	Nanga Parbat II	Pakistan	25,950	7,910
25	Kangbachen	India, Nepal	25,930	7,909
26	Man slu, east pinnacle	Nepal	25,900	7,900
27	Distaghil Sar	Pakistan	25,870	7,890
28	Nuptse	Nepal	25,850	7,880
29	Himachuh	Nepal	25,800	7,860
30	Khiangyang Kish	Pakistan	25,760	7,850

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
31	Ngojumba Ri	China, Nepal	25,720	7,847
32	Dakura	Nepal	25,710	7,842
33	Masherbrum II	Pakistan	25,660	7,826
34	Nanda Devi, west peak	India	25,650	7,823
35	Nanga Parbat III	Pakistan	25,650	7,823
36	Rakaposhi	Pakistan	25,550	7,793
37	Batura Mustagh I	Pakistan	25,540	7,790
38	GasherbrumV	Pakistan	25,500	7,770
39	Kamet	China, India	25,440	7,760

#### EUROPE

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	El'brus (Elborus), west peak	Russia	18,481	5,633
2	El'brus (Elborus), east peak	Russia	18,360	5,590
3	Shkhara	Georgia, Russia	17,064	5,205
4	Dykh, west peak	Russia	17,050	5,200
5	Dykh, east peak	Russia	16,900	5,150
6	Koshtan	Russia	16,880	5,148
7	Pushkina	Russia	16,730	5,100
8	Kazbek, east peak	Georgia	16,526	5,040
9	Dzhangj	Georgia	16,520	5,039
10	Katyn	Georgia, Russia	16,310	4,975
11	Shota Rustaveli	Georgia, Russia	16,270	4,962
12	Mizhirgi, west peak	Russia	16,170	4,932
13	Mizhirgi, east peak	Russia	16,140	4,923
14	Kundyum-Mizhirgi	Russia	16,010	4,880
15	Gestola	Georgia, Russia	15,930	4,860
16	Tetnuld	Georgia, Russia	15,920	4,850
17	Mont Blanc, main peak	France, Italy	15,772	4,810
18	Dzhimariy	Georgia	15,680	4,780
19	Adish	Georgia, Russia	15,570	4,749
20	Courmayer (Mont Blanc)	France, Italy	15,577	4,748
21	Ushba	Georgia	15,450	4,710

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### NORTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	McKinley (Denali), south peak	U.S.A.	20,323	6,194
2	Logan, central peak	Canada	19,550	5,959
3	Logan, west peak	Canada	19,470	5,930
4	McKinley (Denali), north peak	U.S.A.	19,470	5,930
5	Logan, east peak	Canada	19,420	5,920
6	Pico de Orizaba	Mexico	18,701	5,700
7	Logan, north peak	Canada	18,270	5,570
8	Saint Elias	U.S.A., Canada	18,010	5,490
9	Popocatepetl	Mexico	17,887	5,452
10	Foraker	U.S.A.	17,400	5,300
11	Ixtacihuatl	Mexico	17,342	5,286
12	Queen	Canada	17,300	5,270
13	Lucania	Canada	17,150	5,230
14	King	Canada	16,970	5,170
15	Steele	Canada	16,640	5,070
16	Bona	U.S.A.	16,500	5,033
17	Blackburn, highest peak	U.S.A.	16,390	5,000
18	Blackburn, southeast peak	U.S.A.	16,290	4,968
19	Sanford	U.S.A.	16,240	4,950
20	Wood	Canada	15,880	4,840

#### OCEANIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Puncak Jaya	Indonesia	16,503	5,033
2	Daam	Indonesia	16,150	4,926
3	Pilimsit	Indonesia	15,750	4,800
4	Trikora	Indonesia	15,580	4,752
5	Mandala	Indonesia	15,420	4,700

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### OCEANIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
6	Wisnumurti	Indonesia	15,080	4,590
7	Yamin	Indonesia	14,860	4,530
8	Wilhelm	Papua New Guinea	14,793	4,509
9	Kubor	Papua New Guinea	14,300	4,360
10	Herbert	Papua New Guinea	14,000	4,270

#### SOUTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Aconcagua	Argentina	22,835	6,960
2	Ojos del Salado, southeast peak	Argentina, Chile	22,573	6,880
3	Bonete	Argentina	22,550	6,870
4	Tupungato	Argentina, Chile	22,310	6,800
5	Pissis	Argentina	22,240	6,780
6	Mercedario	Argentina	22,210	6,770
7	Huascarán, south peak	Peru	22,204	6,768
8	Llullaillaco	Argentina, Chile	22,100	6,730
9	Libertador	Argentina	22,050	6,720
10	Ojos del Salado, northwest peak	Argentina, Chile	22,050	6,720
11	Gonzalez, highest peak	Argentina, Chile	21,850	6,664
12	Huascarán, north peak	Peru	21,840	6,661
13	Muerto	Argentina, Chile	21,820	6,655
14	Yerupaja, north peak	Peru	21,760	6,630
15	Incahuasi	Argentina, Chile	21,700	6,610
16	Galan	Argentina	21,650	6,600
17	Tres Cruces	Argentina, Chile	21,540	6,560
18	Gonzalez, north peak	Argentina, Chile	21,490	6,550
19	Sajama	Bolivia	21,463	6,542
20	Yerupaja, south peak	Peru	21,380	6,510
21	Chimborazo	Ecuador	20,681	6,267

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Tupungato	South America	Chile	22,310	6,800
2	Tipas	South America	Argentina	21,845	6,660
3	Cerro el Condor	South America	Argentina	21,425	6,532
4	Antofalfo	South America	Argentina	20,008	6,100
5	Guallatiri	South America	Chile	19,882	6,060
6	Lascar	South America	Chile	19,652	5,990
7	Cotopaxi	South America	Ecuador	19,344	5,896
8	Kilimanjaro	Africa	Tanzania	19,341	5,895
9	El Misti	South America	Peru	19,031	5,801
10	Pico de Orizaba	North America	Mexico	18,701	5,700
11	Tolima	South America	Colombia	18,425	5,616
12	Popocatepetl	North America	Mexico	17,887	5,452
13	Yucamani	South America	Peru	17,860	5,444
14	Sangay	South America	Ecuador	17,159	5,230
15	Tungurahua	South America	Ecuador	16,684	5,085
16	Cotacachi	South America	Ecuador	16,250	4,939
17	Purace	South America	Colombia	15,604	4,756
18	Klyuchevskaya	Asia	Russia	15,584	4,750
19	Kronotskaya	Asia	Russia	15,580	4,749
20	Shiveluch	Asia	Russia	15,580	4,749
21	Pichincha	South America	Ecuador	15,173	4,625
22	Karasimbi	Africa	Dem. Rep. of the Congo	14,873	4,507
23	Rainier	North America	USA	14,410	4,395
24	Wrangell	North America	USA (Alaska)	14,163	4,317
25	Colima	North America	Mexico	13,993	4,265
26	Tajumulco	North America	Guatemala	13,845	4,220
27	Mauna Kea	North America	USA (Hawaii)	13,796	4,205
28	Mauna Loa	North America	USA (Hawaii)	13,680	4,170
29	Cameroon	Africa	Cameroon	13,353	4,070
30	Tacana	North America	Guatemala	13,300	4,053
31	Kerintji	Asia	Indonesia	12,483	3,805
32	Erebus	Antarctica	Antarctica	12,448	3,794
33	Fuji	Asia	Japan	12,388	3,776
34	Fuego	North America	Guatemala	12,346	3,763

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
35	Agua	North America	Guatemala	12,307	3,751
36	Rindjani	Asia	Indonesia	12,224	3,726
37	Pico de Teide	Africa	Spain (Canary Is.)	12,198	3,718
38	Tolbachik	Asia	Russia	12,077	3,682
39	Semeru	Asia	Indonesia	12,060	3,676
40	Ichinskaya	Asia	Russia	11,800	3,621
41	Atitlan	North America	Guatemala	11,650	3,551
42	Torbert	North America	USA (Alaska)	11,450	3,480
43	Nyirangongo	Africa	Dem. Rep. of the Congo	11,365	3,465
44	Kroyaks kaya	Asia	Russia	11,336	3,456
45	Irazu	South America	Costa Rica	11,260	3,432
46	Slamet	Asia	Indonesia	11,247	3,428
47	Spurr	North America	USA (Alaska)	11,137	3,385
48	Lautaro	South America	Chile	11,120	3,380
49	Sumbing	Asia	Indonesia	11,060	3,371
50	Raung	Asia	Indonesia	10,932	3,332
51	Etna	Europe	Italy	10,902	3,323
52	Baker	North America	USA	10,778	3,285
53	Lassen	North America	USA	10,492	3,187
54	Dempo	Asia	Indonesia	10,390	3,158
55	Sundoro	Asia	Indonesia	10,367	3,151
56	Agung	Asia	Indonesia	10,337	3,142
57	Prahu	Asia	Indonesia	10,285	3,137
58	Llaima	South America	Chile	10,245	3,125
59	Redoubt	North America	USA (Alaska)	10,197	3,108
60	Tjiremai	Asia	Indonesia	10,098	3,078
61	One-Take	Asia	Japan	10,056	3,067
62	Nyamulagira	Africa	Dem. Rep. of the Congo	10,026	3,056
63	Iliamna	North America	USA (Alaska)	10,016	3,053
64	Ardjuno-Welirang	Asia	Indonesia	9,968	3,038
65	San Pedro	North America	Guatemala	9,902	3,020
66	Gede	Asia	Indonesia	9,705	2,958
67	Zhupanovsky	Asia	Russia	9,705	2,958
68	Apo	Asia	Philippines	9,692	2,954

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
69	Merapi	Asia	Indonesia	9,551	2,911
70	Marapi	Asia	Indonesia	9,479	2,891
71	Geureudong	Asia	Indonesia	9,459	2,885
72	Bezymianny	Asia	Russia	9,449	2,882
73	Shishaldin	North America	USA (Alaska)	9,372	2,856
74	Tambora	Asia	Indonesia	9,350	2,850
75	Villarrica	South America	Chile	9,318	2,840
76	Fogo	Africa	Cape Verde	9,281	2,829
77	Ruapehu	Oceania	New Zealand	9,175	2,796
78	Peuetsagoe	Asia	Indonesia	9,115	2,780
79	Paricutin	North America	Mexico	9,100	2,775
80	Big Ben	Antarctica	Heard Island (dependency of Australia)	9,006	2,745
81	Balbi	Oceania	Papua New Guinea	8,999	2,743
82	Avachinskaya	Asia	Russia	8,987	2,741
83	Melbourne	Antarctica	Antarctica	8,957	2,732
84	Poas	North America	Costa Rica	8,872	2,704
85	Papandajan	Asia	Indonesia	8,744	2,665
86	Piton de la Faournaise	Africa	Reunion (dependency of France)	8,626	2,631
87	Pacaya	North America	Guatemala	8,367	2,552
88	Mt. St. Helens	North America	USA	8,366	2,550
89	Asama	Asia	Japan	8,300	2,530
90	Pavlof	North America	USA (Alaska)	8,261	2,518
91	Veniaminof	North America	USA (Alaska)	8,220	2,507
92	Mayon	Asia	Philippines	8,077	2,462
93	Sinabung	Asia	Indonesia	8,066	2,460
94	Yake Dake	Asia	Japan	8,049	2,455
95	Tandikat	Asia	Indonesia	7,993	2,438
96	Canalaon	Asia	Philippines	7,984	2,435
97	Shoshuenco	South America	Chile	7,941	2,422
98	Idjen	Asia	Indonesia	7,823	2,386
99	Izalco	North America	El Salvador	7,828	2,386
100	Karthala	Africa	Comoros	7,746	2,361



## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
1	Nile	Africa	Egypt, Sudan, Uganda	4,160	6,693
2	Amazon	South America	Brazil, Colombia, Peru, Venezuela	3,900	6,280
3	Mississippi-Missouri	North America	U.S.A.	3,860	6,211
4	Chang Jiang (Yangtze or Yangtse)	Asia	China	3,434	5,525
5	Ob'-Irtysh	Asia	Kazakhstan, Russia	3,335	5,380
6	Paraná	South America	Argentina, Brazil, Paraguay	3,030	4,870
7	Huang He (Huang-ho or Yellow)	Asia	China	2,903	4,671
8	Irtysh	Asia	Kazakhstan, Russia	2,760	4,441
9	Lena	Asia	Russia	2,734	4,400
10	Amur	Asia	China, Russia	2,719	4,350
11	Congo (Zaire)	Africa	Angola, Dem. Rep. of the Congo, Rep. of the Congo	2,700	4,344
12	Mackenzie	North America	Canada	2,635	4,290
13	Mekong River (Lan ts'ang Chiang or Lancang Jiang)	Asia	Cambodia, China, Laos, Myanmar, Thailand, Vietnam	2,600	4,200
14	Niger	Africa	Benin, Guinea, Mali, Niger, Nigeria	2,594	4,184
15	Yenisey	Asia	Russia	2,566	4,129
16	Missouri	North America	U.S.A.	2,466	3,968
17	Mississippi	North America	U.S.A.	2,348	3,787
18	Volga	Europe	Russia	2,293	3,689
19	Ob'	Asia	Russia	2,270	3,650
20	Euphrates	Asia	Iraq, Syria, Turkey	2,235	3,596
21	Purus	South America	Brazil, Peru	2,100	3,380
22	Madeira	South America	Brazil	2,013	3,241
23	Lower Tunguska	Asia	Russia	2,000	3,220
24	Indus	Asia	Pakistan	1,988	3,200
25	São Francisco	South America	Brazil	1,988	3,199
26	Yukon	North America	Canada, U.S.A.	1,980	3,180
27	Rio Grande	North America	Mexico, U.S.A.	1,885	3,034

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
28	Brahmaputra (Jamuna)	Asia	Bangladesh, China, India	1,800	2,900
29	Danube	Europe	Austria, Bulgaria, Croatia, Germany, Hungary, Romania, Ukraine, Slovakia, Serbia-Montenegro	1,775	2,857
30	Salween	Asia	China, Myanmar	1,770	2,849
31	Darling	Australia	Australia	1,702	2,739
32	Tocantins	South America	Brazil	1,677	2,698
33	Nelson	North America	Canada	1,660	2,671
34	Vilyuy	Asia	Russia	1,650	2,650
35	Zambezi	Africa	Angola, Mozambique, Namibia, Zambia, Zimbabwe	1,650	2,650
36	Murray	Australia	Australia	1,609	2,589
37	Paraguay	South America	Argentina, Brazil, Paraguay	1,584	2,549
38	Amu Dar'ya	Asia	Afghanistan, Tajikistan, Turkmenistan, Uzbekistan	1,580	2,540
39	Kolyma	Asia	Russia	1,562	2,513
40	Ganges	Asia	Bangladesh, India	1,560	2,510
41	Ishim	Asia	Kazakhstan, Russia	1,520	2,450
42	Ural	Asia	Kazakhstan, Russia	1,510	2,430
43	Japurá	South America	Brazil, Colombia	1,500	2,414
44	Arkansas	North America	U.S.A.	1,460	2,350
45	Colorado	North America	U.S.A.	1,450	2,330
46	Dnieper	Europe	Belarus, Russia, Ukraine	1,420	2,290
47	Negro	South America	Brazil, Colombia, Venezuela	1,400	2,250
48	Ubangi	Africa	Central African Rep., Dem. Rep. of the Congo, Rep. of the Congo	1,400	2,253
49	Aldan	Asia	Russia	1,390	2,240
50	Columbia-Snake	North America	Canada, U.S.A.	1,390	2,240
51	Syr Dar'ya	Asia	Kazakhstan, Kyrgyzstan, Uzbekistan	1,370	2,200

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
52	Araguaia	South America	Brazil	1,366	2,198
53	Olenek	Asia	Russia	1,350	2,170
54	Irrawaddy	Asia	Myanmar	1,350	2,170
55	Kasai	Africa	Angola, Dem. Rep of the Congo	1,338	2,153
56	Ohio-Allegheny	North America	U.S.A.	1,310	2,109
57	Tarim	Asia	China	1,300	2,090
58	Orange	Africa	Lesotho, Namibia, South Africa	1,300	2,090
59	Orinoco	South America	Venezuela	1,281	2,061
60	Shabeelle	Africa	Ethiopia, Somalia	1,250	2,011
61	Xingu	South America	Brazil	1,230	1,979
62	Columbia	North America	Canada, U.S.A.	1,214	1,953
63	Mamoré	South America	Bolivia	1,200	1,931
64	Tigris	Asia	Iraq, Turkey	1,180	1,900
65	Northern Dvina	Europe	Russia	1,160	1,870
66	Don	Europe	Russia	1,153	1,860
67	Angara	Asia	Russia	1,151	1,852
68	Kama	Europe	Russia	1,120	1,800
69	Indigirka	Asia	Russia	1,112	1,789
70	Pechora	Europe	Russia	1,112	1,789
71	Limpopo	Africa	Botswana, South Africa, Mozambique	1,100	1,770
72	Sénégal	Africa	Guinea, Mali, Mauritania, Senegal	1,015	1,663
73	Salado	South America	Argentina	1,110	1,770
74	Guaporé	South America	Bolivia, Brazil	1,087	1,749
75	Tobol	Asia	Kazakhstan, Russia	1,042	1,677
76	Snake	North America	U.S.A.	1,038	1,670
77	Red	North America	U.S.A.	1,018	1,638
78	Churchill	North America	Canada	1,000	1,613
79	Jubba	Africa	Ethiopia, Somalia	1,000	1,613
80	Okavango	Africa	Angola, Botswana	1,000	1,613
81	Pilcomayo	South America	Argentina, Bolivia, Paraguay	1,000	1,613
82	Uruguay	South America	Uruguay	1,000	1,613

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
1	Angel (upper falls)	South America	Venezuela	2,648	807
2	Utigord	Europe	Norway	2,625	800
3	Monge	Europe	Norway	2,539	774
4	Mtarazi (Mutarazi)	Africa	Mozambique, Zimbabwe	2,500	760
5	Itatinga	South America	Brazil	2,060	628
6	Cuquenán (Kukenaam)	South America	Guyana, Venezuela	2,000	610
7	Kahiwa	North America	U.S.A. (Hawaii)	1,750	533
8	Tysse (Tusse)	Europe	Norway	1,749	533
9	Maradalsfos	Europe	Norway	1,696	517
10	Ribbon	North America	U.S.A.	1,612	491
11	Roraima	South America	Guyana	1,500	457
12	Della	North America	Canada	1,445	440
13	Yosemite, Upper	North America	U.S.A.	1,430	436
14	Gavarnie	Europe	France	1,385	422
15	Tugela (highest falls in chain)	Africa	South Africa	1,350	411
16	Krimml	Europe	Austria	1,250	380
17	Silver Strand	North America	U.S.A.	1,170	357
18	Basaseachic	North America	Mexico	1,020	311
19	Staubbach	Europe	Switzerland	980	299
20	Vettis	Europe	Norway	902	275
21	King George VI	South America	Guyana	850	260
22	Wallaman	Oceania	Australia	850	260
23	Takakkaw	North America	Canada	838	254
24	Hunlen	North America	Canada	830	253
25	Jog (Gersoppa)	Asia	India	830	253

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
26	Skykje	Europe	Norway	820	250
27	Sutherland, Upper	Oceania	New Zealand	815	248
28	Sutherland, Middle	Oceania	New Zealand	751	229
29	Kaieteur	South America	Guyana	741	226
30	Wollomombi	Oceania	Australia	726	220
31	Kalambo	Africa	Tanzania, Zambia	704	215
32	Fairy	North America	U.S.A.	700	213
33	Feather	North America	U.S.A.	640	195
34	Maletsunyane	Africa	Lesotho	630	192
35	Bridalveil	North America	U.S.A.	620	189
36	Multnomah	North America	U.S.A.	620	189
37	Panther	North America	Canada	600	183
38	Voringfoss	Europe	Norway	597	182
39	Nevada	North America	U.S.A.	594	181
40	Angel, Lower	South America	Venezuela	564	172
41	Augrabies (Aughrabies)	Africa	South Africa	480	146
42	Tully	Oceania	Australia	450	137
43	Helmcken	North America	Canada	450	137
44	Nachi	Asia	Japan	430	131
45	Tequendama	South America	Colombia	427	130
46	Bridal Veil	North America	U.S.A.	400	122
47	Illilouette	North America	U.S.A.	370	113
48	Yosemite, Lower	North America	U.S.A.	320	98
49	Twin	North America	Canada	260	80

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
1	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	143,000	371,000
2	Superior	North America	Canada, U.S.A.	31,820	82,732
3	Victoria	Africa	Uganda, Tanzania, Kenya	26,828	69,484
4	Aral Sea	Asia	Kazakhstan, Uzbekistan	24,900	64,500
5	Huron	North America	Canada, U.S.A.	23,000	59,570
6	Michigan	North America	U.S.A.	22,400	58,020
7	Tanganyika	Africa	Burundi, Dem. Republic of the Congo, Tanzania, Zambia	12,700	32,020
8	Baikal	Asia	Russia	12,160	31,500
9	Great Bear	North America	Canada	12,095	31,328
10	Great Slave	North America	Canada	11,030	28,570
11	Erie	North America	Canada, U.S.A.	9,920	25,690
12	Winnipeg	North America	Canada	9,420	24,390
13	Malawi	Africa	Malawi, Mozambique, Tanzania,	8,680	22,490
14	Ontario	North America	Canada, U.S.A.	7,440	19,240
15	Balkhash	Asia	Kazakhstan	7,030	18,200
16	Ladoga	Russia	Russia	7,000	18,130
17	Maracaibo	South America	Venezuela	5,020	13,010
18	Chad	Africa	Cameroon, Chad, Niger, Nigeria	4,000–10,000	10,360–25,900
19	Embalse del Río Negro	South America	Uruguay	4,000	10,360
20	Patos	South America	Brazil	3,920	10,153
21	Onega	Europe	Russia	3,750	9,720
22	Eyre	Australia	Australia	3,668	9,500
23	Volta	Africa	Ghana	3,276	8,485
24	Titicaca	South America	Bolivia, Peru	3,200	8,288
25	Nicaragua	South America	Nicaragua	3,150	8,160
26	Athabasca	North America	Canada	3,060	7,940
27	Reindeer	North America	Canada	2,570	6,650

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
28	Smallwood Reservoir	North America	Canada	2,500	6,460
29	Turkana (Rudolf)	Africa	Ethiopia, Kenya	2,473	6,405
30	Issyk Kul	Asia	Kyrgyzstan	2,360	6,100
31	Torrens	Australia	Australia	2,230	5,780
32	Albert	Africa	Dem. Republic of the Congo, Uganda	2,160	5,590
33	Vanern	Europe	Sweden	2,160	5,580
34	Netilling	North America	Canada	2,140	5,540
35	Winnipegosis	North America	Canada	2,070	5,370
36	Nasser	Africa	Egypt, Sudan	2,026	5,248
37	Bangweulu	Africa	Zambia	1,930	5,000
38	Chott el Djerid	Africa	Tunisia	1,930	5,000
39	Urmia	Asia	Iran	1,879	4,868
40	Nipigon	North America	Canada	1,870	4,850
41	Gairdner	Australia	Australia	1,840	4,770
42	Manitoba	North America	Canada	1,800	4,660
43	Kyoga	Africa	Uganda	1,710	4,430
44	Khanka	Asia	China, Russia	1,700	4,400
45	Saimaa	Europe	Finland	1,700	4,403
46	Mweru	Africa	Dem. Republic of the Congo	1,680	4,350
47	Great Salt	North America	U.S.A.	1,680	4,350
48	Qinghai (Koko)	Asia	China	1,625	4,209
49	Woods	North America	Canada	1,580	4,100
50	Taymyr	Asia	Russia	1,540	3,990
51	Nasser	Africa	Egypt	1,522	3,942
52	Orumiyeh	Asia	Iran	1,500	3,880
53	Dubawnt	North America	Canada	1,480	3,830
54	Van	Asia	Turkey	1,430	3,710
55	Tana	Africa	Ethiopia	1,390	3,600
56	Peipus	Europe	Estonia, Russia	1,386	3,555
57	Uvs	Asia	Mongolia	1,300	3,366

## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
1	Baikal	Asia	Russia	5,315	1,621
2	Tanganyika	Africa	Burundi, Tanzania, Dem. Congo (ROC), Zambia	4,825	1,471
3	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	3,363	1,025
4	Malawi	Africa	Malawi, Tanzania, Mozambique	2,316	706
5	Issyk Kul	Asia	Kyrgyzstan	2,303	702
6	Great Slave	North America	Canada	2,015	614
7	Matana	Asia	Indonesia	1,936	590
8	Crater	North America	U.S.A.	1,932	589
9	Toba	Asia	Indonesia	1,736	529
10	Hornindals	Europe	Norway	1,686	514
11	Sarez	Asia	Tajikistan	1,657	505
12	Tahoe	North America	U.S.A.	1,645	501
13	Chelan	North America	U.S.A.	1,605	489
14	Kivu	Africa	Rwanda, Congo (DROC)	1,575	480
15	Quesnel	North America	Canada	1,560	475
16	Sals	Europe	Norway	1,522	464
17	Adams	North America	Canada	1,500	457
18	Mjøsa	Europe	Norway	1,473	449
19	Manapuri	Oceania	New Zealand	1,453	443
20	Poso	Asia	Indonesia	1,444	440
21	Nahuel Huapi	South America	Argentina	1,437	438
22	Dead Sea	Asia	Israel, Jordan	1,421	433
23	Tazawa	Asia	Japan	1,394	425
24	Great Bear	North America	Canada	1,356	413
25	Como	Europe	Italy	1,352	412
26	Superior	North America	Canada, U.S.A.	1,333	406
27	Hawea	Asia	New Zealand	1,286	392
28	Wakatipu	Asia	New Zealand	1,240	378



## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH *(continued)*

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
29	Suldals	Europe	Norway	1,234	376
30	Maggiore	Europe	Italy, Switzerland	1,221	372
31	Fyres	Europe	Norway	1,211	369
32	Chilko	North America	Canada	1,200	366
33	Pend Oreille	North America	U.S.A.	1,200	366
34	Shikotsu	Asia	Japan	1,191	363
35	Powell	North America	Canada	1,174	358
36	Llanquihue	South America	Chile	1,148	350
37	Garda	Europe	Italy	1,135	346
38	Towada	Asia	Japan	1,096	334
39	Wanaka	Asia	New Zealand	1,086	325
40	Bandak	Europe	Norway	1,066	325
41	Telestskoya	Asia	Russia	1,066	325
42	Eutsuk	North America	Canada	1,060	323
43	Atitlan	North America	Guatemala	1,050	320
44	Lunde	Europe	Norway	1,030	314
45	Geneva	Europe	France, Switzerland	1,017	310
46	Morar	Europe	Scotland	1,017	310
47	Kurile	Asia	Russia	1,004	306
48	Walker	North America	U.S.A.	1,000	305
49	Titicaca	South America	Bolivia, Peru	997	304
50	Argentino	South America	Argentina	984	300
51	Iliamna	North America	U.S.A.	980	299
52	Tyrifjorden	Europe	Norway	968	295
53	Lugano	Europe	Italy, Switzerland	945	288
54	Takla	North America	Canada	941	287
55	Ohrid	Europe	Albania, Serbia-Montenegro	938	286
56	Atlin	North America	Canada	930	283
57	Nuyakuk	North America	U.S.A.	930	283
58	Michigan	North America	U.S.A.	923	285
59	Harrison	North America	Canada	916	279
60	Te Anau	Oceania	New Zealand	906	276

# Seven Wonders of the Ancient World

## 1 ⑧ **The pyramids of Egypt**

Constructed between 2700 and 2500 B.C., the pyramids are the last surviving structures of the Seven Wonders of the Ancient World. The largest of the pyramids, which rises over 137 meters (450 feet), was built as a tomb to house the body of Pharaoh Khufu. Historians believe that it must have taken over twenty years to build with over 100,000 slave laborers.

## 2 ⑧ **The gardens of Semiramis at Babylon**

The existence of these gardens is reputed, but according to fable they existed around 600 B.C. They are said to have been outside on a brick terrace 23 meters (75 feet) above the ground, encompassing an area of 37 square meters (400 square feet).

## 3 ⑧ **The statue of Zeus at Olympia**

Constructed around 450 B.C. by the sculptor Phidias, this 12-meter (40-foot) high statue is of an ivory Zeus wearing a robe of gold, seated atop a throne. In his right hand was Nike, his messenger and a symbol of victory, in his left hand was the scepter signifying his rule over the gods and humankind, and atop his head was a wreathed crown.

## 4 ⑧ **The temple of Artemis at Ephesus**

Built around 550 B.C. to celebrate the goddess of the hunt, this temple was one of the largest in ancient times. Beneath its tile-covered roof were rows of columns believed to be more than 12 meters (40 feet) high, leading to a marble sanctuary. The original temple was destroyed by fire in 356 B.C., but another temple was built on the same foundation. This temple was also burned, but the foundation still remains. Remnants of the second temple can be found at London's British Museum.

## 5 ⑧ **The mausoleum at Halicarnassus**

Located in southwestern Turkey, this enormous white marble tomb was constructed to house the body of Mausolus, a king of Persian Empire. It was constructed around 350 B.C. by the Greek architects Satyrus and Pythius and became so well known that the term mausoleum was created to signify any large tomb. An earthquake in the 15<sup>th</sup> century caused significant damage to the tomb, which was eventually disassembled. Several of its exterior sculptures can be seen in London's British Museum.

## 6 ⑧ **The Colossus at Rhodes**

Constructed around 200 B.C. by the Greek sculptor Chares, this 36-meter (120-foot) bronze statue was meant to honor the sun god Helios and celebrate the unity of the city-states of Rhodes. The statue was hollow, supported by stone blocks and iron bars inside its frame. It was destroyed by an earthquake only fifty-six years after its completion.

## 7 ⑧ **The Pharos (lighthouse) of Alexandria or the Walls of Babylon**

This lighthouse, completed near 270 B.C., was, at the time, one of the tallest buildings in the known world. Standing over 122 meters (400 feet) high, it guided sailors to the shores of Alexandria, then ruled by King Ptolemy II.

# Seven Wonders of the Natural World

## 1 **Grand Canyon**

Created after millions of years of erosion from the Colorado River and its tributaries, this Arizona landmark is visited by millions of tourists each year.

## 2 **Paricutin Volcano**

Although it is not one of the largest volcanoes in Mexico, Paricutin has taken a place on the list of natural wonders following its birth in 1943. The eruption spanned ten years and covered about 2.6 square meters (10 square miles). No one was killed from the lava and ash, but it destroyed agricultural land and seriously affected the lives of those living nearby.

## 3 **The Harbor at Rio de Janeiro**

Located on the east coast of Brazil, the harbor overlooks the Guanabara Bay and the Atlantic Ocean on one side, and mountains on the other. Discovered by Portuguese navigators in 1502, this area houses a huge carnival each year.

## 4 **Northern Lights**

The northern lights, or aurora borealis, have fascinated people for centuries. Seen as souls, heavenly signs, or even messages from the dead, these shimmering light displays are caused by the interaction of solar winds with Earth's magnetic field. A similar phenomenon occurs in the southern hemisphere as well, but only the northern lights are classified as a natural wonder.

## 5 **Mt. Everest**

Formed from the collision of Asia and India over 60 million years ago, the Himalayas house Everest, the tallest mountain on Earth. Located in Nepal near the Tibetan border, this snowy peak has fascinated and challenged many climbers and non-climbers alike.

## 6 **Victoria Falls**

The largest waterfalls in the world, Victoria Falls has a drop of more than 99 meters (325 feet). Flowing from the Zambezi River, the falls were named for Queen Victoria by David Livingstone in 1855, when he became the first European to gaze upon them.

## 7 **The Great Barrier Reef**

The Great Barrier Reef extends over 1,998 kilometers (1,242 miles) on the northeast coast of Australia. The reef is quite delicate, being comprised of the skeletons of generations of marine life that lived just under the water's surface. The area is home to exotic coral, which is greatly affected by any human or natural interference, and a wide variety of marine life

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**Junior  
Worldmark  
Encyclopedia of  
Physical  
Geography**

Junior  
Worldmark  
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**Physical  
Geography**

VOLUME

**3**

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Indonesia to Mongolia

Karen Ellicott and Susan B. Gall,  
Editors



## JUNIOR WORLDMARK ENCYCLOPEDIA OF PHYSICAL GEOGRAPHY

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# Countries of the World, by Continent

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Benin  
Botswana  
Burkina Faso  
Burundi  
Cameroon  
Cape Verde  
Chad  
Comoros  
Congo, Democratic Republic of the  
Congo, Republic of  
Côte d'Ivoire  
Djibouti  
Egypt  
Equatorial Guinea  
Eritrea  
Ethiopia  
Gabon  
Gambia, The  
Ghana  
Guinea  
Guinea-Bissau  
Guyana  
Kenya  
Lesotho  
Liberia  
Libya  
Madagascar  
Malawi  
Mali  
Mauritania  
Mauritius  
Morocco  
Mozambique  
Namibia  
Niger  
Nigeria  
Rwanda  
São Tomé and Príncipe  
Senegal  
Seychelles  
Sierra Leone  
Somalia  
South Africa  
Sudan  
Swaziland  
Tanzania

Togo  
Tunisia  
Uganda  
Zambia  
Zimbabwe

## **Asia**

Afghanistan  
Armenia  
Azerbaijan  
Bahrain  
Bangladesh  
Bhutan  
Brunei  
Cambodia  
China  
Cyprus  
East Timor  
Georgia  
India  
Indonesia  
Iran  
Iraq  
Israel  
Japan  
Jordan  
Kazakhstan  
Korea, North (Democratic People's Republic of)  
Korea, South (Republic of)  
Kuwait  
Kyrgyzstan  
Laos  
Lebanon  
Malaysia  
Mongolia  
Myanmar  
Nepal  
Oman  
Pakistan  
Philippines  
Qatar  
Russia  
Saudi Arabia  
Singapore  
Sri Lanka  
Syria  
Taiwan  
Tajikistan  
Thailand

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# COUNTRIES OF THE WORLD, BY CONTINENT

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Turkey  
Turkmenistan  
United Arab Emirates  
Uzbekistan  
Vietnam  
Yemen

## Australia

Australia

## Europe

Albania  
Andorra  
Austria  
Belarus  
Belgium  
Bosnia and Herzegovina  
Bulgaria  
Croatia  
Czech Republic  
Denmark  
Estonia  
Finland  
France  
Germany  
Greece  
Hungary  
Iceland  
Ireland  
Italy  
Latvia  
Liechtenstein  
Lithuania  
Luxembourg  
Macedonia  
Malta  
Moldova  
Monaco  
Netherlands  
Norway  
Poland  
Portugal  
Romania  
Russia  
San Marino  
Serbia and Montenegro  
Slovakia  
Slovenia  
Spain  
Sweden  
Switzerland  
Ukraine  
United Kingdom  
Vatican City

## North America

Antigua and Barbuda  
Bahamas  
Barbados  
Belize  
Canada  
Costa Rica  
Cuba  
Dominica  
Dominican Republic  
Ecuador  
El Salvador  
Guatemala  
Haiti  
Honduras  
Jamaica  
Mexico  
Nicaragua  
Panama  
Puerto Rico  
Saint Kitts and Nevis  
Saint Lucia  
Saint Vincent and the Grenadines  
United States of America

## Oceania

Note: The island nations lying in the Pacific Ocean are not part of any continent.

Fiji  
Kiribati  
Marshall Islands  
Micronesia  
Nauru  
New Zealand  
Palau  
Papua New Guinea  
Samoa  
Solomon Islands  
Tonga  
Tuvalu  
Vanuatu

## South America

Argentina  
Bolivia  
Brazil  
Chile  
Colombia  
Paraguay  
Peru  
Suriname  
Trinidad and Tobago  
Uruguay  
Venezuela

# Reader's Guide

*Junior Worldmark Encyclopedia of Physical Geography* presents a comprehensive survey of the physical geography of 192 countries of the world plus Taiwan, Antarctica, and Puerto Rico.

The entries are arranged alphabetically by country in five volumes. Following the format of other popular titles in the *Junior Worldmark* series, information in each entry is presented in a consistent format, allowing student researchers to find information and compare countries quickly and easily.

A topographic map—with notable mountain ranges and peaks, lakes, rivers, deserts, and coastal areas labeled—accompanies each entry. In addition, more than 200 photographs illustrate the varied landscapes found in the countries of the world. Adding further interest are the “Did You Know?” boxes appearing in the entries, noting interesting or unusual geographic features or facts or explaining regional geographic references.

## Organization

Each volume begins with the contents listed for that volume, followed by a cumulative table of contents for all five volumes in the set. To help researchers who wish to identify a country within one of the world's continents, a finder table—Countries of the World by Continent—appears at the front of each volume. Words to Know, a glossary of terms related to geography, completes the front matter. Entries for individual countries follow. Although all numbered rubrics are included in every entry, entries vary in length depending primarily on the geographic complexity of the country's land area.

Each entry begins with a list of key facts about the physical characteristics of the country; measurements are provided in both metric and English units. Student researchers should be reminded that geography is an imprecise science, and measurements of geographical features may vary from source to source.

## Key Facts

### ■ Official name

The countries of the world are referred to by a common name; the more formal official name is listed here.

### ■ Area

The country's area, usually including islands, is provided in square kilometers and square miles.

### ■ Highest point on mainland

The height, in meters and feet, is given for the highest point on the mainland portion of the country. For most countries, this is also the highest point anywhere in the country.

### ■ Highest point in territory

For some countries with islands and territories, the highest point not on the mainland is provided in meters and feet.

### ■ Lowest point on land

The elevation, in meters and feet, for the lowest point on the mainland portion of the country is provided.

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## READER'S GUIDE

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### ■ Hemispheres

The country's hemispheres (Northern, Southern, Eastern, and Western) help the researcher locate the country on the globe.

### ■ Time zone

The time zone of the country's capital is provided, with the time related to Greenwich Mean Time (GMT). For some large countries, more than one time zone may be listed.

### ■ Longest distances

Measurements in kilometers and miles of the country's widest points from north to south and east to west are given. For some countries, longest distances may be measured on a slight diagonal (northwest to southeast, for example).

### ■ Land boundaries

The total distance making up the country's borders with other nations is provided in kilometers and miles, followed by the border distances with the individual neighboring countries.

### ■ Coastline

Coastline measurements, in kilometers and miles, are approximate. Coastline measurements are likely to vary from source to source.

### ■ Territorial sea limits

The territory extending into the ocean over which the country claims control or jurisdiction. Territorial sea limits are given in kilometers and nautical miles, and generally govern activities such as fishing and mineral rights.

*The first four numbered rubrics offer a general overview of the country.*

### 1 🌐 LOCATION AND SIZE

This section gives the reader an overview of where the country lies and provides its relation to the bodies of water around it. Also included is information about whether the country is divided into states, provinces, or other internal administrative units.

### 2 🌐 TERRITORIES AND DEPENDENCIES

Many countries exercise jurisdiction over territories—often islands—that are not part of the mainland. This section lists any such territories and dependencies.

### 3 🌐 CLIMATE

The general climate of the country is described, with a table providing seasonal temperature ranges included for many countries. General information about rainfall and snow patterns is also included here.

### 4 🌐 TOPOGRAPHIC REGIONS

An overview of the general topography (shape of the country's land surface) is provided, with key features (mountain ranges, plateaus, deserts, valleys, lakes, rivers) noted.

*The next eight numbered rubrics—5 through 12—describe specific geographic features. All entries include all eight headings. Since all countries do not include every geographic feature, individual entries note the absence of specific features.*

### 5 🌐 OCEANS AND SEAS

The oceans and seas bounding the country are listed. Subheadings describe specific features of the country and its coastal areas. Subheads are used in entries as appropriate and may include:

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## Seacoast and Undersea Features

Includes discussion of nearby undersea features of note, such as deep ocean trenches or coral reefs.

## Sea Inlets and Straits

Includes major bays, gulfs, sounds, channels, straits, and other sea inlets that characterize the coastal areas.

## Islands and Archipelagos

Major islands and island chains are described here.

## Other Coastal Features

Includes notable peninsulas, isthmuses, and describes the type and quality of the coastal areas.

## 6 INLAND LAKES

Major and significant lakes are included. When a lake straddles a border between two countries, it is covered in both entries. Major man-made reservoirs are also included in this section in some entries.

## 7 RIVERS AND WATERFALLS

Describes important rivers, giving length and general characteristics. Also includes major waterfalls.

## 8 DESERTS

Arid and semi-arid flatland regions are described.

## 9 FLAT AND ROLLING TERRAIN

Areas that range from flat and treeless to rounded terrain are described.

## 10 MOUNTAINS AND VOLCANOES

Mountain peaks, including volcanoes, are described here, typically in the context of a mountain range.

## 11 CANYONS AND CAVES

Notable canyons and cave systems are described.

## 12 PLATEAUS AND MONOLITHS

Regions of high elevation but with relatively flat terrain and monoliths (huge stone outcroppings) are described here.

*The final two numbered rubrics describe notable man-made features, and provide resources for further study. Supplementing the Further Reading suggestions provided in each entry is the Selected Sources for Further Study that appears in the back of each volume.*

## 13 MAN-MADE FEATURES

Notable man-made features—such as dams, canals, major bridges, tunnels, and other structures—that affect a country's geography are described.

## 14 FURTHER READING

This section lists selected books and Web sites that provide more information on the country's geography.

## Additional Features

Additional reference materials appear at the back of each volume. Researchers looking for comparative information on some of the world's key geographic features can refer to a series of Appendixes. These provide the following rankings: continents by area;

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## READER'S GUIDE

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countries by area; countries by population; oceans and seas by area; oceans by depth; islands by area; deserts by area; mountain peaks by height; volcanoes by height; rivers by length; waterfalls by height; lakes by area; and lakes by depth. The seven wonders of the ancient world and seven wonders of the natural world are described in the final two appendixes. Lastly, a listing of selected references for the further study of physical geography completes the backmatter. Volume 5 contains a cumulative general index to all five volumes. Topographic world maps appear on each volume's endsheets.

### Photographs

The photographs in *Junior Worldmark Encyclopedia of Physical Geography* were assembled

with assistance from ARAMCO; Raoul Russo, UNESCO imaging; Marcia L. Schiff, AP/Wide World Photos; Maura Malone, EPD Photos; and Mimi Dornack, National Geographic Imaging.

### Comments and Suggestions

We welcome your comments and suggestions for features to be included in future editions. Please write: Editors, *Junior Worldmark Encyclopedia of Physical Geography*, U•X•L, 27500 Drake Road, Farmington Hills, Michigan 48331-3535; call toll-free: 1-800-877-4253; fax to (248) 699-8097; or send e-mail via <http://www.gale.com>.



# Words to Know

## A

**aboriginal** ④ Something that is the first or earliest known of its type in a country or region, such as an aboriginal forest.

**aborigines** ④ The first known inhabitants of a country and their descendants.

**acid rain** ④ Rain (or snow) that has become slightly acidic by mixing with industrial air pollution.

**alluvial plain** ④ Flatlands containing deposits of alluvium.

**alluvium** ④ Clay, silt, sand, or gravel deposited by running water, such as a stream or river.

**Antarctic Circle** ④ (also called South **Frigid Zone**) The parallel of latitude approximately 66°33' south and the region that lies between this latitude and the south pole; the region surrounding Antarctica.

**aquatic** ④ Of or relating to the water, particularly the animals and plants that live there.

**aqueduct** ④ A pipe or channel, usually man-made, that carries water from a remote source. Also, a bridge-like structure that carries water over obstacles.

**aquifer** ④ An underground layer of porous rock, sand, or gravel that holds water.

**arable land** ④ Land that is naturally suitable for cultivation by plowing and is used for growing crops.

**archipelago** ④ A group of islands or a body of water containing many islands.

**Arctic** ④ Relating to the northernmost part of the Earth that lies within and around the Arctic Circle. Also, **arctic**: anything that is frigidly and invariably cold.

**Arctic Circle** ④ (also called the North **Frigid Zone**) The parallel of latitude approximately 66°33' north and the region that lies between this latitude and the north pole.

**arid** ④ Extremely dry, particularly applied to regions of low rainfall where there is little natural vegetation and agriculture is difficult.

**artesian well** ④ A type of well where underground pressure forces water to overflow up to the surface.

**atmosphere** ④ The air surrounding the Earth's surface.

**atoll** ④ An island consisting of a strip or ring of coral surrounding a central lagoon.

**avalanche** ④ A swift sliding of snow or ice down a mountain.

## B

**badlands** ④ Eroded and barren land.

**Balkan Peninsula** ④ The southernmost peninsula of Europe, which is surrounded by the Adriatic, Ionian, Aegean, and Black seas

**Balkan States** ④ (also called The Balkans) Those countries that lie on or near the Balkan Peninsula; includes Albania, Bulgaria, continental Greece, southeast Romania, European Turkey, Serbia and Montenegro, Slovenia, Croatia, Bosnia and Herzegovina, and Macedonia.

**Baltic States** ④ The countries of Estonia, Latvia, and Lithuania. These independent countries were once provinces of Russia and all border on the Baltic Sea.

**barren land** ④ Unproductive land that is partly or entirely treeless.

**barrier island** ④ An island parallel to the shore that was formed by wave and tidal action and protects the shore from rough ocean waves.

**barrier reef** ④ A coral reef that lies parallel to the coast, often forming a lagoon along the shore.

**basalt** ④ Black or nearly black dense rock, usually formed by the solidification of magma or from some other high-temperature geological event.

**basin** ④ A depression on land or on the ocean floor. Usually relatively broad and gently sloped, as compared to a trench, canyon, or crater.

**bay** ④ A wide inlet of a sea or a lake.

**bayou** ④ A stagnant or slow-moving body of water.

**beach** ④ An area of sediment deposited along the shoreline of a large body of water through the action of waves and the process of erosion.

**bedrock** ④ Solid rock lying under loose earth.

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## WORDS TO KNOW

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**bight** ☉ A bend in a coastline that forms an open bay.

**bluff** ☉ Elevated area with a broad, steep cliff face.

**bog** ☉ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter.

**bora** ☉ A very cold wind blowing from the north in the Adriatic Sea region.

**broadleaf forest** ☉ A forest composed mainly of broadleaf (deciduous) trees, as opposed to a coniferous forest.

**butte** ☉ An elevated, flat-topped area, similar to but smaller than a plateau or mesa.

### C

**caldera** ☉ A crater formed by the eruption of a volcano.

**canal** ☉ An artificial waterway constructed to connect two bodies of water or for irrigation of farmland.

**canyon** ☉ A deep gorge cut by a river, usually found in arid regions and often surrounded by plateaus.

**cape** ☉ A part of the coast that protrudes into a body of water.

**Caribbean** ☉ The region that includes the Caribbean Sea, its islands, and the Central or South American coastal areas of the sea.

**catchment** ☉ Area that collects water.

**cave** ☉ Hollow man-made or natural passages in the Earth with an opening to the surface.

**cay (or key)** ☉ A small, low-lying island or reef formed by coral or sand.

**Caucasus** ☉ Region between the Black and Caspian seas that forms the traditional boundary between Europe and Asia; includes the countries of Georgia, Azerbaijan, and Armenia, as well as parts of southwestern Russia.

**Central America** ☉ A region of southern North America that extends from the southern border of Mexico to the northern border of Colombia; includes the countries of Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama

**channel** ☉ A narrow body of water that connects two larger areas of water; an area where water flows through a narrow restricted path.

**cliff** ☉ A high, vertical face of rock.

**climate** ☉ Weather conditions pertaining to a specific area.

**cloud forest** ☉ A tropical forest that is covered in clouds throughout most of the year, usually located on mountain peaks.

**coast** ☉ Typically, the land that borders an ocean or sea.

**coastal** ☉ Relating to the area along the coast.

**coastal plain** ☉ A fairly level area of land along the coast of a land mass.

**coniferous forest** ☉ A forest consisting mainly of evergreen trees such as pine, fir, and cypress trees.

**conifers** ☉ Trees and plants that have needle-like, or scale-like, leaves and also produce cones; evergreens.

**contiguous** ☉ Sharing an edge or boundary or connected without any breaks, as in *the 48 contiguous states*.

**continent** ☉ One of the seven major land masses of Earth.

**continental climate** ☉ A climate typical of the interior of a continent. Particulars can vary widely depending on the region, but in general, areas with a continental climate have greater variations in daily and seasonal temperatures than areas with a maritime climate.

**continental divide** ☉ An extensive elevated region of land that separates the drainage basins of a continent so that the rivers on either side of the divide flow in opposite directions.

**continental shelf** ☉ A shallow submarine plain extending from the coast of a continent into the sea and varying in width; typically the shelf ends in a steep slope to the ocean floor.

**coral reef** ☉ A ridge in warm water areas of the ocean made up of the limestone and calcium deposits of coral animals.

**cordillera** ☉ A continuous ridge, range, or chain of mountains; part of the principal mountain system of a continent or country.

**crater** ☉ A bowl-shaped depression on the surface of the Earth, generally with relatively deep, steep, sides. The most common type of crater is a caldera, formed by volcanic eruption. Other craters are created by explosions or by impact, such as from a meteoroid.

**cyclone** ☉ A violent rotating wind storm, particularly one that originates in the southwestern Pacific or the Indian Ocean. Cyclones rotate counterclockwise in the northern hemisphere and clockwise in the southern hemisphere.

## WORDS TO KNOW

### D

**dam** ☉ A structure built across a river that restricts its flow, causing a reservoir to form behind it. Dams are often used to generate hydropower.

**deciduous** ☉ Relates to trees or shrubs that shed their leaves on a regular basis, as opposed to those that retain them (coniferous).

**deforestation** ☉ The removal or clearing of a forest, usually to enable the land to be used for another purpose, such as agriculture or settlements.

**delta** ☉ Triangular-shaped deposits of soil formed at the mouths of large rivers. They are formed out of the silt carried by the river and have the effect of forcing the river to split into distributary channels, sometimes over a very wide area.

**depression** ☉ Any place where the Earth's surface is lower than the surrounding terrain.

**desert** ☉ Any dry land area with little precipitation and sparse vegetation; often a sandy region but also includes areas of permanent cold that are generally lacking plant life.

**desertification** ☉ The process where land that supports vegetation gradually becomes desert as a result of climatic changes, land mismanagement, or both.

**dike** ☉ An artificial riverbank built up to control the flow of water.

**discontiguous** ☉ Not connected to or sharing a boundary with.

**distributary** ☉ A stream that branches off from a river and never rejoins it, flowing independently into another body of water.

**doldrums** ☉ An area near the equator characterized by variable winds and periods of calm.

**dormant volcano** ☉ A volcano that has not exhibited any signs of activity for an extended period of time.

**dune** ☉ A mound or ridge of loose, wind-blown sand.

### E

**Earth** ☉ Fifth-largest planet in the solar system; its orbit is third from the sun, its circumference is 40,064 kilometers (24,900 miles) at the equator and 40,000 kilometers (24,860 miles) when measured around the poles. The diameter at the equator is 12,753 kilometers (7,926 miles) and, from pole to pole, 12,711 kilometers (7,900 miles).

**earthquake** ☉ Shaking or other movement of the earth that is caused by tectonic shifts or volcanic activity.

**East Asia** ☉ A subregion of Asia that includes the countries of China, Mongolia, Korea, and the islands of Taiwan and Japan.

**easterlies** ☉ Winds or air currents blowing more or less consistently from east to west.

**Eastern Europe** ☉ A geopolitical term that usually refers to those countries in the east of Europe that were once allied with the Soviet Union under the Warsaw Pact (1955-1991). Today, the independent countries of the region include: Albania, Bulgaria, Czech Republic, Slovakia, Hungary, Croatia, Slovenia, Bosnia and Herzegovina, Poland, Romania, Serbia and Montenegro, and Macedonia.

**Eastern Hemisphere** ☉ The half of the Earth's surface that extends east of the Prime Meridian to the 180th meridian.

**eddy** ☉ An air or water current that follows a course different from that of the main flow and usually has a swirling circular motion.

**El Niño** ☉ The warming of the ocean off the west coast of South America that causes a change in climate elsewhere in the world, especially in North America. El Niño conditions have occurred about every four to twelve years.

**enclave** ☉ A country or portion of a country that lies entirely within the boundaries of one other country. Also, a culturally distinct community within a country.

**endangered species** ☉ A plant or animal species that is at risk of becoming extinct.

**endemic** ☉ Anything that is native to, unique to, or characteristic of a specific place or region.

**equator** ☉ An imaginary line running around the middle of the Earth halfway between the North and South Poles. Identified as 0° latitude, it divides the Northern and Southern Hemispheres.

**erosion** ☉ Changes in the shape of the Earth's surface as a result of damage from wind, water, or ice.

**escarpment** ☉ (also called scarp land) A steep slope that separates areas of different elevations.

**estuary** ☉ The region where a river and a large lake or sea meet so that their waters gradually blend into each other.

**Eurasia** ☉ The land mass that contains the continents of Europe and Asia.

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## WORDS TO KNOW

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**exclave** ④ Part of a country that is separated from the larger, main portion of the country by foreign territory.

### F

**Far East** ④ Traditionally, those countries that are a part of East Asia and the easternmost portion of Siberia. Often, the term includes the countries of Southeast Asia as well.

**fault** ④ (also called a fault line) A fracture in the Earth's crust where the rock formation splits, allowing the opposing sides to shift. Most commonly found along the boundaries between tectonic plates, the shifting sometimes causes earthquakes.

**fen** ④ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter and is fed by surrounding soils and groundwater. Fens are similar to bogs but have higher nutrient levels.

**fjord** ④ A relatively narrow arm of the sea that indents deeply into the land, with generally steep slopes or cliffs on each side.

**flood** ④ The flow of excessive quantities of water over land that is generally above water.

**flood plain** ④ An area of low-lying land bordering a stream of water where floods, and the resulting deposits of alluvium, occur frequently.

**Frigid Zone** ④ Either of the extreme north and south latitude zones of the Earth. The North Frigid Zone lies between the North Pole and the Arctic Circle. The South Frigid Zone lies between the South Pole and the Antarctic Circle. The climate of these regions is characterized by extreme cold throughout the year.

### G

**game reserve** ④ An area of land reserved for wild animals that are hunted for sport or for food.

**geopolitical** ④ Refers to the relationship between geographic, political (or governmental), and cultural aspects of a nation or region.

**geothermal energy** ④ Energy derived from the heat that constantly and naturally radiates out from the center of the Earth. Also used to describe the radiation itself.

**geyser** ④ A hot spring that periodically erupts through an opening in the surface of the Earth, spewing boiling water and steam.

**glacier** ④ A large body of ice that moves along the Earth's surface.

**gorge** ④ A deep, narrow passage with steep, rocky walls.

**grassland** ④ An area where the vegetation is mostly grasses and other grass-like plants, often providing a transition between forests and deserts.

**Greenwich Mean Time** ④ The time at Greenwich, England, in the United Kingdom. This time is used as a basis for calculating time throughout most of the world. It is also called universal time, and is abbreviated GMT.

**groundwater** ④ Water located below the earth's surface, providing a source for wells and springs.

**gulf** ④ A large inlet of a sea or ocean that is partially enclosed by land, such as by capes or peninsulas.

**Gulf Stream** ④ Warm ocean current flowing from roughly the Gulf of Mexico northeast along the coast of North America, then east toward Europe.

### H

**harbor** ④ A protected inlet along the shore of a sea or lake that is deep enough for ships to anchor.

**hardpan** ④ A layer of hardened clay soil, usually underlying a thin layer of topsoil.

**hardwoods** ④ Deciduous trees, such as cherry, oak, maple, and mahogany, that produce very hard, durable, and valuable lumber.

**harmattan** ④ An intensely dry, dusty wind felt along the coast of Africa between Cape Verde and Cape Lopez. It prevails at intervals during the months of December, January, and February.

**headland** ④ Slightly elevated land lying along or jutting into a body of water.

**headstream** ④ Stream that forms the source of a river.

**headwater** ④ Source of a stream or river.

**heath** ④ Uncultivated land with low shrubs.

**hemisphere** ④ Any half of the globe. The Northern and Southern Hemispheres are divided by the equator while the Eastern and Western Hemispheres are divided by the Prime Meridian and 180° longitude.

**hill** ④ A rounded area of elevation rising more or less prominently above the surrounding, flatter landscape. Hills are generally no more than 300 meters (1,000 feet) high.

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## WORDS TO KNOW

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**Humboldt Current** ☉ A cold ocean current that runs north from Antarctica along the west coast of South America, primarily from June to November.

**hurricane** ☉ A tropical storm originating in the Atlantic or Pacific Oceans, generally with winds over 74 miles per hour.

**hydropower** ☉ (also called hydroelectric power) Electricity generated by the flow of water through the turbines of river dams.

### I

**iceberg** ☉ A massive block of floating ice that has broken off of a glacier or an ice shelf through a process known as calving.

**ice caps** ☉ Ice sheets covering less than 50,000 square kilometers (19,000 square miles). They form primarily in polar and sub-polar regions, generally occupying high and relatively flat regions.

**ice shelves** ☉ Sheets of ice that extend from the edge of a continent over the surface of the ocean, with ocean water flowing beneath them. They typically range from approximately 200–1000 meters (500–3,500 feet) thick. The Arctic Ocean is partly covered by ice shelves and the continent of Antarctica is almost completely surrounded by them.

**indigenous** ☉ A native species; vegetation that originates from or occurs naturally within a particular region.

**Indochina** ☉ A subregion that includes the peninsular countries of southeast Asia that lie between India and China, including: Vietnam, Laos, Cambodia, Thailand, Myanmar (Burma), and the mainland territory of Malaysia. The term indicates that the culture in these countries has been influenced by both Indian and Chinese traditions.

**inlet** ☉ Any water filled indentation along a coast or shore, such as a bay or gulf; a narrow passage through which water from an ocean or other large body of water passes, usually into a bay or lagoon.

**International Date Line** ☉ An arbitrary, imaginary line at about 180° longitude that designates where one day begins and another ends.

**island** ☉ A land mass entirely surrounded by water.

**isthmus** ☉ A narrow strip of land that connects two larger bodies of land such as two continents, a continent and a peninsula, or two parts of

an island. An isthmus is bordered by water on two sides.

### K

**karst** ☉ An area of limestone characterized by caverns and rock formations that are caused by erosion and underground streams.

**key.** See *cay*.

### L

**Labrador Current** ☉ A North Atlantic current that flows southward from polar waters along the east coast of Canada.

**lagoon** ☉ A shallow body of water, often connected with or barely separated from a nearby ocean or sea by coral reefs or sandbars.

**lake** ☉ A large inland body of standing water.

**landlocked country** ☉ A country that does not have direct access to an ocean; a country that is completely surrounded by other countries.

**landslide** ☉ A flow of muddy soil or loose rock that is usually triggered by heavy rainfall in areas where the terrain is steep.

**Latin America** ☉ A geopolitical term that relates to the countries that are south of the United States in the Western Hemisphere, particularly countries where the Latin-based languages (or Romance languages) of Spanish, Portuguese, and French are spoken.

**latitude** ☉ (also called parallel) An imaginary line running around the Earth parallel to the equator. The equator is at 0° latitude and divides the Earth into two sets of lines of latitude, north and south. Each set covers 90°.

**lava** ☉ Molten rock (magma) that has been poured out on the Earth's surface, usually through a volcano.

**leeward** ☉ The direction identical to that of the prevailing wind.

**littoral** ☉ A coastal region or shore; or, the area between the high water and low water marks of a shore or coastal region.

**loam** ☉ Light soil consisting of clay, silt, and sand.

**loess** ☉ A windblown accumulation of fine yellow clay or silt.

**longitude** ☉ (also called meridian) An imaginary line that extends along the surface of the Earth directly from one pole to another. The Earth is divided into 360 degrees of longitude, with 0° being designated as the Prime Meridian.

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## WORDS TO KNOW

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### M

**Maghreb** ☉ Region in northwest Africa made up of Algeria, Morocco, and Tunisia.

**magma** ☉ Molten rock beneath the Earth's surface that has been melted by the heat of the Earth's interior. When magma breaches the Earth's surface it is known as lava.

**mangrove** ☉ A tree that abounds on tropical shores in both hemispheres. It is characterized by its numerous roots that arch out from its trunk and descend from its branches. Mangroves form thick, dense growths along the tidal mud, covering areas that are hundreds of miles long.

**marine life** ☉ The life that exists in or is formed by the seas and oceans.

**maritime climate** ☉ The climate and weather conditions typical of areas bordering large bodies of water. Generally, areas close to water have more even temperatures than areas with a continental climate.

**marsh** ☉ An area of soggy land, usually covered wholly or in part by shallow water and containing aquatic vegetation.

**massif** ☉ The central part of a mountain or the dominant part of a range of mountains.

**mean temperature** ☉ The air temperature unit measured by adding the maximum and minimum daily temperatures together and dividing the sum by two; an average temperature.

**Mediterranean** ☉ The region surrounding the Mediterranean Sea.

**Mediterranean climate** ☉ A wet-winter, dry-summer climate with a moderate annual temperature range, as is typically experienced by countries along the Mediterranean Sea.

**meridian.** *See* **longitude.**

**mesa** ☉ An isolated, elevated, flat-topped area of land, typically larger than a butte but smaller than a plateau.

**Mesopotamia** ☉ The name means, "between rivers," and refers to the territory between and around the Tigris and Euphrates rivers (currently a part of Iraq). This area has been nicknamed "The Cradle of Civilization" because it was home to the ancient empires of Babylon, Sumer, and Assyria, among others. The Tigris and Euphrates are also two of the four rivers mentioned in the Biblical story of Eden.

**Middle East** ☉ A geopolitical term that designates those countries of southwest Asia and northeast Africa that stretch from the Mediterranean Sea to the borders of Pakistan and Afghanistan, including the Arabian Peninsula. This area was considered to be the midpoint between Europe and East Asia, usually called the Far East. The term is sometimes used to include all the countries of that general region that are primarily Islamic.

**mistral** ☉ In southern France, a cold, dry, northerly wind.

**moist tropical climate** ☉ A weather pattern typical to the tropics, known for year-round high temperatures and large amounts of rainfall.

**monolith** ☉ A large, natural rock formation, usually one that is isolated from other areas of high elevations; a large, stone block, column, or figure.

**monsoon** ☉ Seasonal change in the wind direction of Southeastern Asia, leading to wet and dry seasons. A monsoon develops when there is a significant difference in air temperatures over the ocean and the land.

**moor** ☉ A poorly drained open area containing peat and heath.

**moraine** ☉ A deposit of rocky earth deposited by a glacier.

**mountain** ☉ A lofty elevation of land, generally higher than 300 meters (1,000 feet), but varying greatly depending on the surrounding terrain, with little surface area at its peak; commonly formed in a series of ridges or in a single ridge known as a mountain range.

### N

**nature preserve** ☉ An area (often a park) where one or more specific species of plants and/or animals are protected from harm, injury, or destruction.

**Northern Hemisphere** ☉ The northern half of the Earth's surface, as measured from the equator to the North Pole.

### O

**oasis** ☉ Originally, a fertile spot in the Libyan Desert where there is a natural spring or well and vegetation; now refers to any fertile tract in the midst of a wasteland.

**ocean** ☉ The entire body of saltwater that covers almost three-fourths of the Earth's surface; any of the five principal divisions of the ocean.

## WORDS TO KNOW

**Oceania** ④ Oceania is a term that refers to the islands in the region that covers the central and south Pacific and its adjacent seas; sometimes includes Australia, New Zealand, and the Malay Archipelago (an large group of islands off the southeast coast of Asia).

### P

**pampas** ④ Grass-covered plain of South America.

**panhandle** ④ A long narrow strip of land projecting like the handle of a frying pan.

**parallel.** *See* **latitude.**

**peneplain** ④ A flat land surface that has been subjected to severe erosion.

**peninsula** ④ A body of land surrounded by water on three sides.

**permafrost** ④ A frozen layer of soil that never thaws.

**petroglyph** ④ Ancient carvings or line drawings created on the surface of rocks by prehistoric peoples; often found in caves.

**plain** ④ An expansive area free of major elevations and depressions.

**plateau** ④ A relatively flat area of an elevated area of land.

**plate tectonics** ④ A set of theories about the Earth's structure used by many geologists to explain why land masses and oceans are arranged as they are and why seismic activity occurs. According to plate tectonics the Earth's surface, including the bottom of the oceans, rests on a number of large tectonic plates. These plates are slowly moving over the interior layers of the Earth. Where they grind against each other, earthquakes and other seismic activity occurs, and the shape of the land gradually changes.

**polar circle** ④ (also called the polar region) A circular region around the North and South Poles that separates the frigid polar zones from the temperate zones. The Earth has two polar circles, the Arctic Circle in the north and the Antarctic Circle in the south.

**polar climate** ④ A humid, severely cold climate controlled by arctic-like air masses, with no warm or summer season.

**polder** ④ A low land area reclaimed from a body of water and protected by dikes or embankments.

**pole (geographic pole)** ④ The extreme northern and southern points of the Earth's axis, where the axis intersects the spherical surface. The

geographic North Pole is located at 90°N latitude/0° longitude. The geographic South Pole is located at 90°S latitude/0° longitude.

**pole (magnetic pole)** ④ Either of two points on the Earth's surface, close to the geographic North Pole and South Pole, where the magnetic field is most intense. The North Magnetic Pole is located at 78°N latitude/104°W longitude in the Queen Elizabeth Islands of northern Canada. The South Magnetic Pole is located at 66°S latitude/139°E longitude on the Adélie Coast of Antarctica.

**pond** ④ A small body of still, shallow water.

**prairie** ④ An area of level grassland that occurs in temperate climate zones.

**Prime Meridian** ④ The meridian designated as 0° longitude that runs through Greenwich, England, site of the Royal Observatory. All other longitudes are measured from this point.

### R

**rainforest** ④ A dense forest of tall trees with a high, leafy canopy where the annual rainfall is at least 254 centimeters (100 inches) per year.

**rain shadow** ④ An area that receives very little precipitation due to natural barriers, such as mountains, which keep rain clouds from covering the region.

**Ramsar** ④ The Ramsar Convention on Wetlands of International Importance is an international organization concerned with the preservation and protection of major wetland environments throughout the world.

**ravine** ④ A steep, narrow valley or gorge, usually containing the channel for a stream.

**reef** ④ String of rocks or coral formations, usually on a sandy bottom, that are barely submerged.

**reforestation** ④ Systematically replacing forest trees that were lost due to fire or logging.

**reservoir** ④ A lake that was formed artificially by a dam.

**Ring of Fire** ④ The region of seismic activity roughly outlined by a string of volcanoes that encircles the Pacific Ocean.

**river** ④ A substantial stream of water following a clear channel as it flows over the land.

**riverine** ④ Related to a river or the banks of a river.

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## WORDS TO KNOW

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### S

**Sahel** ☉ Sahel is an Arabic word meaning “shore.” It refers to the 5,000 kilometer (3,125 mile) stretch of savanna that is the shore or edge of the Sahara desert. The Sahel spreads west to east from Mauritania and Senegal to Somalia.

**salinization** ☉ An accumulation of soluble salts in soil. This condition is common in irrigated areas with desert climates, where water evaporates quickly in poorly drained soil due to high temperatures. Severe salinization renders soil poisonous to most plants.

**salt pan** ☉ (also salt flat) An area of land in a sunny region that is periodically submerged in shallow water, usually due to tides or seasonal floods. The sun causes the shallow water to evaporate and leave the salt it contained behind on the ground.

**sand bar** ☉ A deposit of sedimentary material that lies in the shallow water of a river, lake, or sea.

**savanna** ☉ (also spelled savannah) A treeless or near treeless plain of a tropical or subtropical region dominated by drought-resistant grasses.

**Scandinavia** ☉ The region of northwestern Europe that lies on the peninsula bordered by the Atlantic Ocean, the Baltic Sea, and the Gulf of Bothnia. Even though Norway and Sweden are the only two countries that lie directly on this peninsula, the countries of Denmark, Iceland and Finland are usually considered to be Scandinavian countries in a cultural context.

**sea** ☉ A body of salt water that is connected to (and therefore a part of) the ocean; sometimes, a name given to a large lake.

**sea level** ☉ The level of the ocean’s surface, specifically the average between the levels at high tide and low tide. Sea level is often designated as 0 meters (0 feet) and is used as the baseline for measuring elevations and depressions on land and on the ocean floor.

**seasonal** ☉ Dependant on the season. The flow of rivers and volume of lakes often varies greatly between seasons, as can vegetation.

**seasons** ☉ Regular variations in weather patterns that occur at the same times every year.

**sedimentary rock** ☉ Rock, such as sandstone, shale, and limestone, formed from the hardening of material deposits.

**seismic activity** ☉ Relating to or connected with an earthquake or earthquakes in general.

**semiarid** ☉ A climate where water and rainfall is relatively scarce but not so rare as to prohibit the growth of modest vegetation. Semiarid areas are often found around arid deserts and semiarid land is sometimes called a desert itself.

**shoal** ☉ A shallow area in a stream, lake, or sea, especially a sand bank that lies above water at low tide or during dry periods.

**shore** ☉ Typically, the land that borders a lake or river; may also be used to designate the land bordering an ocean or sea.

**sierra** ☉ A rugged, jagged, irregular chain of hills or mountain.

**silt** ☉ Fine, gravel-like, inorganic material, usually sand and coarse clay particles, that is carried by the flow of a river and deposited along its banks. Silt is generally very fertile soil.

**skerry** ☉ A rocky island.

**slough** ☉ A marshy pond that occurs in a river inlet.

**softwoods** ☉ Coniferous trees with a wood density that is relatively softer than the wood of those trees referred to as hardwoods.

**sound** ☉ A wide expanse of water, usually separating a mainland from islands or connecting two large bodies of water; often lies parallel to the coastline.

**South Asia** ☉ A subregion of Asia that includes the countries of Afghanistan, Pakistan, India, Bangladesh, and Nepal.

**Southeast Asia** ☉ A subregion of Asia that lies between India on the west, China to the north, and the Pacific Ocean to the east. The region includes the Indochina Peninsula of the South China Sea, the Malay Peninsula, and the Indonesian and Philippine Archipelagos. The countries of Southeast Asia are: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

**Southern Hemisphere** ☉ The southern half of the Earth’s surface between the equator and the South Pole.

**Southwest Asia** ☉ A subregion of Asia that includes Turkey and extends southward through the Arabian Peninsula. Iran can also be included in the region.

**spring** ☉ Water flowing from the ground through a natural opening.

**stalactites** ☉ Deposits of calcium carbonate formed in a cavern or cave that hang down from the ceiling like icicles.



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## WORDS TO KNOW

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**stalagmites** ④ Deposits of calcium carbonate formed in a cavern or cave that rise up from the floor like cones or columns.

**steppe** ④ A flat, mostly treeless, semiarid grassland, marked by extreme seasonal and daily temperature variations. Although sometimes used to describe other areas, the term applies primarily to the plains of southeastern Europe and Central Asia.

**strait** ④ Narrow body of water connecting two larger bodies of water.

**stream** ④ Any flowing water that moves generally downhill from elevated areas towards sea level.

**subarctic climate** ④ A high latitude climate. The continental subarctic climate has very cold winters; short, cool summers; light precipitation; and moist air. The marine subarctic climate is a coastal and island climate with polar air masses causing high levels of precipitation and extreme cold.

**subcontinent** ④ A land mass of great size, but smaller than any of the continents; a large subdivision of a continent.

**subtropical climate** ④ A middle latitude climate dominated by humid, warm temperatures and heavy rainfall in summer, with cool winters and frequent cyclonic storms.

### T

**taiga** ④ An area of open forest made up of coniferous trees.

**tectonic** ④ Relating to the structure of the Earth's crust.

**tectonic plate** ④ According to the theory of plate tectonics, the outer layer of the Earth consists of a series of large plates of rock called tectonic plates. The largest plates have entire oceans or continents on their surface.

**Temperate Zone** ④ The parts of the Earth lying between the Tropics and the polar circles. The North Temperate Zone is the area between the Tropic of Cancer and the Arctic Circle. The South Temperate Zone is the area between the Tropic of Capricorn and the Antarctic Circle. Temperate zones are marked by the greatest seasonal variations in temperature; however, temperatures and rainfall tend to stay within a moderate range, without extremes.

**terraces** ④ Successive areas of flat lands.

**terrain** ④ General characteristics of the Earth's surface in a region, including its characteristic vegetation.

**tidal bore** ④ A distinctive type of wave that travels up a shallow river or estuary on the incoming tide. It is a dramatic phenomenon that occurs in few places in the world; the incoming tidal waters flow against the river's current.

**tidal wave.** *See* tsunami.

**tide** ④ The rise and fall of the surface of a body of water caused by the gravitational attraction of the sun and moon.

**timber line** ④ The point of high elevation on a mountain above which the climate is too severe to support trees.

**topography** ④ The surface features of a region; also, the study of such features.

**tornado** ④ A violent, whirling wind storm that forms a funnel-shaped cloud and moves in a path over the surface of the Earth.

**Torrid Zone** ④ The part of the Earth's surface that lies between the Tropic lines, so named for the warm, humid, character of its climate.

**trade winds** ④ Winds that consistently blow from the northeast and southeast toward the equator.

**trench** ④ A steep-sided depression in the ocean floor

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## WORDS TO KNOW

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### U

**UNESCO** ④ The United Nations Educational, Scientific, and Cultural Organization. An international organization promoting peace and security around the world through education, science, culture, and communication.

### V

**valley** ④ An elongated depression through which a stream of water usually flows, typically an area that lies between mountains, hills, and/or other uplands.

**vegetation** ④ Plants, including trees, shrubs, grasses, and other plants.

**volcano** ④ A hole or opening through which molten rock and superheated steam erupt from the interior of the Earth. Also, a mountain created by the accumulation of these ejected materials.

### W

**wadi** ④ Dry stream bed, usually in a desert region in southwest Asia or north Africa.

**waterfall** ④ A steep, natural descent of water flowing over a cliff or precipice to a lower level.

**watershed** ④ An area of shared water drainage, where all the rainfall drains into a common river or lake system.

**waves** ④ The alternate rise and fall of ridges of water, generally produced by the action between the wind and the surface of a body of water.

**weather** ④ Atmospheric conditions at a given place and time.

**Western Europe** ④ A geopolitical term that usually refers to those countries of Europe that are allies of the United States and Canada under the North Atlantic Treaty Organization (NATO, established 1949). The original European countries in NATO were Belgium, France, Great Britain, Italy, Luxembourg, the Netherlands, and Portugal. Today, Western European countries also include Germany, Spain, Ireland, and Austria. Though Denmark is geographically part of Europe, it is culturally considered as part of Scandinavia.

**Western Hemisphere** ④ The half of the Earth's surface that lies west of the Prime Meridian to 180° longitude.

**West Indies** ④ The islands lying between North America and South America made up of the Greater Antilles (Cuba, Haiti, Dominican Republic, Jamaica, and Puerto Rico), the Lesser Antilles (Virgin Islands, Trinidad and Tobago, Barbados), and the Bahamas.

**wildlife sanctuary** ④ An area of land set aside for the protection and preservation of animals and plants.

**windward** ④ Facing into the prevailing wind, or lying closest to the direction from which the wind is blowing.

Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

# Indonesia

- **Official name:** Republic of Indonesia
- **Area:** 1,919,440 square kilometers (741,096 square miles)
- **Highest point on mainland:** Puncak Jaya (5,030 meters/16,503 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern, Southern, and Eastern
- **Time zones:** Western, 7 P.M. = noon GMT; Central, 8 P.M. = noon GMT; Eastern, 9 P.M. = noon GMT
- **Longest distances:** 5,271 kilometers (3,275 miles) from east to west; 2,210 kilometers (1,373 miles) from north to south
- **Land boundaries:** 2,774 kilometers (1,719 miles) total boundary length; East Timor 172 kilometers (106 miles); Malaysia 1,782 kilometers (1,104 miles); Papua New Guinea 820 kilometers (508 miles)
- **Coastline:** 54,716 kilometers (33,999 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Indonesia is an archipelago in Southeast Asia, located between the Indian Ocean on the west and south and the Pacific Ocean on the east and north.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Indonesia shares parts of Borneo with Malaysia and Brunei and parts of the province of Papua (located on the island of New Guinea and formerly known as Irian Jaya) with Papua New Guinea. Indonesia disputes ownership of Sipadan and Ligitan Islands with Malaysia.

## 3 🌐 CLIMATE

Indonesia has a tropical climate, with high humidity (an average of 82 percent) and high temperatures. There are two basic seasons: a rainy season from November to March; and a hot, drier season from April through October. Temperatures in Indonesia's capital, Jakarta, generally range from 23°C (73°F) to 33°C

(91°F). Average yearly rainfall for Indonesia as a whole is approximately 200 centimeters (78 inches). In lowland areas, the average annual rainfall ranges from 180 to 320 centimeters (70 to 125 inches); while in the mountains it can reach as much as 610 centimeters (238 inches). The fearsome typhoons of the South China Sea spend themselves before reaching Indonesian waters, and the gales that blow from time to time through the Torres Strait, between Australia and New Guinea, seldom move farther than the extreme southeastern islands of the archipelago, so the seas of Indonesia are generally calm.

## 4 🌐 TOPOGRAPHIC REGIONS

Indonesia consists of more than thirteen thousand islands scattered over a distance of about 5,149 kilometers (3,200 miles) above and below the equator between the Indian and Pacific Oceans, in the largest archipelago in the world. Five major islands make up 90 percent

# INDONESIA



of Indonesia's land area. These are Sumatra, Java, Sulawesi, plus parts of Borneo and New Guinea. Indonesia also contains about thirty smaller island groups, the largest of which is Nusa Tenggara, which includes the islands of Lombok, Sumba, Sumbawa, Flores, and Timor. In 1999, East Timor gained its independence from Indonesia.

Along the length of Indonesia's island chain the landscape is highly varied, and volcanic mountains stand out in sharp relief on most of the larger islands.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Citizens of Indonesia often refer to their country as "Tanah Air Kitah," "Our Land and Water," which illustrates the importance of the seas surrounding the archipelago. Indonesia forms a natural barrier between the Indian Ocean to the south and west, the open Pacific Ocean to the northeast, and the South China Sea to the north. South of the island of Java is the lowest point in the Indian Ocean, the Java Trench, some 7,300 meters (24,000 feet) deep.

Between Timor and Australia is the Timor Trough, which is approximately 3,000 meters (9,842 feet) deep. In the waters directly off the islands of Indonesia are at least 10 percent of the world's coral reefs. Fishing practices and land erosion increasingly endangers these important marine ecosystems.

### Sea Inlets and Straits

There are a vast number of straits and passages found around the islands of Indonesia. The Karimata Strait connects the South China Sea to the Java Sea. The Strait of Malacca, running between Sumatra and mainland Malaysia and connecting the South China Sea to the Bay of Bengal, is one of the busiest waterways in the world. Most ships heading to the east coast of Asia from the west pass through this strait, as does most traffic from East Asia heading west. The Sunda Strait between Java and Sumatra is also heavily traveled. The Great Channel separates the northernmost tip of Sumatra from India's Nicobar Islands. Further east among the islands is the Makassar Strait between Borneo and Sulawesi. It connects the Sulawesi

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# INDONESIA

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(Celebes) Sea in the north with the Java, Bali, and Flores Seas in the south.

## Islands and Archipelagos

The islands of Indonesia are part of the Malay Archipelago, which also includes the Philippines. The Indonesian part of the archipelago includes more than thirteen thousand islands, many of them only a few acres in size. Not all of these islands have been officially named, and only about one thousand are inhabited.

Most of the islands rise from the submerged Sunda shelf, considered a continuation of the Asian continent. The western and central islands are known as the Sunda Islands. Sumatra, Java, Borneo (the Indonesian part of which is called Kalimantan), and Sulawesi, along with the surrounding islands, are known as the Greater Sunda Islands. Borneo is the largest of these; at 751,929 square kilometers (290,320 square miles), it is the third-largest island on Earth. Smaller islands in this region include Bangka, Belitung, and the Mentawi Islands.

Further east are the Lesser Sunda Islands. They begin with Bali and extend to Timor. Lombok, Sumbawa, Flores, and Sumba are the other large islands in this chain, which is also known as Nusa Tenggara. Along with Savu and Roti Islands, they enclose the Savu Sea. Even further to the east are the Maluku Islands, formerly called the Moluccas. Most of the Maluku are found in groups of small and medium-sized islands, such as the Tanimbar Islands, Aru Islands, Kai Islands, and Sula Islands. Halmahera, Wetar, Buru, and Ceram are the largest individual islands.

New Guinea, the island of which Indonesia's Papua state is the western half, is the second-largest island in the world (884,824 square kilometers/341,631 square miles).

## Coastal Features

Indonesia has one of the world's longest coastlines. The southwestern islands are similar in that their shores tend to be steep, with few sandy beaches, while their northern and eastern coasts are mostly flat in terrain. Sulawesi is formed from four peninsulas, with the long, northernmost, Minahasa Peninsula curved around the Tomini Gulf, while the two southern arms enfold the Bone Gulf. Between the two is the Gulf of Todo. Kalimantan has a jagged coastline with numerous river deltas that empty into the South China Sea, Java Sea, Makassar Strait, and Celebes Sea. At the far side of the archipelago, the northwest region of Papua is known as the Bird's Head Peninsula.

## 6 INLAND LAKES

More than five hundred lakes are scattered across Indonesia. By far the largest Indonesian lake is Lake Toba in northern Sumatra, covering more than 1,300 square kilometers (502 square miles) between towering cliffs that once were the rim of a volcanic crater. Toba is one of the deepest lakes in the world, plunging over 450 meters (1,476 feet). It is also one of the highest, at 900 meters (2,953 feet) above sea level. In addition to Toba, notable Sumatran lakes include Manindjau and Singkarak.

The central region of Sulawesi has a pair of deep lakes: Lake Towuti, which is 48 kilometers (30 miles) wide, and Lake Matana. Lake Poso is in north-central Sulawesi. In northern Sulawesi, lakes include Limboto and Tandano. Kalimantan's lakes include the three Mahakam lakes. The Mahakam River basin, an important bird habitat, contains ninety-six lakes altogether. The island of Flores is famous for a trio of lakes at the top of volcanic Mount Keli Mulu, each of which has water of a different color (green, maroon, and black) due to variation in mineral content.

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# INDONESIA

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EPD/Cynthia Bassett

*The Si-Piso Piso waterfall flows into Lake Toba in northern Sumatra, Indonesia.*

## 7 🌐 RIVERS AND WATERFALLS

Rivers are found in every part of the islands. Although most rivers are short, they are often important for irrigation. Major rivers can be found on Kalimantan, Java, Papua, and Sumatra. Indonesia's longest river, the Kapuas, which is 1,143 kilometers (710 miles) long, is in Kalimantan, flowing from the north-central mountains to the South China Sea. Other major rivers in Kalimantan are the Barito, Mahakham, and Rajang. Southern Kalimantan is crisscrossed with a network of hundreds of smaller rivers.

Sumatra's rivers include the Batanghari and Musi in the south, and the Indragiri and

Kampar in the center of the island. Java's rivers are used for irrigation; they include the Solo, which is Java's longest at 560 kilometers (348 miles), Tarum, and Brantas. Many rivers wind through Papua, including the Mamberamo, which runs into the Pacific Ocean.

## 8 🌐 DESERTS

There are no deserts in Indonesia.

## 9 🌐 FLAT AND ROLLING TERRAIN

Many of the Lesser Sunda Islands, including Sumba, Lombok, Sumbawa, and Timor, have extensive grassland areas, as do parts of Sumatra, Kalimantan, Sulawesi, and Papua. Most of these grasslands are areas where forests have been cut or burned. Bamboo, both wild and cultivated, grows in many parts of Indonesia, although wild bamboo is also being cleared.

Indonesia has a variety of forest types: rainforests in Sumatra, Kalimantan, and Papua; monsoon forests in the Lesser Sunda Islands; coastal mangrove forests; and alpine forests in the mountains of Papua. Indonesia has been estimated to be the habitat of 12 percent of the world's mammal species and 16 percent of the bird species, as well as 11 percent of plant species.

Many hill areas on Bali and Java are covered with rice terraces, which help to prevent soil erosion. On Java, tea plantations occupy numerous hillsides as well. The area of volcanic foothills of the Bandung district is the best-known hill region of Java. The islands of Nusa Tenggara, including Lombok and Timor, have grass-covered hills. Much of Sulawesi is highland, including the region called Torojaland in the south of the island. Kalimantan's north-central region is distinguished by hilly terrain.

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# INDONESIA

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## 10 🌐 MOUNTAINS AND VOLCANOES

The mountains of Indonesia are chains that run underneath the sea and show their peaks and ridges above it in the form of islands. Sulawesi is extremely mountainous, with peaks rising in places to well over 2,438 meters (8,000 feet).

The Barisan Mountains of Sumatra follow the island's west coast. The highest peaks reach more than 3,600 meters (12,000 feet), with Kerintji (3,805 meters/12,483 feet) being the tallest. On Java, the mountains also lie close to the shoreline of the Indian Ocean. The highest peaks are in the Tengger Mountains in the east. Many of the islands of Nusa Tenggara and the Maluku (the islands between Sulawesi and New Guinea) are mountainous. On Bali, Lombok, and Ceram, there are peaks of over 3,048 meters (10,000 feet).

Papua in New Guinea has towering non-volcanic mountains, the highest in Indonesia. The Maoke Mountains extend almost the entire length of the province. Some peaks are covered with snow throughout the year, including Puncak Jaya, (5,030 meters/16,503 feet) the country's loftiest peak. Puncak Jaya is counted (for the continent of Australia/Oceania) as one of the "Seven Summits" sought by mountaineers who attempt to climb the highest peak on every continent.

The Muller Mountains of Borneo run mainly along Indonesia's northern border with Malaysia. Mount Raya (2,278 meters/7,474 feet) is the highest peak.

Lying along the borders of the Eurasian, Australian, and Philippine Tectonic Plates, Indonesia is the most highly volcanic region in the world. More than one hundred peaks either are active or were active until recently. The greatest population density is to be found in the regions where volcanoes have erupted.



EPD/Cynthia Bassett

*Indonesia's forests are filled with thousands of plant, animal, and bird species.*

Thus Java, with the most volcanoes, is by far the most densely populated of the islands.

## 11 🌐 CANYONS AND CAVES

Rivers have carved dramatic canyons in some regions of Sumatra and Java. In Sumatra, notable canyons include Sianok Canyon, a 150-meter (492-foot)-deep limestone gorge that is 15 kilometers (9 miles) long; the Harau Valley nature reserve, which is 492 to 1,312 feet (150 to 400 meters) wide, with walls 80 to 300 meters (262 to 984 feet) deep; and the Anai Valley gorge. The Green Canyon, a nature reserve, is situated in western Java close to the coast. Many caves also can be found in Java on the Thousand Hills (Gunung Sewu) Plateau.



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# INDONESIA

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## 12 🌐 PLATEAUS AND MONOLITHS

The island of Sumatra has significant plateau areas, including Tanah Karo with approximately 5,000 square kilometers (1,930 square miles) of fertile volcanic soil; the Agam Plateau; and the Maninjau Plateau, which rises 700 meters (2,296 feet) above Maninjau Lake. The landscape of Java is elevated in the Thousand Hills Plateau and the Dieng Plateau, an area famous for its mineral lakes and ancient Hindu temple ruins.

## 13 🌐 MAN-MADE FEATURES

Due to the abundance of lakes, dams are common in Indonesia and provide power for many households. These dams create many artificial lakes, most notably along the Asahan River.

## 14 🌐 FURTHER READING

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# Iran

- **Official name:** Islamic Republic of Iran
- **Area:** 1,648,000 square kilometers (636,296 square miles)
- **Highest point on mainland:** Mount Damāvand (5,671 meters/18,606 feet)
- **Lowest point on land:** Caspian Sea (28 meters/92 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3:30 P.M. = noon GMT
- **Longest distances:** 2,250 kilometers (1,398 miles) from southeast to northwest; 1,400 kilometers (870 miles) from northeast to southwest
- **Land boundaries:** 5,440 kilometers (3,380 miles) total boundary length; Afghanistan 936 kilometers (582 miles); Armenia 35 kilometers (22 miles); Azerbaijan proper 432 kilometers (268 miles); Azerbaijan-Naxcivan exclave 179 kilometers (111 miles); Iraq 1,458 kilometers (906 miles); Pakistan 909 kilometers (565 miles); Turkey 499 kilometers (310 miles); Turkmenistan 992 kilometers (616 miles)
- **Coastline:** 2,440 kilometers (1,516 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Iran is located in southwestern Asia between the Caspian Sea and Persian Gulf, in the region known as the Middle East. The country shares borders with Armenia, Azerbaijan, Turkmenistan, Afghanistan, Pakistan, Iraq, and Turkey. With an area of about 1,648,000 square kilometers (636,296 square miles), the country is slightly larger than the state of Alaska. Iran is divided into twenty-eight provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Iran has no outside territories or dependencies.

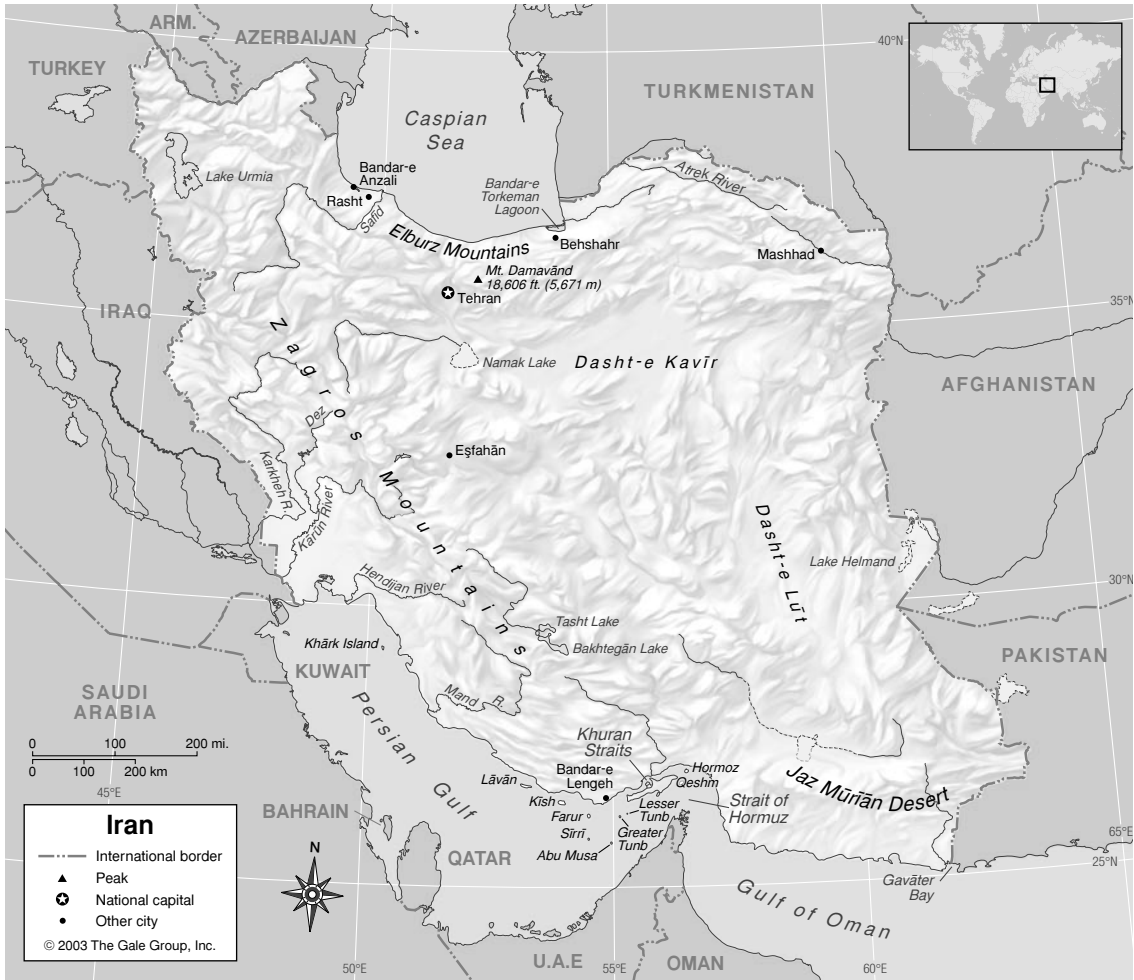
## 3 🌐 CLIMATE

Iran has an arid and semiarid climate with subtropical areas along the coasts. There are four seasons: spring, summer, a brief autumn, and winter. The central deserts and Persian Gulf coast are especially hot in summer, with some of the world's highest recorded tem-

peratures occurring in the desert. The average annual temperature in northern Iran is 10°C (50°F). The average annual temperature in southern Iran is between 25°C and 30°C (77°F and 86°F). Iran's climate is dry, except for belts of high humidity along the Caspian Sea and Persian Gulf. Strong seasonal winds often whip up dust and sandstorms.

Iran's average annual precipitation is 27 centimeters (11 inches) during non-drought years. Less than 14 percent of the land receives more than 52 percent of the precipitation. The most rainfall occurs along the Caspian Sea shore, past the Elburz range. For the most part, the rains arrive in the winter, when snow also affects the mountainous regions. In some areas, no precipitation occurs for long periods of time. Sudden storms with heavy rains a few times per year may provide those regions with their entire annual rainfall.

# IRAN



## 4 🌐 TOPOGRAPHIC REGIONS

The topography of Iran consists of two main mountain ranges wrapped around a basin which contains deserts and salt marshes. The Caspian Sea is in the north and the Persian Gulf and Gulf of Oman are in the south. Settlement is mainly in the mountain regions, along the coasts, and in some oases. In the areas where agriculture is viable, crops thrive as long as there is adequate water. Iran has a delicate environmental balance, however, as forests and farmland decrease and desert increases.

Iran lies on the Eurasian Tectonic Plate, which has some of the world's most active fault lines. The country's western border sits right above where this plate meets the Arabian Tectonic Plate. As the Arabian and Eurasian Plates push against each other, topographical formations are created, such as the bent and rippled layers of rock in the Zagros Mountains. In the southeast, the Eurasian Plate collides with the Indian Tectonic Plate not too far outside Iran's borders. Subterranean shifts in this area have produced numerous faults in the earth's crust. As a result, devastating

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# IRAN

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earthquakes occur frequently, with the western region being hit the hardest.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Iran has a northern shoreline along the Caspian Sea. The Caspian Sea is a saltwater lake and the largest inland body of water in the world. The sea extends approximately 1,210 kilometers (750 miles) from north to south and 210 to 436 kilometers (130 to 271 miles) from east to west. Its area is 371,000 square kilometers (143,000 square miles). Its mean depth is about 170 meters (550 feet), and it is deepest in the south.

Although connected to the Baltic Sea, the White Sea, and the Black Sea by extensive inland waterways, the Caspian Sea has no natural outlet. Pollution from agricultural chemicals (especially pesticides), industry, and oil drilling has had a serious adverse impact on the Caspian Sea shoreline environment.

Because of massive reserves of natural gas, demarcation of rights to the Caspian Sea's waters has become a contentious issue among all of its bordering countries.

The Persian Gulf lies to the southwest of Iran and the Gulf of Oman is to the southeast. Both bodies of water serve as extensions of the Indian Ocean's Arabian Sea. Pollution from oil tankers and military ships, overfishing, destructive fishing methods, agricultural chemical runoff, sewage, and industrial waste are problems in the Persian Gulf and Gulf of Oman.

### Sea Inlets and Straits

From the Persian Gulf, the 55-kilometer (34-mile) Strait of Hormuz, one of petroleum shipping's most strategic routes, leads into the Gulf of Oman.

The Persian Gulf coast contains Būshehr Bay and Naayband Bay in Būshehr province. Rocky shores and cliffs mark this coastal section, where the mountains come right down to the sea. This rugged coast, especially around Naayband Bay and the harbor of Bandar-e Lengeh, is considered particularly vulnerable to oil spills. At Hormozgān Province, the coastline curves inward sharply, sheltering Qeshm island, with seasonal creek outlets in Khamir Harbor across from Qeshm.

Chaabahar Bay and Gavāter Bay are on the Gulf of Oman, near the Pakistan border.

### Islands and Archipelagos

Iran occupies sixteen islands in the Persian Gulf. Only eleven of the islands are inhabited. In late spring, the Persian Gulf islands are nesting sites for seabirds and for endangered sea turtles. The coral reefs around these islands are barely surviving temperature fluctuations, algae, and oil spills, as well as damage from pollution, tourists, and construction.

Qeshm is the largest island in the Persian Gulf. With an area of 1,335 square kilometers (515 square miles), this island is a mountainous oblong in the Strait of Hormuz. Other much smaller islands in and near the Strait of Hormuz include Kīsh (Qeys), Hormoz, Hendurabi, Farur, Sīrī, Abu Musa, and Lāvān. Khārk Island is close to the northern end of the Persian Gulf.

Two islands in the Persian Gulf are occupied by Iran but are also claimed by the United Arab Emirates (UAE): Lesser Tunb and Greater Tunb. Iran and the UAE jointly administer the island of Abu Musa.

### Coastal Features

Iran's Caspian Sea shoreline begins in the west at the border of Azerbaijan, sweeps

## DID YOU KNOW?

There are eighteen sites in Iran that have been designated as Wetlands of International Importance under the Ramsar International Convention on Wetlands. Caspian wetlands sites include the Anzali Mordab marsh complex (a bird migration area), Bandar-e Torkeman Lagoon, and other lagoons.

In western Iran, the Ramsar sites include the Shadegan wetland (delta mudflats on the Iraq border), the Parishan and Dasht-e Arjan marshes in southwestern Iran, and the Neyriz Lakes and Kamjan Marshes, in a wildlife refuge in the southwest. In the northwest, Lake Urmia, with its brackish marshes, birds, and fish species, is a Ramsar site, as is the dying Helmand Lake in the east.

Offshore wetlands sites include the Khuran Straits between the mainland and Qeshm island and its estuaries on the Strait of Hormuz, featuring mangroves and salt marshes that are significant bird wintering sites.

Many of Iran's wetlands dried up during the three-year drought just before the turn of the twenty-first century. Other threats include invasive plant species, pollution, agricultural water diversion, road building, and shrimp farming.

southeast to the lagoon port of Bandar-e Anzali, and continues east to the Bandar-e Torkeman lagoon above Behshahr town. The coast then turns straight north to the Turkmenistan border. Much of the shore has been formed as the water recedes from the original seabed.

The Caspian Sea region has the largest forests, which have mostly deciduous tree species including oak, elm, beech, and linden. Golestān National Park in the Caspian region, near the Turkmenistan border, is highly biodiverse, with deciduous and conifer tree species. Sisangan National Park, near the Azerbaijan border, is another Caspian forest.

Southwest Iran meets the northwest end of the Persian Gulf at the border with Iraq. At this end of the Gulf the coastal plain is wide, containing the delta of the Kārūn River, which adjoins neighboring Iraq's Tigris and Euphrates River deltas. Estuaries with mudflats and salt marshes are found in this region, and there are hundreds of seasonal creek outlets in non-drought years, many emptying into Moosa Bay.

The section of coast along the Strait of Hormuz has sandy beaches on a narrow coastal strip, including the white sand beach at Koohestak.

The Persian Gulf and Gulf of Oman coasts have thick stands of palms and mangrove forests.

## 6 🌐 INLAND LAKES

The lakes of Iran are few and most of them are small. Many lakes and most shallow wetlands of Iran dried up during the catastrophic drought of 1998–2001.

Lake Urmia (Orumiyé) is Iran's largest intact lake, with an average surface area of 4,868 square kilometers (1,879 square miles). It can vary in area from 3,000 to 6,000 square kilo-

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# IRAN

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meters (1,158 to 2,317 square miles), depending on seasonal conditions. A salt lake, Urmia, is in the northwest near the Turkish border, at 1,297 meters (4,255 feet) above sea level.

Lake Helmand, a lake/wetland system extending into Afghanistan, is a freshwater lake used for irrigation and fishing. The lake system decreased from about 150,000 square kilometers (57,915 square miles) to 32,000 square kilometers (12,355 square miles) during the twentieth century, dwindling to about 3,200 square kilometers (1,235 square miles) in the dry seasons. Lake Helmand dried up almost completely during the 1998–2001 drought.

The lakes in Fars Province (southwest Iran) were hit particularly hard by the drought and most evaporated almost completely. Notable lakes in the southwest include (with their pre-drought sizes): Bakhtegān Lake, 750 square kilometers (290 square miles); Tasht Lake, 442 square kilometers (171 square miles); and Mo-harloo Lake, 208 square kilometers (80 square miles).

Important lakes of central Iran include: Namak Lake, 1,806 square kilometers (697 square miles); and Howz Soltan Lake, 106 square kilometers (41 square miles). Snowmelt feeds the 2,550-meter- (8,366-foot-) high twin Gahar Lakes in the Zagros Mountains.

The low basins of central Iran have extremely shallow lakes that dry up, leaving thick, broken salt crusts known as *kavirs* with mud marshes underneath. Iran also has major areas of coastal wetlands, including those bordering the Caspian Sea.

## **7** 🌐 RIVERS AND WATERFALLS

The length and depth of some rivers in Iran vary by season. Some rivers are dry most of the time but begin to flow from snowmelt in the spring.

The Kārūn River, at 890 kilometers (553 miles), is Iran's longest river and its only navigable one. Still, it is navigable for just 180 kilometers (112 miles), and only by shallow draft vessels. The Kārūn runs from the Zagros Mountains to the Persian Gulf delta region in western Iran. This region also contains the following related rivers: the Karkheh (755 kilometers/469 miles); the Dez (515 kilometers/320 miles); the Hendijan (488 kilometers/303 miles), and the Jarahi (438 kilometers/272 miles).

Other notable rivers of Iran include: the Sefidrood (765 kilometers/475 miles), Atrak (535 kilometers/332 miles); the Mand (685 kilometers/426 miles) in the southwest; and the Zayande (405 kilometers/251 miles), which flows through the city of Isfahan in the Zagros foothills.

## **8** 🌐 DESERTS

More than 300,000 square kilometers (115,831 square miles) of Iran is covered with deserts. That coverage is increasing through the process of desertification, as farmland, grassland, and forests continue to lose vegetation and then soil. The drought of 1998–2001 increased desert area when lakes and wetlands dried up.

Iran's immense Lūt Desert covers some 80,000 square kilometers (30,888 square miles). It includes the Dasht-e-Kavīr and Dasht-e-Lūt, and the adjacent Namakzār-e Shahdād. It is one of the hottest places on Earth with temperatures reaching as high as 57°C (135°F). The Lūt Desert goes without rain for years at a time. Sand mountains rise up to 475 meters (1,558 feet) in the desert's eastern sector and there are also sand dunes moved by wind. The region contains an interior area lacking in all life forms, even bacteria. The similar Jaz Mūrīān Desert lies to the south of the Lūt Desert.

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# IRAN

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EPD/Cynthia Bassett

*The towering Elburz Mountains in Iran have many peaks that rise above 3,000 meters (10,000 feet).*

The outer deserts are scrubland, habitats for rare Asiatic cheetahs and koulans (Asian zebras). Inner desert areas are covered with hard layers of stones, gravel, and pebbles. Salt lakes and marshes create salt flats when they dry out. There are also salt-water springs and salt mines in the Iranian deserts. Scattered oases, linked by roads, are shaded by groves of date palms, poplars, and other trees.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Iran has no substantial pasture lands. There are some grasslands in upland areas, however, such as the hills around Isfahan and foothills in the southeast.

The foothills of Iran's mountain ranges are terraced for farming and housing, although wild pistachio forests are still found in the foothills of the southeast. The Elburz foot-

hills follow the Caspian Sea shoreline. In the Zagros foothills, salt domes cover Iran's major oil fields. The Kandovan hills in northwest Iran are a group of rock formations with inhabited cave-dwellings.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The broken and irregular ranges of Iran's mountains, extending from Armenia and Azerbaijan in the north to Pakistan in the south, are barren, but the valleys between them are fertile. In the north of Iran, where the mountains reach 2,133 to 2,743 meters (7,000 to 9,000 feet), livestock grazing and settlements can be found above 1,219 meters (4,000 feet).

The narrow Elburz Range curves from west to east along the Caspian Sea shoreline. Iran's capital, the sprawling city of Tehran, is located on the south side of the Elburz range. The

highest of Iran's mountains, Mount Damāvand (5,671 meters/18,606 feet), is a symmetrical volcanic cone located in the Elburz Range just northeast of Tehran.

The forbidding Zagros Range, a group of parallel mountain chains, runs northwest to southeast through Iran. Much of the Zagros Range towers above 3,000 meters (9,842 feet), until it declines in height in the southeast to an average of less than 1,500 meters (4,921 feet). The Zagros Range extends down to the Persian Gulf and Gulf of Oman coasts in rocky cliffs. There are forests of oaks and other deciduous trees in the Zagros Mountains. Iran's major oil fields are located in the Zagros foothills in the southwest.

## 11 CANYONS AND CAVES

The Zagros Mountains have steep folds and eroded valleys, where streams and small rivers have created deep gorges. In the Zagros region are found the Kārūn River Canyon, Sezar River Gorges, Bactiara River Canyon, and other deep canyons in the vicinity of the Gahar Lakes.

The mountains and hills of the country contain numerous caves of various sizes. One of the most beautiful caves is the Ali Sadr, located near the city of Hamadan. Ali Sadr is a water cave containing a crystal-clear lake that stretches the cave to about 11 kilometers (9 miles). The underwater walls of the cave are covered by calcite crystal, which also spreads to about 3 meters (10 feet) above the water's surface.

Another notable cave is the Cave of Shapoor, located near Bishapoor in the Zagros Mountain. One of the largest cave entrances in the country, Shapoor has a 12-meter (39 foot)-high entrance which leads to an underground hall that covers an area that is 50 meters wide and 100 meters long (164 feet wide and 328 feet long). The cave contains the remains of the

## DID YOU KNOW?

The Silk Road is an ancient seven thousand-mile-long trading route that extended from east-central China through the present-day countries of India, Pakistan, Iran, Iraq, and Syria. It connected the region of the Yellow River Valley to the Mediterranean Sea. From there, costly Chinese silk could be transported throughout the Roman Empire. The Silk Road served not only as a transportation route for trade but also as a route of cultural exchange, as travelers and traders from different regions shared religious, political, and social beliefs and customs.

eighteen-hundred-year-old statue of Shapoor I, an ancient Iranian leader. The Talar Cave (or Surakh Reis) is located in Niasar and is a combination of a natural and man-made cavern. It is a temple cave dedicated to the ancient Persian god, Mitra.

## 12 PLATEAUS AND MONOLITHS

Iran is located on the Plateau of Iran, a high triangular plateau with average elevations of 914 to 1,524 meters (3,000 to 5,000 feet). Parts of the plateau spread to Afghanistan and Pakistan. Great salt deserts such as Dasht-e-Lūt and Dasht-e-Kavīr occupy the eastern section of the Plateau of Iran; mountains cut through the center and west of it. The plateau has an area of approximately 2,590,000 square kilometers (one million square miles),



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# IRAN

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of which about 1,554,000 square kilometers (600,000 square miles) is in Iran. The region was formed and shaped by the uplifting and folding effect of three giant tectonic plates pressing against each other: the Arabian, Eurasian, and Indian Plates.

## 13 MAN-MADE FEATURES

Iran has a huge network of underground water canals called *qanats*, with about 50,000 qanats covering an estimated 400,000 kilometers (248,548 miles). In the absence of major rivers, the qanats have served as Iran's traditional irrigation source, constructed with underground storage structures. Water-use analysts have called for a return to the qanat system and smaller-scale irrigation projects as the best ways to combat ongoing water shortages throughout Iran.

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(accessed April 24, 2003).

# Iraq

- **Official name:** Republic of Iraq
- **Area:** 437,072 square kilometers (168,754 square miles)
- **Highest point on mainland:** Mount Ebrāhīm (3,600 meters/11,811 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 730 kilometers (454 miles) from east-northeast to west-southwest; 984 kilometers (611 miles) from south-southeast to north-northwest
- **Land boundaries:** 3,631 kilometers (2,256 miles) total boundary length; Iran 1,458 kilometers (906 miles); Jordan 181 kilometers (112 miles); Kuwait 242 kilometers (150 miles); Saudi Arabia 814 kilometers (506 miles); Syria 605 kilometers (376 miles); Turkey 331 kilometers (206 miles)
- **Coastline:** 58 kilometers (36 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Iraq is a Middle Eastern state located on the Persian Gulf between Iran and Saudi Arabia. The heartland of the country, which has been known since ancient times as Mesopotamia, is the area between Iraq's two great rivers, the Tigris and the Euphrates. With an area of 437,072 square kilometers (168,754 square miles), Iraq is slightly more than twice as large as the state of Idaho. Iraq is divided into eighteen provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Iraq has no territories or dependencies.

## 3 🌐 CLIMATE

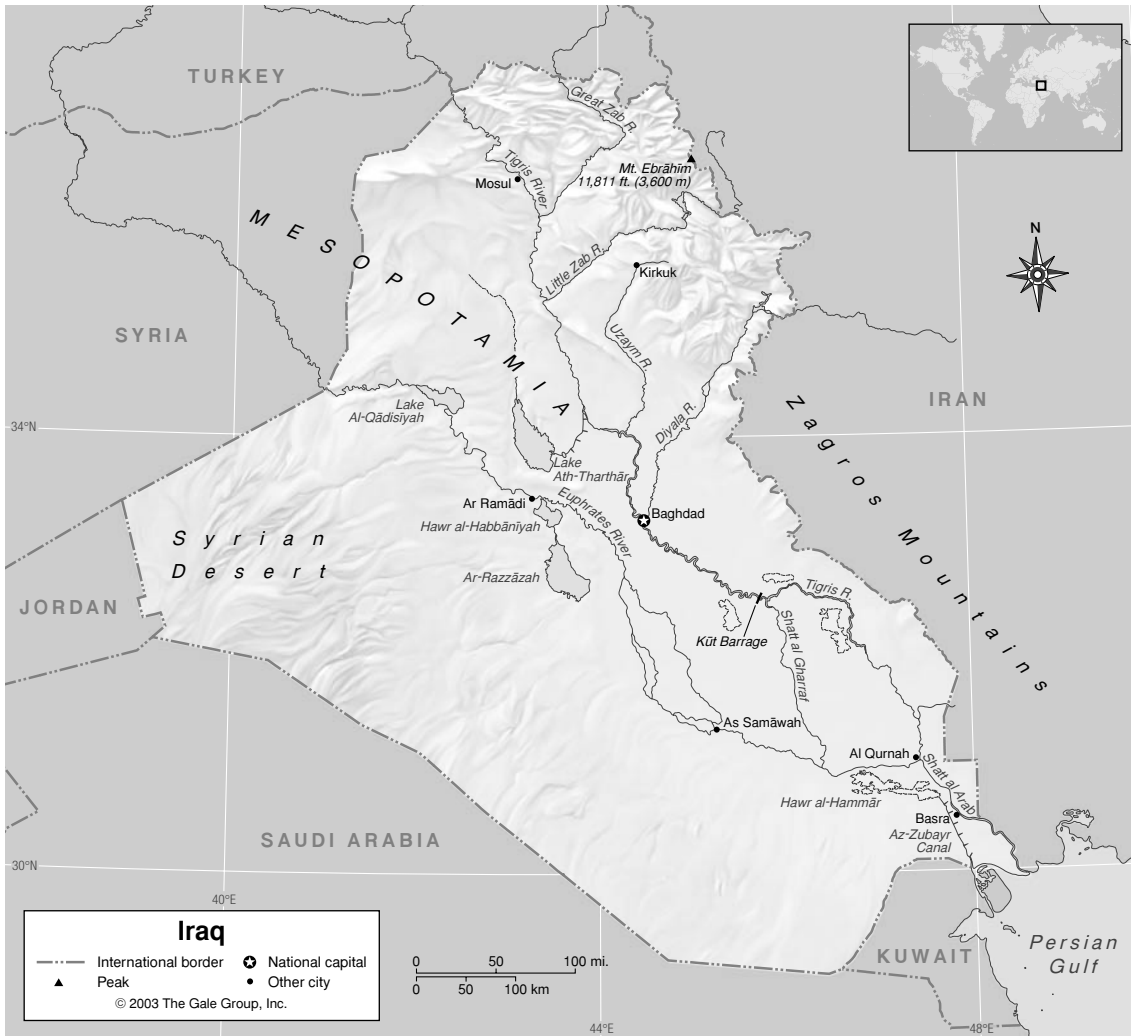
Summer temperatures range from 22°C to 29°C (72°F to 84°F) minimum to 38°C to 43°C (100°F to 109°F) maximum—in the shade. Temperatures higher than 48°C (118°F) have been reported, with June through August usually the hottest months. Winter temperatures range from -3°C to about 16°C (27°F to about

61°F), but have been recorded below -14°C (7°F) in the western desert. Severe winter frost is frequent in the north. Ninety percent of the precipitation falls between November and April, mostly occurring from December through March. The months of May through October are dry. Mean annual rainfall is between 10 and 17 centimeters (4 and 7 inches). Rainfall is higher in the foothills southwest of the mountains (between 32 and 57 centimeters /12 and 22 inches), and in the mountains annual rainfall reaches 100 centimeters (39.4 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

In the north the Tigris and Euphrates Rivers pass through elevated terrain, but near the middle of the country the rivers enter a vast alluvial plain that extends to the Persian Gulf. Rugged, inhospitable mountains extend to the north and northeast; the Syrian Desert, which is almost completely uninhabited, blankets the west and southwest.

# IRAQ



## 5 OCEANS AND SEAS

Iraq has a short coastline on the Persian (Arabian) Gulf between Iran and Kuwait.

### Coastal Features

Iraq's short Persian Gulf coast, which has no significant indentations or bays, consists entirely of the Shatt al Arab River Delta.

## 6 INLAND LAKES

The many lakes in central Iraq are fed largely by the flooding of the Tigris and the Euphrates Rivers, as well as by streams and canals from

these rivers. As a result, the lakes vary considerably in volume and area, depending on the flow of the rivers. In general, the largest are Ath-Tharthâr, Ar-Razzâzah, and Hawr al-Habbâniyah. South of Baghdad the lakes tend to be increasingly saline, reflecting the heavy silt content of the two great rivers and the poor drainage in this region.

## 7 RIVERS AND WATERFALLS

The Euphrates is the longest river in the country. Originating in Turkey, it flows through Syria, where it receives several tributaries before entering Iraq. Once within Iraq, it has

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# IRAQ

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AP Photo/Julie Jacobson

*A man paddles up the Tigris River in Iraq.*

no permanent tributaries but is fed by the wadis of the western desert during the winter rains. The Tigris also rises in Turkey and flows through a brief section of Syria before entering Iraq. It has many tributaries in Iraq, all of which enter it from the northeast. The most important are the Great Zab, Little Zab, Uzaym, and Diyala. All of these join the Tigris above Baghdad except for the Diyala, which joins it about 36 kilometers (22 miles) below the city. After the Euphrates and Tigris Rivers converge, they are known as the Shatt al Arab, which flows for roughly 193 kilometers (120 miles) southeast to the Persian Gulf. The river forms the border between Iran and Iraq for about half its length.

## **8** 🌐 **DESERTS**

The area west and southwest of the Euphrates River is a part of the Syrian Desert, which also covers sections of Syria, Jordan, and Saudi Arabia. The region, sparsely inhabited by pastoral nomads, consists of a wide, stony plain interspersed with rare sandy stretches. A complicated pattern of wadis, which are watercourses that are dry most of the year, runs from the border to the Euphrates. Some wadis are more than 400 kilometers (248 miles) long and carry brief but torrential floods during the winter rains.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The alluvial plain of Mesopotamia begins north of Baghdad and extends to the Persian Gulf. The Tigris and Euphrates Rivers lie above the level of the plain in many places,

held within natural embankments. During the frequent flooding of the Tigris and Euphrates Rivers, they deposit a heavy coating of silt over a wide area, forming fertile farmland.

## 10 🌐 MOUNTAINS AND VOLCANOES

The northeastern highlands begin just southwest of a line drawn from Mosul to Kirkūk and extend north to the borders with Turkey and Iran. High ground, separated by broad, undulating steppes, gives way to mountains ranging from 1,000 to nearly 4,000 meters (3,280 to 13,123 feet) near the Iranian and Turkish borders. The high mountains are an extension of the Zagros Mountains of Iran and include Iraq's highest peak, Mount Ebrāhīm (3,600 meters/11,811 feet).

## 11 🌐 CANYONS AND CAVES

The Euphrates winds through a gorge 2 to 16 kilometers (1 to 10 miles) wide in the hilly Al Jazīrah region before reaching the plains at Ar Ramādi.

The Shanidar Cave, in the Shanidar Valley of northern Iraq overlooking the Great Zab River, is a significant archaeological site where Neanderthal remains have been excavated.

## 12 🌐 PLATEAUS AND MONOLITHS

Iraq derives its name from the Arabic term "cliff." West of the central river plain rises a plateau that extends into Syria, Jordan, and Saudi Arabia, reaching heights of about 1,000 meters (3,281 feet). Some of this plateau is revealed in exposed cliff rock, but the boundaries between Iraq and its western neighbors are physically indistinguishable.

## 13 🌐 MAN-MADE FEATURES

During the twentieth century, Iraq built an extensive system of dams, barrages, canals, and irrigation systems to harness the Tigris and Euphrates Rivers for irrigation and help control their potentially disastrous seasonal

flooding. Among the numerous reservoir sites are Samarra, Dukan, and Darband on the Tigris River, and Mosul and Al Hadithah on the Euphrates. Lake Al-Qādisīyah is a sizable reservoir on the Euphrates in the northwestern part of the country.

In the 1990s, Saddam Hussein's regime channeled river waters away from the marshlands at the confluence of the Tigris and Euphrates Rivers into the Persian Gulf for military purposes, destroying the unique ecosystem of the region. A shallow canal, called Nahar al-Aaz (the Glory River), diverts water from the Tigris; another canal, the Mother-of-All-Battles River, channels water from the Euphrates; and a third one, named Saddam's River, carries agricultural runoff to the gulf. By 2001, this diversion had destroyed an estimated 90 percent of Iraq's wetlands.

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# Ireland

- **Official name:** Ireland
- **Area:** 70,280 square kilometers (27,135 square miles)
- **Highest point on mainland:** Mount Carrantuohil (1,041 meters/3,416 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** Noon = noon GMT
- **Longest distances:** 275 kilometers (171 miles) from east to west; 486 kilometers (302 miles) from north to south
- **Land boundaries:** 360 kilometers (224 miles) total boundary length; all with the United Kingdom (Northern Ireland)
- **Coastline:** 1,448 kilometers (900 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Ireland is located on an island in the eastern part of the North Atlantic Ocean. Situated on the European continental shelf, it lies at the westernmost edge of Europe, to the west of Great Britain. The northeastern corner of the island is occupied by Northern Ireland, which belongs to Britain and is separated from the independent republic to its south by a winding border. Covering an area of 70,280 square kilometers (27,135 square miles), Ireland is slightly larger than the state of West Virginia.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Ireland has no territories or dependencies.

## 3 🌐 CLIMATE

Ireland's proximity to the Atlantic Ocean gives it a mild maritime climate. Average temperatures range from 4°C to 7°C (39°F to 45°F) in January, and from 14°C to 16°C (57°F to 61°F) in July. Ireland's weather is humid and highly changeable. A common saying about Irish weather is "If you don't like it, wait a couple of minutes!" Average annual rainfall ranges from

roughly 76 centimeters (30 inches) in the eastern part of the country to over 250 centimeters (100 inches) in the western highlands.

## 4 🌐 TOPOGRAPHIC REGIONS

Ireland's low, central limestone plateau rimmed by coastal highlands has been compared to a gigantic saucer. In spite of these coastal highlands, Ireland is generally a low country. Only about 20 percent of its terrain is higher than 150 meters (500 feet) above sea level, and even its mountains rarely exceed altitudes of 900 meters (3,000 feet).

## 5 🌐 OCEANS AND SEAS

Ireland is bounded on the east and southeast by the Irish Sea and St. George's Channel, and on the north and west by the Atlantic Ocean. The North Channel separates Northern Ireland from Scotland.

## Seacoast and Undersea Features

There are deepwater coral reefs off the western coast of Ireland. Their presence is considered a possible indicator of underwater oil and gas reserves.

# IRELAND



## Sea Inlets and Straits

The western and northwestern parts of the Irish coast have numerous bays and inlets, of which the largest are Donegal Bay and Galway Bay, where the Aran Islands are located. The deepest coastal indentation is at the mouth of the Shannon River in the southwest. The southwestern corner of Ireland has deep, fjord-like indentations between a series of capes, where the mountains of Kerry and Cork jut out into the sea.

## Islands and Archipelagos

Of the several small islands off the western coast, the best-known are the three Aran Islands situated at the mouth of Galway Bay.

## Coastal Features

Ireland's eastern coast, which faces England and Wales, is smooth, while the coasts to the west and northwest are deeply indented. Much of the Irish coastline is rocky; however, there are also long stretches of sandy beach known as strands. Many are lined with dunes.

## 6 🌐 INLAND LAKES

Ireland's slow-moving rivers widen into *loughs* (lakes) at many points in the central lowlands before moving on to the sea. Among the largest loughs are Lough Corrib, Lough Mask, and Lough Conn, all in the western counties of Galway and Mayo.

## 7 🌐 RIVERS AND WATERFALLS

The rivers of Ireland are among the most attractive features of the landscape. The Shannon, which is the longest river, rises near Sligo Bay. Altogether, it drains over 10,360 square kilometers (4,000 square miles) of the central lowlands. Other rivers of the lowlands include the Boyne and the Barrow. The Clare and Moy Rivers flow through the west, the Finn flows in the north, and the Barrow, Suir, and Blackwater are among the southern rivers.

## 8 🌐 DESERTS

There are no deserts in Ireland.

## 9 🌐 FLAT AND ROLLING TERRAIN

The average elevation of the central lowlands is about 60 meters (200 feet), although various hills, ridges, and loughs break up this terrain in many places. The Irish peat bogs, although rapidly diminishing in number,

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# IRELAND

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EPD/Shawna Scherbarth

*The traditional fuel of Ireland is peat. Peat, made up of partially decayed plant material, is removed from the ground in block-like shapes using special shovels.*

are still the country's most distinctive physical feature. Ireland also has both coastal and interior wetlands.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Ireland has a number of mountain systems. The highest rise to elevations of about 914 meters (3,000 feet), while the lower ranges have peak elevations between 610 and 914 meters (2,000 and

3,000 feet). Among the higher ranges are the Wicklow Mountains between Dublin and Wexford. The country's highest peak, Mount Carrantuohil (1,041 meters/3,416 feet), is found in Macgillycuddy's Reeks, in the southwest.

## **11** 🌐 **CANYONS AND CAVES**

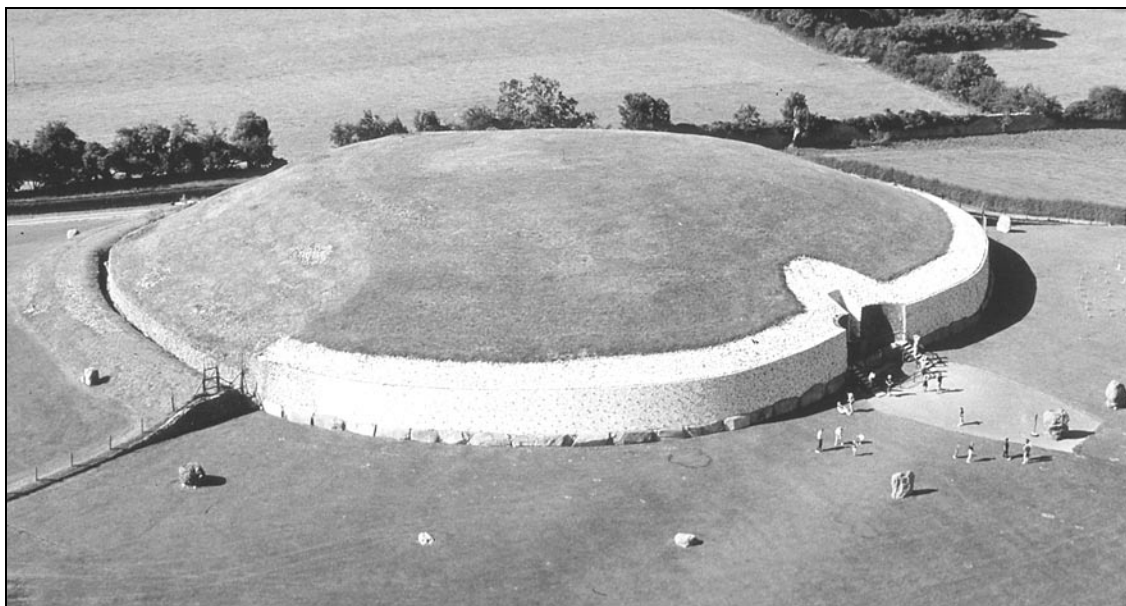
Areas of limestone karst are widespread in Ireland, resulting in a large number of caves throughout the country. Major cave sites are found in the counties of Cork and Tipperary in the south, Clare and Kerry in the west, and Sligo and Cavan in the north. The Poulmagollum/Poll Elva cave, the longest in Ireland, is found in the Burren, located in County Clare.

### **DID YOU KNOW?**

**L**ough Hyne, which lies below sea level, is one of Europe's only saltwater lakes (or inland seas).



# IRELAND



UNESCO

*The Bend of the Boyne archaeological site lies on the north bank of the Boyne River just north of Dublin, Ireland. It is Europe's largest concentration of prehistoric megalithic (made of large stones) art.*

## 12 PLATEAUS AND MONOLITHS

Distinctive areas of karst plateau are found in northwestern Ireland, in the counties of Leitrim, Cavan, Sligo, and Fermanagh. Among these areas is the plateau known as the Burren in County Clare.

## 13 MAN-MADE FEATURES

There are a number of bridges in the capital city of Dublin, which is divided into two parts by the River Liffey. Among these are the Grattan, O'Connell, Butt, Queen Maeve, Ha'Penny, and Heuston Bridges.

The Grand Canal connects Dublin with Ireland's longest river, the Shannon.

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# Israel

- **Official name:** State of Israel
- **Area:** 20,770 square kilometers (8,019 square miles)
- **Highest point on mainland:** Mount Meron (Har Meron) (1,208 meters/3,963 feet)
- **Lowest point on land:** Dead Sea (408 meters/1,339 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 320 kilometers (200 miles) from north to south; 110 kilometers (70 miles) from east to west
- **Land boundaries:** 1,006 kilometers (625 miles) total boundary length; Egypt 255 kilometers (158 miles); Gaza Strip 51 kilometers (32 miles); Jordan 238 kilometers (148 miles); Lebanon 79 kilometers (49 miles); Syria 76 kilometers (47 miles); West Bank 307 kilometers (191 miles)
- **Coastline:** 273 kilometers (170 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Israel is a small country located in the Middle East, bordering Lebanon to the north, Syria to the northeast, Jordan and the West Bank to the east, the Gulf of Aqaba to the south, Egypt and the Gaza Strip to the southwest, and the Mediterranean Sea to the west. Israel consists of six administrative districts or mehoz: Central, Haifa, Jerusalem, Northern, Southern, and Tel Aviv.

## 2 🌐 TERRITORIES AND DEPENDENCIES

In addition to the land within the country's original 1948 borders, Israel also controls the areas known as the West Bank, the Golan Heights, and the Gaza Strip. These are collectively called the occupied territories. They were captured from Jordan, Syria, and Egypt during wars in 1967 and 1973, and have been occupied by Israel since that time. These occupied territories are not recognized

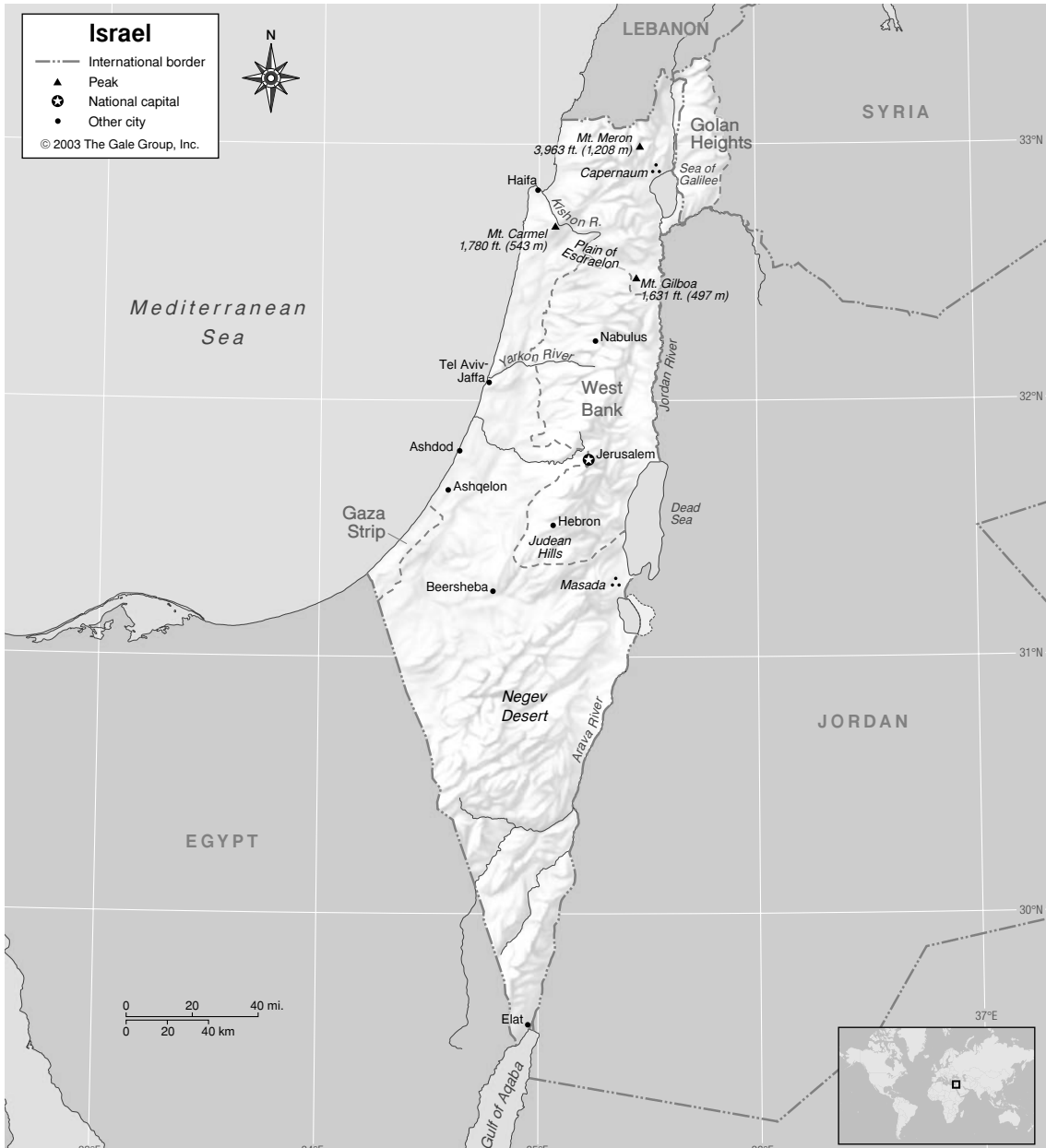
as an integral part of Israel. Syria claims the Golan Heights, while Palestinian residents of the Gaza Strip and the West Bank have long sought to become independent of Israel.

## 3 🌐 CLIMATE

Israel has a Mediterranean climate. Summers are hot and dry; winters are short, warm, and wet. Average summertime temperatures range from 24°C (75°F) at Safed, in the hills of Galilee, to 34°C (93°F) in Elat, the southernmost point of the Negev Desert, where high temperatures in August can reach 46°C (114°F). The hot, dry desert wind called the *hamsin* can raise the high summer temperatures even higher, as well as fill the air with sand and dust. Temperatures in January, the coldest month, average 13°C (56°F) on the coastal plain and 16°C (60°F) in the southern desert.

Rainfall is lightest in the south, ranging from 3 centimeters (1 inch) per year south of

# ISRAEL



the Dead Sea to 118 centimeters (44 inches) in the hills of Galilee. Most rain falls between October and April.

## 4 TOPOGRAPHIC REGIONS

Located on the eastern shore of the Mediterranean Sea, Israel occupies most of the region

historically known as Palestine. A dramatic variety of physical landscapes are found within Israel's narrow borders, including the hills and mountains of Galilee, the Mediterranean coastal plains, the dry area of the Negev Desert, and the Dead Sea—the lowest point on the surface of the earth. The country can be

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# ISRAEL

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divided into four major regions: the coastal plain to the west, the upland areas in the central and northern parts of the country, the Great Rift Valley along its eastern border, and the Negev Desert to the south.

The Golan Heights, located to the northeast along the Israeli-Syrian border, is an upland region covering 1,710 square kilometers (660 square miles). Its major topographical sections are the Hermon Range to the north and the Golan plateau to the south. The West Bank (5,878 square kilometers/2,270 square miles) is the former Jordanian section of Palestine, whose major physical features are the hills of Judea and Samaria and the Jordan River Valley. The Gaza Strip is a narrow strip of land at the southern end of Israel's Mediterranean coast, adjacent to Egypt, with an area of only 363 square kilometers (140 square miles) and a maximum width of only 13 kilometers (8 miles).

Israel is situated along the border between the African Tectonic Plate and the Arabian Tectonic Plate. The border between these two plates forms part of the Great Rift Valley, the world's most extensive geological fault, which extends southward through eastern Africa as far south as Mozambique.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Israel lies on the eastern shore of the Mediterranean Sea. The Mediterranean coastline is almost entirely smooth. The southern tip of Israel borders the Gulf of Aqaba, a gulf of the Red Sea. The soft pink and red coral that line the shores of the Gulf of Aqaba give the Red Sea its name. Both the coral and the plentiful marine life in these waters make the City of Elat a popular diving and snorkeling center, and home to an extensive underwater observatory and aquarium.

### Sea Inlets and Straits

Israel has no notable sea inlets or straits. The only indentation is at the mouth of the Kishon River, at the port city of Haifa. In the extreme south, Israel also has a short shoreline on the Gulf of Aqaba, an extension of the Red Sea.

### Coastal Features

Israel's smooth coastline is dotted with many sandy beaches. These beach areas are bordered by agricultural land.

## 6 INLAND LAKES

Israel's two major lakes (both called "seas") are the Sea of Galilee (also called Lake Tiberias, or the Kinneret) in the northeast, bordering the Golan Heights; and the Dead Sea to the south along the border with Jordan. The two bodies of water are connected by the Jordan River. The Sea of Galilee actually contains fresh water, the largest such body of water in the country. The Dead Sea is a large saltwater lake. It is the lowest spot on the surface of Earth. Its high salt and mineral content gives it a bright green hue and makes it extremely easy to float in—it is possible to "sit" on the surface of the lake and remain afloat.

## 7 RIVERS AND WATERFALLS

The Jordan River, which makes up part of the border between Israel and Jordan, is the country's largest and best-known river, as well as its main source of water. Three of its sources—the Banyas, the Dan, and the Hasban—rise on Mount Hermon in the Golan Heights. Along its 322-kilometer (200-mile) course, the Jordan descends over 701 meters (2,300 feet) to the Dead Sea. While the river swells during the rainy season, for most of the year it is a small, muddy stream that can be forded easily at several points.



EPD/Saxifraga/Henk Sierdsema

*Israel's Negev Desert.*

Most of Israel's other rivers are seasonal, drying up in the summer. Israel's major rivers are the Jordan; the Yarqon, which drains into the Mediterranean near Tel Aviv; and the Kishon, which enters the Mediterranean farther north, near Haifa. All rivers except the Jordan flow into the Mediterranean.

## **8** 🌐 **DESERTS**

Descending eastward to the Dead Sea, the Judean Hills turn into the Judean Desert, a scenic wilderness. The Dead Sea Scrolls were discovered in the late 1940s where this desert meets the Dead Sea.

Where the Judean Hills end in the south, the Negev Desert begins. Although it comprises two-thirds of Israel's land area, it contains only a small percentage of the population. The Arava, an extremely dry stretch of desert

between the Dead Sea and the Red Sea, has an average annual rainfall of less than 2.5 centimeters (1 inch), and its summer temperatures are very high.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Israel's narrow coastal plain includes the Plain of Judea, south of Tel Aviv, and the Plain of Sharon, between Tel Aviv and Haifa. Israel's largest plains area is the fertile Esdraelon Plain, which extends southeast from the Mediterranean coast near Mount Carmel to the Jordan River valley, separating Galilee from Samaria. The Kishon River in the west and the Harod River in the east drain this region. The Valley of Jezreel lies at its eastern end, between Mount Gilboa and the Hill of Moreh, and the entire plain itself is often referred to as Jezreel.

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# ISRAEL

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The hills of Galilee are located in the northern part of the country. Farther south, two hilly regions—Judea and Samaria—make up most of the West Bank and also extend into Israel proper. Nestled in these hills lie the cities of Jerusalem, Nābulus, and Hebron (Al Khalil).

Next to Israel's mountains are several valleys: the Hula, between the mountains of Upper Galilee and the Golan Heights; the Capernaum, near the Sea of Galilee; and the Jezreel Valley, on the Esdraelon Plain, between Mount Gilboa and the Hill of Moreh. The Great Rift Valley runs from north to south along the border between Israel and Jordan. In this region it is known as the Jordan Valley.

## 10 🌐 MOUNTAINS AND VOLCANOES

The highest mountain in Israel (not counting the occupied territories) is Mount Meron in the mountains of Upper Galilee, which rises to 1,208 meters (3,963 feet); the peaks of Lower Galilee rise to only about half this height. To the southwest, at the edge of the coastal city of Haifa, is Mount Carmel, rising to 546 meters (1,790 feet). Topping all these elevations is that of Mitzpeh Shlagim in the Golan Heights, which rises to over 2,224 meters (9,297 feet). It is the second-highest peak of the Hermon Range, whose highest point, Mount Hermon, is in Syria.

## 11 🌐 CANYONS AND CAVES

Deep canyons are located at the edges of the Golan Plateau. Small caves can be found throughout the country, which have been used

over the last three thousand years as dwellings, storage areas, and even churches. Sodom Cave, near the biblical cities of Sodom and Gomorrah, is a salt cave, a type of cave rarely found because it needs a very specific climate and geographic location in order for it to form.

## 12 🌐 PLATEAUS AND MONOLITHS

The Golan Plateau in the Golan Heights extends south of the Hermon Range. It is over 60 kilometers (37 miles) long and at its highest area is over 1,200 meters (3,936 feet) above sea level.

## 13 🌐 MAN-MADE FEATURES

There are no notable man-made features in Israel.

## 14 🌐 FURTHER READING

### Books

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*Israel News: Jerusalem Post Internet Edition*. <http://www.jpost.com> (accessed April 24, 2003).

# Italy

- **Official name:** Italian Republic
- **Area:** 301,230 square kilometers (116,305 square miles)
- **Highest point on mainland:** Mont Blanc (4,807 meters/15,772 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 381 kilometers (237 miles) from northeast to southwest; 1,185 kilometers (736 miles) from northwest to southeast
- **Land boundaries:** 1,932 kilometers (1,201 miles) total boundary length; Austria 430 kilometers (267 miles); France 488 kilometers (303 miles); Holy See (Vatican City) 3 kilometers (2 miles); San Marino 39 kilometers (24 miles); Slovenia 232 kilometers (144 miles); Switzerland 740 kilometers (460 miles)
- **Coastline:** 7,600 kilometers (4,723 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The southern European nation of Italy occupies a long, slender peninsula shaped like a high-heeled boot that extends southeastward into the Mediterranean Sea. The country also fans out in all directions onto the European continent, toward the neighboring countries of France, Switzerland, Austria, and Slovenia. The major islands of Sicily and Sardinia, as well as many smaller islands and archipelagos, also form part of Italy's territory. Italy has twenty administrative divisions. The tiny independent republic of San Marino is a self-contained enclave about two-thirds of the way up the eastern coast of Italy. Vatican City in Rome is another independent entity within Italian territory. Italy covers an area of 301,230 square kilometers (116,305 square miles), or slightly more than the state of Arizona.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Italy has no territories or dependencies.

## 3 🌐 CLIMATE

Italy has considerable climatic variation, from subtropical conditions in Sicily to year-round snowcaps in parts of the Alpine region. The northern part of the country has a continental climate, with cold winters and warm summers. Farther south, the climate becomes Mediterranean, with cool winters; hot, dry summers; and less variation between seasons. Average January temperatures range from 2°C (35°F) in Milan (northern Po basin), to 7°C (45°F) in Rome (central part of the peninsula), to 11°C (52°F) in the Sicilian city of Taormina. Average July readings for the same cities are Milan, 24°C (75°F), Rome, 25°C (77°F), and Taormina, 26°C (79°F). Rainfall is lower in the south and higher in the north. Average annual rainfall ranges from about 50 centimeters (20

# ITALY



inches) in Sicily, Sardinia, and the southeast coast of the Italian peninsula to 200 centimeters (80 inches) in the Alpine regions. Rainfall is highest in the upper regions of the Alps and Apennines.

## 4 TOPOGRAPHIC REGIONS

Although Italy has many different subregions, it can be divided into the following four major regions: the territory north of the peninsula; the peninsula as far south as Campania and



Apulia; the southernmost part of the peninsula (commonly called the Mezzogiorno); and the islands. Traditionally, a broader distinction has been made between the more industrialized and “European” north region of Italy and the more rural, “Mediterranean” south.

## 5 OCEANS AND SEAS

Four seas surround the Italian peninsula: the Adriatic, Ionian, Ligurian, and Tyrrhenian Seas. There is almost no spot in Italy that lies farther than 120 kilometers (75 miles) from a coastline. At its deepest point, the Ionian Sea reaches a depth of 4.4 kilometers (2.75 miles), the greatest depth recorded in Mediterranean waters.

### Seacoast and Undersea Features

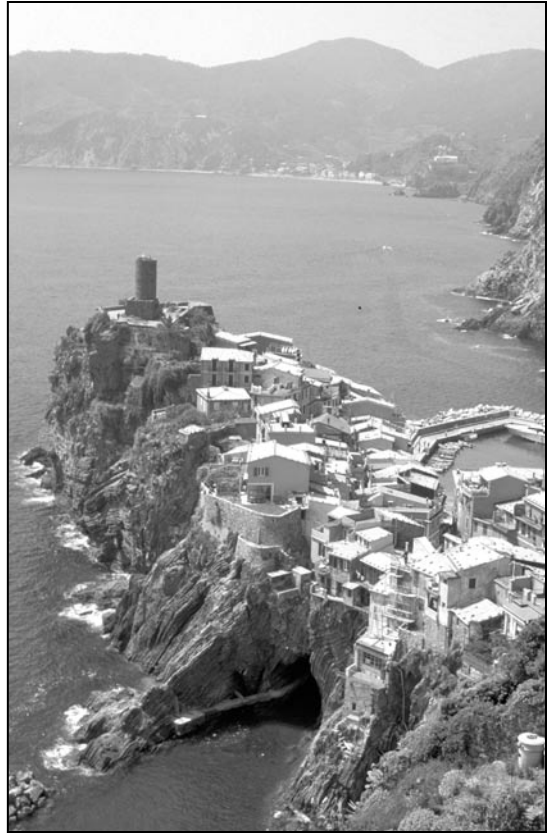
There are 7,600 km (4,720 miles) of coastline in Italy.

### Sea Inlets and Straits

At the northern end of the Adriatic Sea is the Gulf of Venice; to the south the Strait of Otranto connects it with the Ionian Sea. The large Gulf of Taranto in the Ionian Sea is located between the “toe” and “heel” of the Italian “boot.” The narrow, funnel-shaped Strait of Messina connects the Ionian and Tyrrhenian Seas, separating Sicily from the Calabria region, at the tip of the Italian peninsula. The Malta Channel separates Sicily from Malta, and the Sicilian Channel lies between Sicily and the Tunisian coast.

### Islands and Archipelagos

With an area of 25,708 square kilometers (9,926 square miles), Sicily, located just west of the “toe” of the Italian “boot,” is both Italy’s largest island and the largest island in the Mediterranean. The second-largest island, Sardinia, located northwest of Sicily, is close to Sicily in size, with an area of 24,090 square kilometers (9,300 square miles).



EPD/Saxifraga/Jan van der Straaten

*The coastal town of Vernazza, Italy, faces the Ligurian Sea.*

Among Italy’s smaller islands are those of the Tuscan Archipelago, whose largest island is Elba, where Napoleon Bonaparte was exiled in 1814 and 1815. Other islands in the Tyrrhenian Sea include the Ponza group and the islands of Ischia and Capri off the coast of Naples. The volcanic Lipari Islands at the southern edge of the Tyrrhenian Sea are the site of Stromboli, one of Italy’s three active volcanoes.

### Coastal Features

The shoreline in Liguria includes both rocky areas and level stretches of gravel. Farther south, between Tuscany and Campagnia, promontories separate expanses covered by sandy beach

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# ITALY

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and dunes. The coast of Calabria, the “toe” of the Italian boot, is mostly elevated. The Salentine Peninsula, which forms the boot’s “heel,” is part of the lowland Apulia region. Most of the Adriatic coast is flat, with a complex system of lagoons shaping the shoreline in the area around the Po delta and the Gulf of Venice. The Venetian lagoon is Italy’s largest, covering 55,039 hectares (136,000 acres).

## 6 INLAND LAKES

Italy has some 1,500 lakes— it has more lakes than rivers. Most are found in the Alpine foothills at the edge of the Po Valley. The largest are the Garda, Maggiore, Como, Iseo, and Lugano. In the peninsula, volcanic lakes fill the craters of extinct volcanoes. The best-known of these is Lake Bolsena, which has two islands. Other volcanic lakes include Bracciano, Vico, Albano, and Nemi. The third type of lake found in Italy is the coastal lake. This category includes Lakes Orbetello, Massaciuccoli, Fondi, Lesina, Varano, and Salpi.

## 7 RIVERS AND WATERFALLS

Since most of Italy’s many rivers flow across the narrow Italian peninsula and into the sea, most of them are short. The longest rivers are in the northern part of the country. The

longest and most important is the Po River, which also has the largest basin. It traverses the northern regions nearly all the way from the French border to the Gulf of Venice. Most of its tributaries flow from the Alpine lakes of the north. Italy’s second-longest river, also in the north, is the Adige, which rises in the Alps and flows south to empty into the Gulf of Venice. In the peninsula, a number of rivers cross the Marche, Abruzzi, and Molise regions, including the Reno, the most important river flowing into the Adriatic. On the western side of the peninsula, the Arno and its tributaries flow through Tuscany; the Tiber is among the rivers that flow through Latium and Campania. The principal river draining the southern end of the peninsula is the Bradano.

## 8 DESERTS

There are no notable deserts in Italy.

## 9 FLAT AND ROLLING TERRAIN

Plains account for around 20 percent of Italy’s terrain. The most extensive plains region is the Po Basin, which covers over 44,030 square kilometers (17,000 square miles) and has an average elevation of less than 101 meters (330 feet). At the opposite end of northern Italy, on the Ligurian coast, is the narrow coastal plain of the Gulf of Genoa.

Venice is Italy’s largest wetland area. The Italian peninsula includes the Tuscan plains and the Maremma marshlands farther to the south; the Roman countryside, or Campagna, on both banks of the Tiber, and its coastal extension in the form of the reclaimed Pontine Marshes; the fertile plains of the Campagna region; and the lowlands of Apulia.

Italy is a hilly country—hills cover roughly as much of its terrain as mountains do (about 40 percent in each case). The majority of Italy’s hills are in the peninsula, in uplands that flank the Apennines on both sides. To the west, this

### DID YOU KNOW?

The currents that blow across the Strait of Messina, between the Ionian and Tyrrhenean Seas, were personified as the monsters Scylla and Charybdis in Homer’s *Odyssey*. Scylla was located on the Calabrian coast and Charybdis was situated on the coast of Sicily.

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# ITALY

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EPD/Saxifraga/Jan van der Straaten

*In Italy, the Apennines are more rounded than the Alps.*

terrain, called the Anti-Apennines, or sub-Apennines, forms a broad band across Tuscany. In the east, hills are found in the regions of Emilia-Romagna and Marche. The mountain chains that continue the Apennine system on the island of Sicily also descend to hills in the eastern part of the island.

## **10** **MOUNTAINS AND VOLCANOES**

The two principal mountain ranges are the Alps and the Apennines. The Alps, a series of roughly parallel mountain chains and massifs, are commonly divided into three ranges. The Western Alps begin a short distance west of Genoa (Genova) and sweep in a great arc to Lake Maggiore. This range includes over fifty peaks with elevations over 3,048 meters (10,000 feet): two examples are, Mont Blanc (Monte Blanco), the highest peak in both Italy and France; and Gran Paradiso (13,323 feet/4,061 meters), the highest peak entirely

within Italy. The Central Alps, extending from Lake Maggiore to the Adige River, also possess more than fifty peaks over 3,048 meters (10,000 feet); in contrast to the Western Alps, however, there are valleys between the mountain ranges. The Central Alps also cover a larger area than the Western Alps and have large glaciers. The Eastern Alps cover the area from the Adige River to the Tarvis Pass on the Serbia and Montenegro border. Also called the Venetian Alps, they are subdivided into the Dolomites, the Carnic Alps, and the Julian Alps. The Dolomites have eighteen peaks over 3,048 meters (10,000 feet) high.

The Apennine system is formed not by consecutive chains, like the Alps, but by staggered sections joined by passes. They are more rounded and less elevated than the Alps. The highest summit, at Monte Corno in the Gran Sasso range, is only 2,895 meters (9,500 feet).

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# ITALY

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From Liguria to Palermo, the chain forms an arc that resembles a giant, narrow, inverted letter C.

There are three active volcanoes in Italy: Mount Stromboli in the Aeolian Islands, Mount Vesuvius near Naples, and Mount Etna on the island of Sicily. Mount Etna erupted during October and November 2002. Italy also has experienced devastating earthquakes, the most recent occurring in 1997.

## 11 CANYONS AND CAVES

There are a few small caves of interest to explorers in Italy.

## 12 PLATEAUS AND MONOLITHS

Italy does not have major plateau areas. In places where tablelands are found, such as in the sub-Appennines that border the Apennine chain, they are broken up by hills and mountains.

## 13 MAN-MADE FEATURES

A network of canals crossed by bridges crisscrosses the city of Venice, which is surrounded by a shallow lagoon in the Adriatic Sea.

## 14 FURTHER READING

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# Jamaica

- **Official name:** Jamaica
- **Area:** 10,990 square kilometers (6,829 square miles)
- **Highest point on mainland:** Blue Mountain Peak (2,256 meters/7,402 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 7 A.M. = noon GMT
- **Longest distances:** 82 kilometers (51 miles) from east to west; 235 kilometers (146 miles) from north to south
- **Land boundaries:** None
- **Coastline:** 1,022 kilometers (635 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Jamaica is an island nation situated within the Greater Antilles in the Caribbean Sea. A member of the British Commonwealth, it is located 145 kilometers (90 miles) south of Cuba and 161 kilometers (100 miles) west of Haiti. With an area of 10,990 square kilometers (6,829 square miles), it is the third-largest island in the Caribbean, and it is slightly smaller than the state of Connecticut.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Jamaica's offshore territories are the Morant Cays, about 60 kilometers (40 miles) southeast of Morant Point, and the more extensive Pedro Cays, about 96 kilometers (60 miles) south of the southwestern coast.

## 3 🌐 CLIMATE

Jamaica has a tropical climate moderated by northeast trade winds. There is little seasonal variation. The average annual temperature varies from 27°C (81°F) on the coast to 13°C (55°F) in the Blue Mountains. Rainfall ranges from as little as 75 centimeters (30 inches) in some places on the south coast, to 330 centimeters (130

inches) in Port Antonio in the northeast, to 500 centimeters (200 inches) or more in the Blue Mountains.

## 4 🌐 TOPOGRAPHIC REGIONS

Coastal plains and valleys fringe an interior plateau that covers most of the island, extending from east to west along its length. The uneven surface of the plateau is broken by twisting valleys, limestone hills, broad basins, and two mountain ranges.

## 5 🌐 OCEANS AND SEAS

The Caribbean Sea plunges to great depths not far from the Jamaican shoreline. The Bartlett Trough, which lies between Jamaica and Cuba, reaches a depth of 7,010 meters (23,000 feet).

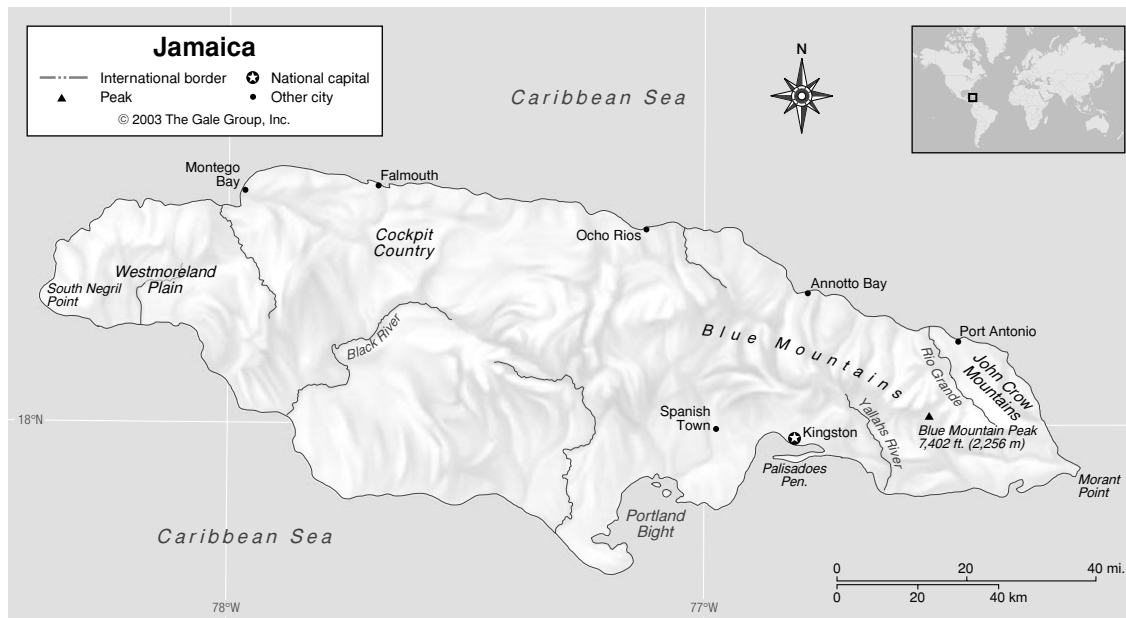
## Seacoast and Undersea Features

There are extensive coral reefs near the southeast coast.

## Sea Inlets and Straits

The Jamaica Channel separates Jamaica from Haiti to the east. The Portland Bight, or bay, is located on the south coast.

# JAMAICA



## Islands and Archipelagos

There are cays (small coral and sand islands) in the Portland Bight, and a few scattered coral formations elsewhere as well.

## Coastal Features

The shoreline is indented by numerous harbors, of which the harbor at Kingston is the largest. On its southern flank, the Palisadoes Peninsula, an eight-mile-long sand spit, connects several coral islands. The northern coastal plain is known for its white-sand beaches.

## DID YOU KNOW?

Jamaica has several radioactive hot springs. One—the Milk River Bath—is said to have the highest level of radioactivity in the world.

## 6 🌐 INLAND LAKES

Jamaica has no inland lakes.

## 7 🌐 RIVERS AND WATERFALLS

Jamaica's major rivers include the Yallahs in the southeast, the Rio Grande in the south-central part of the island, and, in the west, the Black River—Jamaica's longest river and the only one that is navigable for a significant distance (40 kilometers/25 miles). Jamaica's numerous inland springs have led some to call it the Isle of Springs.

## 8 🌐 DESERTS

There are no deserts on Jamaica.

## 9 🌐 FLAT AND ROLLING TERRAIN

The narrow northern coastal plain extends almost continuously from east to west. The southern coastal plain is discontinuous but much more extensive. The city of Kingston lies on the broad Liguanea Plain in the southeast.

# JAMAICA

The Westmoreland Plain occupies much of the western extremity of the island.

There are partially drained swamps along the lower course of the Black River and in the vicinity of Morant Point and South Negril Point.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Blue Mountains extend over the eastern part of the island. Jamaica's main mountain system contains two ranges. The northerly one includes Blue Mountain Peak, which rises to 2,256 meters (7,402 feet), the country's highest elevation. The second range, known as the Port Royal Mountains, extends south-eastward from the principal range, reaching elevations of up to about 1,219 meters (4,000 feet). The John Crow Mountains rise in the extreme northeast of the island, between the Rio Grande and the sea. Vestiges of volcanic activity occur in Jamaica in the form of lava cones and hot springs.

## 11 🌐 CANYONS AND CAVES

The karst landscape of the central plateau has sinkholes, underground caverns and streams, steep hills, and caves. It is most distinctive in the Cockpit Country, an area of about 518 square kilometers (200 square miles) located largely in the western parish of Trelawney.

## 12 🌐 PLATEAUS AND MONOLITHS

Elevations on Jamaica's central plateau range from near sea level to about 914 meters (3,000 feet). Along much of the coastline, especially in the north, the plateau extends almost to the tidewater, and in places it rises in steep coastal cliffs that reach as high as 609 meters (2,000 feet). Much of the plateau is composed of the irregular limestone terrain known as karst.

## 13 🌐 MAN-MADE FEATURES

There are no significant man-made features affecting the geography of Jamaica.



EPD/Danielle Hayes

*The Blue Mountains extend over the eastern part of the island of Jamaica.*

## 14 🌐 FURTHER READING

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### Web Sites

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*Statistical Institute of Jamaica*. <http://www.statinja.com/> (accessed April 24, 2003).

# Japan

- **Official name:** Japan
- **Area:** 377,835 square kilometers (145,883 square miles)
- **Highest point on mainland:** Mount Fuji (Fujiyama) (3,776 meters/12,388 feet)
- **Lowest point on land:** Hachiro-gata (4 meters/13.1 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 9 P.M. = noon GMT
- **Longest distances:** 3,008 kilometers (1,869 miles) from northeast to southwest; 1,645 kilometers (1,022 miles) from southeast to northwest
- **Land boundaries:** None
- **Coastline:** 29,751 kilometers (18,486 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The country of Japan is a crescent-shaped island chain in eastern Asia, bordered by the Pacific Ocean to the east and the Sea of Japan to the west. With a total area of about 377,835 square kilometers (145,883 square miles), the country is slightly smaller than the state of California, and consists of forty-seven prefectures.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Japan has no territories or dependencies.

## 3 🌐 CLIMATE

Most of Japan is in the temperate zone, with the exception of the subtropical southern island chains. There are four distinct seasons: winter (December through February), spring (March through May), summer (June through August), and autumn (September through November.) The average annual temperature is 15°C (59°F) with a winter range of -9°C to 16° C (15°F to 61°F) and a summer range of 20°C to 28°C (68°F to 82°F). Humidity is high, ranging from 50 percent to 75 percent.

The peak rainy season is from May to October, with some regional variations. Yearly rainfall averages 100 to 250 centimeters (39 to 98 inches). Southern Shikoku Island is particularly vulnerable to typhoons, which are violent cyclonic storms from the Pacific. In regions bordering the Sea of Japan, the winter monsoon, laden with snow, can be destructive. Snowfall is generally heavy along the western coast, where it covers the ground for almost four months.

Floods are common, especially in the Pacific coastal areas. Because this land is sinking, large embankments and dikes have been erected against rivers that flow at a level well above the surrounding plains. During periods of heavy rains, waters bearing great quantities of alluvium can break through the embankments, inundating adjacent fields and covering them with a thick carpet of gravel and sand. Sometimes typhoons, bringing fresh torrents of water to the rivers, convert whole plains into vast lakes and sweep away roads and railroads.



# JAPAN



## 4 🌐 TOPOGRAPHIC REGIONS

Japan has four principal islands. From north to south, they are Hokkaido, Honshu, Shikoku, and Kyūshū. The four major islands are separated only by narrow straits and form a natural geographic entity. The nation also has more than three thousand smaller islands, including

the Ryukyu archipelago, which extends far to the southwest of the main islands.

The terrain on all of the major islands is primarily mountainous. The lowland areas that exist are mainly along the shore and are densely populated. The mountains remain

largely covered by forest. Japan lies along the boundary between the Eurasian, North American, and Pacific Tectonic Plates. As a result, earthquakes are common throughout the islands, as are volcanoes.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The islands of Japan are so narrow that no point in the country lies more than 150 kilometers (93 miles) from sea waters. To the west, the Sea of Japan separates Japan from the Asian mainland. To the north lies the Sea of Okhotsk, and the East China Sea is to the south. All of these seas are extensions of the Pacific Ocean, which lies to the east of Japan. Another extension of the Pacific, the Philippine Sea, lies to the far southeast, along the coast of the Ryukyu archipelago. Warm and cold ocean currents blend in the waters surrounding Japan.

Undersea earthquakes often expose the Japanese coastline to dangerous tidal waves, known as *tsunamis*. Japan's coral reefs have been severely damaged by sedimentation from construction and agricultural activity, and by over-fishing. Environmentalists continue to try to protect the remaining intact reefs around southern islands such as Okinawa, where land development poses a threat.

### Sea Inlets and Straits

The islands of Honshu, Shikoku, and Kyūshū enclose Japan's narrow Inland Sea. The Korean Strait, approximately 200 kilometers (124 miles) across, separates southwest Japan from South Korea and links the East China Sea to the Sea of Japan. The Sōya Strait (La Perouse Strait) runs between northern Japan and Russia's Sakhalin Island; this strait links the Sea of Japan to the Sea of Okhotsk. Tsugaru Strait separates Hokkaido and Honshu Islands, linking the Sea of Japan to the Pacific Ocean.

### Islands and Archipelagos

The northern island of Hokkaido (78,719 square kilometers/30,394 square miles) was long looked upon as a remote frontier area because of its forests and rugged climate. Hokkaido is divided along a line extending from Cape Sōya to Cape Erimo. The eastern half includes the Daisetsu Mountains, at the foot of which lie the plains of Tokachi and Konsen. The western half is milder and less mountainous.

Honshu, Japan's largest island (225,800 square kilometers/87,182 square miles), curves south to southwest between Hokkaido and Kyūshū. Tohoku, the northern region of Honshu, has flat, well-drained alluvial plains. In the center of Honshu is the Kanto region, which includes the Tokyo-Yokohama metropolis.

The Chubu region, lying west of Kanto, has three distinct districts: Hokuriku, a "snow country" coastal strip on the Sea of Japan with stormy winters; Tosan, the central highlands, including the Japanese Alps; and Tokai, a narrow corridor lying along the Pacific coast.

The Kinki region of Honshu lies to the southwest and consists of a narrow area stretching from the Sea of Japan on the north to the Pacific Ocean on the south. It includes Japan's second-largest commercial-industrial complex, centered on Osaka and Kobe, and the two former imperial cities of Nara and Kyoto.

The Chugoku region occupies the western end of Honshu and is divided into two distinct districts by mountains running through it. The northern, somewhat narrower, part is called "San'in" (shady side), and the southern part, "San'yō" (sunny side.)

The Inland Sea separates western Honshu from Shikoku Island (18,545 square kilometers/7,160 square miles). Mountains divide the island into a northern sub-region

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# JAPAN

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EPD/Saxifraga

*Landscape of Japan's Honshu island.*

on the Inland Sea and a southern part on the Pacific Ocean. Most of the population lives in the northern zone. The southern part is mostly mountainous and sparsely populated.

Kyūshū (37,437 square kilometers/14,454 square miles), the southernmost of the main islands, is divided by the Kyūshū Mountains, which run diagonally across the middle of the island. The northern part is one of Japan's most industrialized regions.

There are thousands of other small islands in Japan's possession. Some of the largest located near the main islands are Tsushima, Sado, Rishiri, and Awaji Islands, as well as the Gotō, Oki, and Amakusa Islands.

Japan also has many islands located further out in the Pacific Ocean. These include the Nanpo Chain, the Bonin (Ogasawara) Islands,

Iwo Jima, and the Volcano Islands; the latter are located some 1,100 kilometers (683 miles) south of central Honshu.

The Ryukyu Archipelago includes over two hundred islands and islets, of which fewer than half are populated. They extend in a chain from southeast of Kyūshū to within 193 kilometers (120 miles) of Taiwan. Okinawa (1,256 square kilometers/485 square miles) is the largest and most populated of the Ryukyu Islands.

Japan is engaged in a territorial dispute with Russia concerning several small islands north of Hokkaido: Etorofu, Kunashir and the Shikotan and Habomai Island groups.

## **Coastal Features**

Japan's coastline has been highly modified by projects such as land reclamation, port construction, and sea wall erection. At the head of

most of the bays where Japan's major cities are located the land is subsiding (sinking), causing buildings to sink up to 4.5 centimeters (1.5 inches) annually. Since 1935, the port area of Osaka has subsided as much as 3 meters (10 feet). Global warming, which is a general increase in the average temperature worldwide, also threatens the beaches of Japan. An estimated 90 percent of Japan's coast would disappear with a 1-meter (3.4-foot) rise in the sea level.

The coastline of Hokkaido Island has a rough diamond shape, with the capes of Sōya in the north, Shiretoko-Masakai in the east, Erimo in the south, and Kamui in the west forming its corners. Oshima, a southwestern peninsula of Hokkaido, curves around Uchira Bay and ends in the promontories of Shiragami and Esan.

Honshu has large indentations along its Pacific coast, such as the Bōsō, Izu, and Kii peninsulas, and the bays of Ishinomaki, Tokyo and Ise (Nagoya). On the Pacific side, flat shores are found at the head of the principal bays where the major cities are situated. North of Tokyo Bay is a type of landscape called *suigo* ("land of water"), where the plain is exactly at sea level, protected by levees and locks and by a system of pumps. In contrast to the Pacific coast, Honshu's Sea of Japan shoreline is less indented, with the central Noto Peninsula and Wakasa Bay serving as exceptions to long curves of flat shoreline.

Shikoku Island has a violin shape, with the Inland Sea on the north and Tosa Bay curving into the south. The southern and western coasts of Kyūshū Island, including Kagoshima Bay, are deeply fragmented and fractured.

## **6** 🌐 **INLAND LAKES**

The landscape of Japan contains numerous and varied lakes. The largest is Lake Biwa, 673

square kilometers (260 square miles) in area, which fills a fault basin on Honshu. Lake Biwa is affected by pollution as well as the demand for fresh water from the cities of Osaka and Kyoto. The second-largest lake is Kasumiga (168 square kilometers/65 square miles) near Tokyo. These are followed by Saroma (150 square kilometers/58 square miles) on Hokkaido, Inawashiro (103 square kilometers/40 square miles) in Bandai-Asahi National Park of northern Honshu, and Nakaumi (89 square kilometers/56 square miles)

Eleven areas in Japan have been designated as Wetlands of International Importance under the Ramsar International Convention on Wetlands. Those on Honshu include Lake Biwa and its surrounding marshes; Izu-numa and Uchi-numa lakes and peat swamps; Katanokamoike pond/marsh, a major bird habitat; and Yatsu-higata, a mudflat shorebird habitat near Tokyo. The Hokkaido sites are Akkeshiko and Bekambeushi-shitsugen, a lake and saltmarsh complex; Kiritappu-shitsugen, a peat bog; Kushiro-shitsugen, a wildlife habitat containing reedbeds; Kutcharo-ko, a reed swamp; and Utonai-ko, a lake with surrounding swamps. There are also wetland sites on Okinawa and Niigata Islands. Japan's wetlands are threatened by pollution, reclamation of land for development, and extraction of water.

## **7** 🌐 **RIVERS AND WATERFALLS**

Although the country is exceptionally well watered, the absence of large plains has prevented the formation of a major river system. The longest river, the Shinano, is only 367 kilometers (228 miles) long and the second longest is the Tone, 322 kilometers (200 miles). Both are in central Honshu. The third longest is Hokkaido's Ishikari River (268 kilometers/166 miles). Japan's rivers tend to flow swiftly and thus most are unsuitable for navigation. The mountainous terrain and the absence of glaciers make the river flow highly irregular.



EPD/Saxifraga

*This horseshoe-shaped crater lake in Japan was formed when Mount Bandai erupted in 1888. Tourists visit the region for water sports and fishing in summer and for skiing and snowboarding in winter.*

Early summer rains account for a large part of the annual precipitation and can turn slow streams into raging torrents. In winter, the riverbeds are transformed into wide stretches of gravel furrowed by thin trickles of water. Rivers are used mostly for hydroelectric production and for irrigation. Extensive dams have been built for flood control, hydropower, and irrigation diversion, disrupting natural river ecosystems.

## **8** 🌐 **DESERTS**

There are no desert regions on Japan.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Japan has few regions of level, open, land. Most of those that exist are areas in which masses of river-borne soil have accumulated. Accordingly, most of the plains are located along the coasts. The largest is Kanto, where

Tokyo is located. Others include the Nobi plain that surrounds Nagoya, the Kinki plain in the Osaka-Kyoto area, the Sendai plain in northeastern Honshu, and the Ishikarai and Tokachi Plains on Hokkaido. Japan's plains are almost completely urbanized, so that little of the natural ground cover remains.

About 67 percent of Japan's land is forested. This percentage includes plantations of cedar and cypress species that replaced natural forests during the twentieth century, as well as secondary forest and stands of old-growth trees. Most of Japan's forest consists of temperate tree species, including conifer, deciduous, and alpine types. There are also subtropical forests on the Ryukyu Islands. Nearly all of Japan's remaining forests are situated in mountainous areas. Many are under official protection as national parks and Forest Eco-

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# JAPAN

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EPD/Saxifraga

*Mount Fuji, the highest point in Japan.*

system Reserves. Continuing threats to the forests include construction of dams, roads, and recreational areas.

Foothills border the coastal plains of Japan. Away from the coasts, ascending terraces mark the foothills, which provide a transition from these plains to the mountain ranges. On the approaches to the mountains, the slopes become steeper and are laced by numerous watercourses, isolating groups of hills. The Hakone hills, in central Honshu, are typical of this type of terrain.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Japanese islands are essentially the summits of submerged mountain ridges that have been uplifted near the outer edge of the Asian continental shelf. Consequently, mountains take up some 75 percent of the land. A long spine of mountain ranges runs roughly north

to south down the middle of the archipelago, dividing it into two halves.

Although the mountains are steep, most of them are not very high. Central Honshu Island, however, has a convergence of three mountain chains, the Akaishi, Kiso, and Hida, forming the Japanese Alps, which include many peaks that exceed 3,048 meters (10,000 feet). Other ranges include the Ōu, Chūgoku, Daisetsu, and the Kitami Mountains. Snow lingers late into spring on the Japanese Alps, but there are no true glaciers in Japan.

The highest point in the country is the renowned Mount Fuji (Fujiyama), a symmetrical dormant volcano that rises to 3,776 meters (12,388 feet) in central Honshu, outside of the Japanese Alps. The second-highest peak is Kitadake (3,192 meters/10,472 feet) and the third-highest is Hotakadake (3,190 meters/10,466 feet). Both are in central Honshu.

## DID YOU KNOW?

**M**ount Bandai (1,819 meters/6,003 feet) is a volcano that lies 240 kilometers (150 miles) northeast of Tokyo in one of the most popular tourist areas in Japan. Mount Bandai forms part of the Bandai-Asahi National Park.

Ten percent of the world's volcanoes are found in Japan. Of Japan's 265 known volcanoes, 20 have been active since the beginning of the twentieth century. They are particularly numerous in Hokkaido, the Fossa Magna region of central Honshu, and Kyūshū. The mountainous areas of Japan contain wide craters and cones of every form, ranging from the ash cone of Mount Fuji on Honshu to the volcanic dome of Daisetsu on Hokkaido. Recent eruptions have included Mount Unzen, on Kyūshū Island, during 1991-93; Mount Usu on Hokkaido in March 2000; and Mount Oyama on Miyako Island, south of Tokyo, during September and October 2000.

Landslides that shake loose entire mountainsides are generally composed of clay and may reach depths of 6 to 23 meters (20 to 75 feet), widths of several hundred feet, and lengths up to 4 kilometers (2.5 miles). Such landslides are especially frequent on the Sea of Japan side of Honshu.

### 11 🌐 CANYONS AND CAVES

Japan's rivers have cut deep gorges through the mountain ranges. Suwa, Minakami, and Momiji Canyons on the Tone River in the Japanese Alps are known for their whitewater rapids. Kurobe Gorge, in central Honshu, is Japan's deepest, plunging 1,500 to 2,000 meters (4,921 to 6,562 feet). It has a dam at its south end.

Dakigaeri Gorge is a national park in northern Honshu. The Oobako and Kobako Canyons on Hokkaido feature rocky terrain and waterfalls, as does Soun-kyo Gorge. Noteworthy river gorges on the other islands include Oboke Gorge on Shikoku Island, and Takachiho and Yabakei Gorges on Kyūshū Island.

### 12 🌐 PLATEAUS AND MONOLITHS

Volcanic activity has shaped many of Japan's plateaus, while others consist of ancient limestone. The Shiga Highlands, in Jo-Shin-Etsu National Park, central Honshu, is a lava plateau 1,400 to 1,700 meters (4593 to 5,577 feet) in height. The Hachimantai Plateau, volcanic in origin, in northern Honshu, is 1,400 to 1,600 meters (4,593 to 5,249 feet) above sea level. The Akiyoshi-dai Plateau of western Honshu is a limestone platform that is riddled with 420 caves. The Atetsu Plateau, in the same region, is also limestone-based. Northern Honshū's Bandai Plateau contains lakes and marshes. Other plateaus on Honshu include Nihon Daira near Mount Fuji; Midagahara in the Japanese Alps; and the Musashino Plateau, near Tokyo.

The Ebino Plateau, 1,200 meters (3,937 feet) above sea level, stands within Japan's first national park, Kirishima Yaku, on Kyūshū island. The Takachihokyo Plateau, near Kyūshū's Mount Aso, is lava-based with a river-eroded valley and rock formations.

### 13 🌐 MAN-MADE FEATURES

Tsujunkyo Bridge is Japan's largest stone-arch aqueduct bridge. Located in the Shiroito Plateau of Kyūshū, the bridge has a width of about 6 meters (20 feet) and a length of about 76 meters (249 feet). The bridge has been used since 1854 to bring water into Yabe town from the Shiroito Plateau over the deep ravine formed by the Todoroki River. The aqueduct is a vital source of drinking water and of irrigation waters for rice farms.

The Seikan Submarine Tunnel, completed in March 1988, is the longest tunnel in the world. The tunnel runs beneath the Tsugaru Strait, connecting Hokkaido and Honshu Islands. It is a part of the railway that runs between Aomori City on Honshu and Hakodate City on Hokkaido. The length of the tunnel is 53.85 kilometers (33.5 miles), with 23.3 kilometers (14.5 miles) of it underwater. The railway track also runs 240 meters (787 feet) below the sea surface, making it the deepest rail track in the world.

The Tokyo Bay Aqualine Expressway, completed in 1997, includes the fourth-longest vehicular tunnel in the world. The 15-kilometer (9.3-mile) expressway spans the Tokyo Bay, connecting the cities of Kisarazu and Kawasaki. The expressway includes a 4.4-kilometer (2.7-mile) bridge from Kisarazu and a 9.5-kilometer (5.9-mile) undersea tunnel from the Kawasaki side, which is world's longest undersea tunnel, running 60 meters (197 feet) deep under the surface of the water. The bridge and tunnel areas meet at the artificial island of Umi-hotaru, lying in Tokyo Bay.

The Akashi Kaikyo Bridge that links the city of Kobe with Awaji-shima Island is currently the world's longest suspension bridge. Two main towers suspend two thick cables to create the 1,991-meter- (6,529-feet-) long bridge. Italy expects to complete construction of a larger suspension bridge in 2005.

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## DID YOU KNOW?

Japan is very prone to earthquakes, with more than fifteen hundred of them recorded annually. Most of these are minor tremors, but the occasional major earthquake can result in thousands of deaths. The Great Kanto Earthquake of 1923 was one of the most destructive of all time, causing powerful tremors and resulting in fires that destroyed most of Tokyo and Yokohama, with a loss of more than one hundred thousand lives. More recently, the Kobe earthquake on January 17, 1995, which measured 7.2 on the Richter scale, killed more than five thousand people and destroyed over one hundred thousand buildings. Japan has become a world leader in researching the causes and prediction of earthquakes, as well as in the construction of earthquake-proof buildings.

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# Jordan

- **Official name:** Hashemite Kingdom of Jordan
- **Area:** 92,300 square kilometers (57,355 square miles)
- **Highest point on mainland:** Jabal Ramm (1,734 meters/5,689 feet)
- **Lowest point on land:** Dead Sea (408 meters/1,339 feet below sea level)
- **Time zone:** 2 P.M. = noon GMT; has Daylight Savings Time
- **Hemispheres:** Northern and Eastern
- **Longest distances:** 562 kilometers (349 miles) from northeast to southwest; 349 kilometers (217 miles) from northwest to southeast
- **Land boundaries:** 1,619 kilometers (1,006 miles) total boundary length; Iraq 181 kilometers (112 miles); Israel 238 kilometers (148 miles); Saudi Arabia 728 kilometers (452 miles); Syria 375 kilometers (233 miles); West Bank 97 kilometers (60 miles)
- **Coastline:** 26 kilometers (16 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Jordan is a Middle Eastern country located to the northwest of the Arabian Peninsula. It is landlocked except for its southernmost edge, where some 26 kilometers (16 miles) of shoreline along the Gulf of Aqaba provide access to the Red Sea. The West Bank, territory west of the Jordan River that Jordan had annexed after the 1948–49 war with Israel, has been occupied by Israel since the 1967 war between these countries. Jordan surrendered its claim to the region in 1988.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Jordan has no territories or dependencies.

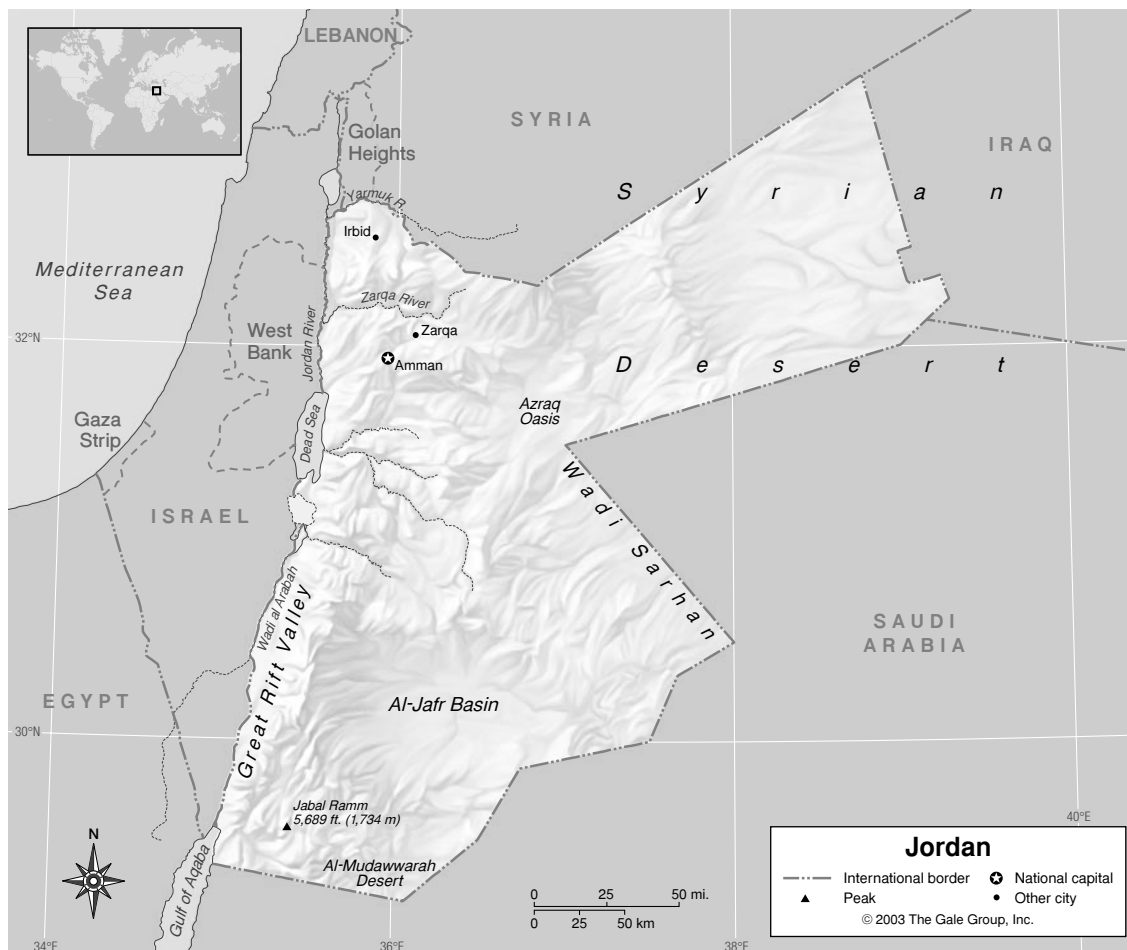
## 3 🌐 CLIMATE

Jordan has a Mediterranean climate, with cool winters and hot, dry summers. Average temperatures in Amman are 4°C to 12°C (39°F to 54°F) in January and 18°C

to 32°C (64°F to 90°F) in August. The *khamsin*, a hot, dry desert wind from the Arabian peninsula, can last for several days. In the region surrounding the Dead Sea, summer highs of around 38°C (100°F) are common, and the highest temperature ever recorded here was 51°C (124°F). Average annual rainfall ranges from less than 10 centimeters (4 inches) in the south to around 58 centimeters (20 inches) in the northwest. Most rain falls between November and April.

SEASON	MONTHS	AVERAGE TEMPERATURE: °CELSIUS (°FAHRENHEIT)
Summer	May to September	18°C to 32°C (64°F to 90°F)
Winter	November to February	4°C to 12°C (39°F to 54°F)

# JORDAN



## 4 🌐 TOPOGRAPHIC REGIONS

The eastern four-fifths of Jordan is part of the Syrian Desert, which also extends over parts of Syria, Iraq, and Saudi Arabia. Jordan's western border is formed by a structural depression occupied by the Jordan River Valley, the Dead Sea, and, farther to the south, the Wadi al Araba. The depression is separated from the desert along its entire length by an upland known as the Eastern Heights, or Mountain Heights, Plateau.

The Jordan River Valley forms the northern portion of the Great Rift Valley, an enormous north-south geological rift that continues

southward along the Red Sea and southward into eastern Africa as far as Mozambique.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The southwestern edge of the country has a short border on the Gulf of Aqaba.

### Sea Inlets and Straits

The Gulf of Aqaba is an inlet of the Red Sea. The Gulf separates the Sinai and Arabian Peninsulas.

## Coastal Features

The coastline at Aqaba has sandy beaches and a scenic mountain backdrop that makes it popular with tourists.

## 6 🌐 INLAND LAKES

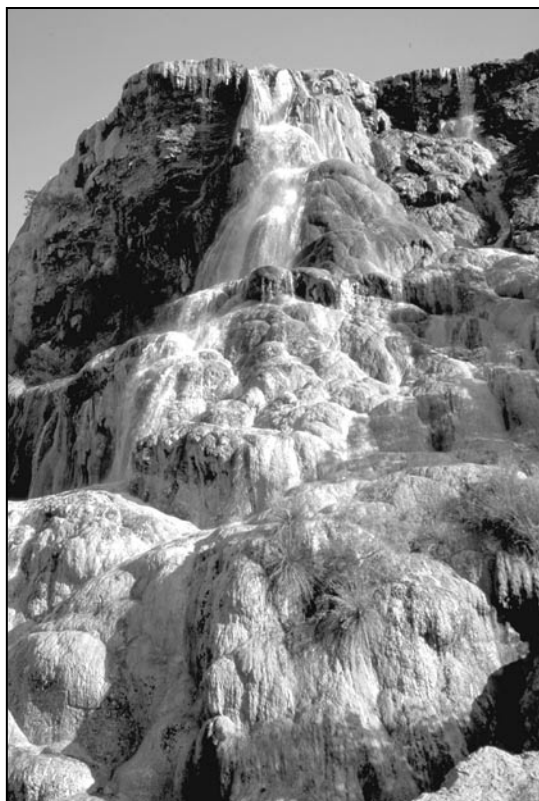
Jordan shares the Dead Sea with Israel and with the occupied West Bank territory. The world's lowest body of water (and the lowest point on Earth at 408 meters/1,339 feet below sea level), this saltwater lake (or inland sea) has a high concentration of minerals that makes it seven or eight times as salty as the ocean. The large Azraq Oasis in the northern part of the country is the most important source of water in the Jordanian desert.

## 7 🌐 RIVERS AND WATERFALLS

Jordan has three main rivers: the Jordan River and its two major tributaries, the Yarmuk and Zarqa Rivers, both of which join it in the northern part of the country. The Jordan rises near the conjunction of the Israeli, Syrian, and Lebanese borders. The Yarmuk, its principal tributary, forms parts of the Jordanian, Syrian, and Israeli borders before flowing into the Jordan. The Zarqa River rises and empties entirely within the East Bank.

## 8 🌐 DESERTS

Elevations in Jordan's desert range from 600 to 900 meters (about 2,000 to 3,000 feet). A forbidding landscape called the Black Desert, or Basalt Desert, makes up the northern and northeastern parts of the Jordanian desert, extending into Syria and Iraq. The desert of central and southern Jordan includes the Wadi Sarhan to the east and the Al Jafr Basin in the southeast. To the east, the land descends to the scattered hills, low mountains, and broad wadis of the Al Mudawwara Desert.



ARAMCO/Bill Lyons

*A natural hot spring waterfall near Amman, Jordan, is a popular destination for tourists.*

## 9 🌐 FLAT AND ROLLING TERRAIN

The plateau of the Eastern Heights includes hilly terrain.

## 10 🌐 MOUNTAINS AND VOLCANOES

The high sandstone and granite formations of the Wadi Rum, in the southwestern part of Jordan, rise to over 1,524 meters (5,000 feet) and include the country's highest point, Jabal Ramm.

## 11 🌐 CANYONS AND CAVES

The deep canyons of the Wadi Rum help make the landscape of this region one of the most dramatic in Jordan.

# JORDAN



EPD/Embassy of Jordan

*Jordan's Wadi Rum.*

## 12 🌐 PLATEAUS AND MONOLITHS

Separating the country's western rift from the desert is a chain of high limestone plateaus with average elevations of between 900 and 1,200 meters (3,000 and 4,000 feet) and summits reaching over 1,500 meters (5,000 feet) in the south.

## 13 🌐 MAN-MADE FEATURES

In October 2001, the Tannur Dam, about 150 kilometers (95 miles) south of Amman on the Wadi Hasi, began providing irrigation for farmland in the area.

### DID YOU KNOW?

The present-day city of Amman was called Philadelphia during the reign of Ptolemy II (282–246 B.C.)

## 14 🌐 FURTHER READING

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# Kazakhstan

- **Official name:** Republic of Kazakhstan
- **Area:** 2,717,300 square kilometers (1,049,149 square miles)
- **Highest point on mainland:** Khan Tangiri Shyngy (6,398 meters/20,991 feet)
- **Lowest point on land:** Karagiye Depression (132 meters/433 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 5 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** 12,012 kilometers (7,447 miles) total boundary length; China 1,533 kilometers (950 miles); Kyrgyzstan 1,051 kilometers (652 miles); Russia 6,846 kilometers (4,245 miles); Turkmenistan 379 kilometers (235 miles); Uzbekistan 2,203 kilometers (1,366 miles)
- **Coastline:** Landlocked with no ocean coasts; borders the Aral Sea (1,070 kilometers/663 miles) and the Caspian Sea (1,894 kilometers/1,174 miles)
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Kazakhstan lies in the center of western Asia, with a small part of the northwestern corner of the country in Europe. At 2,717,300 square kilometers (1,049,149 square miles), it is the world's seventh-largest country, the largest country in Central Asia, and the second largest of the former Soviet republics, surpassed only by Russia. Both the Caspian and the Aral Seas—actually inland bodies of water despite their names—are situated partially within Kazakhstan.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Kazakhstan has no territories or dependencies.

## 3 🌐 CLIMATE

The climate of Kazakhstan, which is located thousands of miles from the ocean, is extremely continental, with cold winters and hot summers. Temperatures also vary greatly by region. Average January temperatures are  $-3^{\circ}\text{C}$  ( $-2^{\circ}\text{F}$ ) in the north and  $18^{\circ}\text{C}$  ( $25^{\circ}\text{F}$ ) in the south; July temperatures aver-

age  $19^{\circ}\text{C}$  ( $66^{\circ}\text{F}$ ) in the north and range from  $28^{\circ}$  to  $30^{\circ}\text{C}$  ( $66^{\circ}$  to  $79^{\circ}\text{F}$ ) in the south. Temperature extremes can reach much higher or lower than these averages, however. In the winter they may fall below  $-45^{\circ}\text{C}$  ( $-49^{\circ}\text{F}$ ), and in summer they can reach  $45^{\circ}\text{C}$  ( $113^{\circ}\text{F}$ ). Strong, cold northern winds make winters in the steppes especially harsh.

Generally, very little precipitation falls in Kazakhstan; roughly three-quarters of the country is considered arid or semi-arid. Annual precipitation ranges from less than 10 centimeters (4 inches) in the south-central desert regions to between 25 and 35 centimeters (10 and 14 inches) on the steppes, where flash floods are common after summer thunderstorms. In the mountains, yearly precipitation (largely in the form of snow) averages 150 centimeters (60 inches). The sun shines a great deal in Kazakhstan; on average, the country experiences 260 sunny days in the south and 120 sunny days in the north.

# KAZAKHSTAN



## 4 🌐 TOPOGRAPHIC REGIONS

Topography varies greatly across this vast, landlocked country. There are three mountainous regions: the Altay Shan in the northeast, the Tian Shan in the southeast, and the southernmost of the Ural Mountains in the northwest. Between these widely separated mountain ranges are vast stretches of desert and steppe, a harsh terrain of bare rock and sand dunes. Most of Kazakhstan (about 75 percent) is desert, semi-desert, or steppe (arid grassy plains).

## 5 🌐 OCEANS AND SEAS

The Aral Sea is really a very large saltwater lake that lies across the border of southwestern Kazakhstan and northwestern Uzbekistan. Located east of the much larger Caspian Sea, the Aral is surrounded by deserts and has no outlets to other bodies of water. This inland lake, which was once the fourth-largest in the world, has been steadily shrinking over the last

several decades, as water from the rivers that feed into it is diverted for crop irrigation. Since 1988, the drop in sea level has caused the Aral Sea to divide into two distinct bodies of water.

Nearly half of Kazakhstan's western border is on the Caspian Sea. Like the Aral Sea to its east, the Caspian is landlocked; it has no outlet to other seas, lakes, or oceans. While this means that it could technically be considered a lake, it is rarely treated as such because of its salty waters and vast size. The Caspian Sea is the world's largest landlocked body of water. It covers approximately 371,000 square kilometers (143,000 square miles) and has a mean depth of about 170 meters (550 feet).

## Seacoast and Undersea Features

For unknown reasons, water levels have been rising steadily in the Caspian Sea since the late 1970s. Millions of acres of land north of the sea have been flooded.

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# KAZAKHSTAN

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EPD/Saxifraza/Wim Remmelzwaal

*Wetland region in Kazakhstan.*

## Coastal Features

Kazakhstan's shoreline on the Caspian Sea runs for 1,894 kilometers (1,174 miles). Irregular in shape, the coast juts deeply into the country at its northern end. Farther to the south are two deep indentations in the shoreline, and the Mangyshlak Peninsula juts northwest into the water.

## 6 🌐 INLAND LAKES

In southeastern Kazakhstan lies Lake Balkhash, an inland lake that is partially fresh and partially saline from the salts that leech into its waters from the land. The lake—which forms a long, narrow arc—actually consists of two parts separated by the narrow Uzun-Aral Strait. The largest lake in the country, it covers a total area of some 18,200 square kilometers (7,030 square miles) and is fed principally by

the Ili River, which enters near the lake's southern tip. Kazakhstan has three other significant lakes. Lakes Alakol' and Tengiz are both salt lakes. In the far northeast, near the border with China, lies freshwater Lake Zaysan.

## 7 🌐 RIVERS AND WATERFALLS

Although many of Kazakhstan's rivers and streams, as well as its lakes, evaporate in summer, it does have some permanent rivers of major economic and geographic significance. The Tobol and Ishim Rivers originate in north-central Kazakhstan and flow northward into Russia, where they join other rivers and eventually reach the ocean. The Irtysh River enters the country from China and flows west through Lake Zaysan, then curves northwest into Russia. The longest river to pass through Kazakhstan, and among the largest rivers in

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# KAZAKHSTAN

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Asia, the Irtysh flows for 4,441 kilometers (2,760 miles) before emptying into the Ob' River in Russia, which eventually leads to the Arctic Ocean. It is navigable for most of its length in Kazakhstan, and many cities are located nearby.

Other than these three rivers of northeastern Kazakhstan, all of the country's rivers and streams are landlocked. In southeastern Kazakhstan, the Ili River flows westerly about 1,287 kilometers (800 miles) from its headwaters in China through the city of Qapshagay and northwest into Lake Balkhash. With origins in Uzbekistan, the Syr Darya, one of the major rivers of Central Asia, flows northwest through Kazakhstan into the Aral Sea. It is 2,200 kilometers (1,370 miles) in total length. The Ural River flows from the Ural Mountains in southern Russia into northwestern Kazakhstan. It runs south through the town of Oral into the Caspian Sea.

## **8** 🌐 **DESERTS**

The largest deserts, the Kyzyl Kum and the Betpaqđala, are located in the south. Only a few scrub plants grow in these areas. The Greater Barsuki Desert lies northwest of the Aral Sea.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Kazakhstan's terrain dips down to form numerous great basins and depressions. Some are filled with water, forming the country's lakes and seas. Others are dry. The Caspian Depression is a vast lowland extending between Kazakhstan and Russia. Located in both Europe and Asia, it has some of the lowest elevations to be found on either continent. Lying north of the Caspian Sea, the depression covers roughly 200 square kilometers (75 square miles). Located entirely within Kazakhstan, the Karagiye Depression lies in the extreme southwest, east of the Caspian Sea. This is the site of Kazakh-

stan's lowest elevation, 132 meters (433 feet) below sea level.

Roughly 10 percent of Kazakhstan consists of prairie grassland areas located in the Ural River basin in the north and west of the country. An estimated 60 percent of the nation's original pastureland has been desertified by wind erosion that resulted from the Soviet introduction of large-scale wheat farming during the 1950s and 1960s.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

In the southeast of Kazakhstan, extending across the borders with Kyrgyzstan and China, are the rugged Tian Shan. These are one of Central Asia's major mountain systems. The Tian Shan cover an area of roughly 1,036,000 square kilometers (400,000 square miles), which makes them comparable in size to the North American Rocky Mountains. The chain is some 2,414 kilometers (1,500 miles) in length and 320 to 480 kilometers (200 to 300 miles) in width. There are many high peaks in the Tian Shan; in fact, Kazakhstan's tallest mountain, Khan Tangiri Shyngy (Mount Tengri; 6,398 meters/20,991 feet), can be found here. The Altay Mountains enter the country in its northeastern corner. With impressive peaks that exceed 4,572 meters (15,000 feet), most of this range lies in Russia and China.

The Urals are a large mountain chain stretching all the way across Russia from the Arctic Ocean and into northwestern Kazakhstan for approximately 2,400 kilometers (1,500 miles). These mountains, along with the Ural River, form the physical boundary between the continents of Europe and Asia. In Kazakhstan, they run in three parallel chains. The easternmost range is particularly low, with peaks reaching about 670 to 850 meters (2,200 to 2,800 feet). Moving west, the other two chains are higher, reaching up to 1,594 meters (5,230 feet).



# KAZAKHSTAN

## 11 CANYONS AND CAVES

Southeast Kazakhstan's rugged Tian Shan Mountains contain several dramatic gorges, including the gorge of the Big Almaty Lake, the Ozyomy and Prokhdnoi Gorges, and the Turgen Gorge, known for its seven waterfalls. With walls that rise from 150 to 300 meters (492 to 984 feet), the Charyn Canyon in the northern Tian Shan has been compared to the Grand Canyon in the United States. In addition to its size, Charyn Canyon is known for its unusually shaped caves and grottoes. The Aleksandrov Caves in western Kazakhstan are also a significant natural feature.

## 12 PLATEAUS AND MONOLITHS

There are many elevated but relatively flat areas in central and western Kazakhstan. South and east of the Karagiye Depression is the Ustyurt (Ust Urt) Plateau, an elevated region separating the Caspian and Aral Seas. Further east, beyond the Aral Sea, is the Turan Steppe, a vast region of plateaus and desert that extends south into Uzbekistan and Turkmenistan.

## 13 MAN-MADE FEATURES

The Irtysh-Qaraghandy Canal, located in the uplands of central Kazakhstan, was the largest water-diversion project (by volume) in the former Soviet Union. The canal supplies water for recreational, agricultural, industrial, and other uses. A dam located nearby has restricted the flow of water from the Ili River to Lake Balkhash by about a third.

Crop irrigation projects have heavily diverted the waters of the two principal rivers that feed into the Aral Sea: the Amu Darya in the south (in Uzbekistan) and the Syr Darya in the east (in Kazakhstan). This water diversion has significantly reduced the size of the Aral Sea and caused many other negative environmental changes.

## DID YOU KNOW?

**A**t 132 meters (433 feet) below sea level, the Karagiye Depression is the second-lowest spot on Earth, surpassed only by the Dead Sea (408 meters/1,339 feet below sea level).

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# Kenya

- **Official name:** Republic of Kenya
- **Area:** 582,650 square kilometers (224,962 square miles)
- **Highest point on mainland:** Mount Kenya (5,199 meters/17,057 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Eastern, Northern, and Southern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 1,131 kilometers (703 miles) east-northeast to west-southwest; 1,025 kilometers (637 miles) west-northwest to east-southeast
- **Land boundaries:** 3,446 kilometers (2,141 miles) total boundary length; Ethiopia 830 kilometers (516 miles); Somalia 682 kilometers (424 miles); Sudan 232 kilometers (144 miles); Tanzania 769 kilometers (478 miles); Uganda 933 kilometers (580 miles)
- **Coastline:** 536 kilometers (333 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Kenya is located on the equator in eastern Africa. The country has a southeastern coastline along the Indian Ocean and shares land boundaries with Ethiopia, Somalia, Sudan, Tanzania, and Uganda. With a total area of about 582,650 square kilometers (224,962 square miles), the country is slightly larger than twice the size of the state of Nevada. Kenya is divided into seven provinces and one area.

## 2 🌐 TERRITORIES AND DEPENDENCIES

There are no outside territories or dependencies of Kenya.

## 3 🌐 CLIMATE

The climate of Kenya is as varied as its topography. Weather conditions range from the tropical humidity of the coast and the dry heat of the northern plains to the coolness of the plateau and mountains. The coastal temperature averages 27°C (81°F), but the temperature

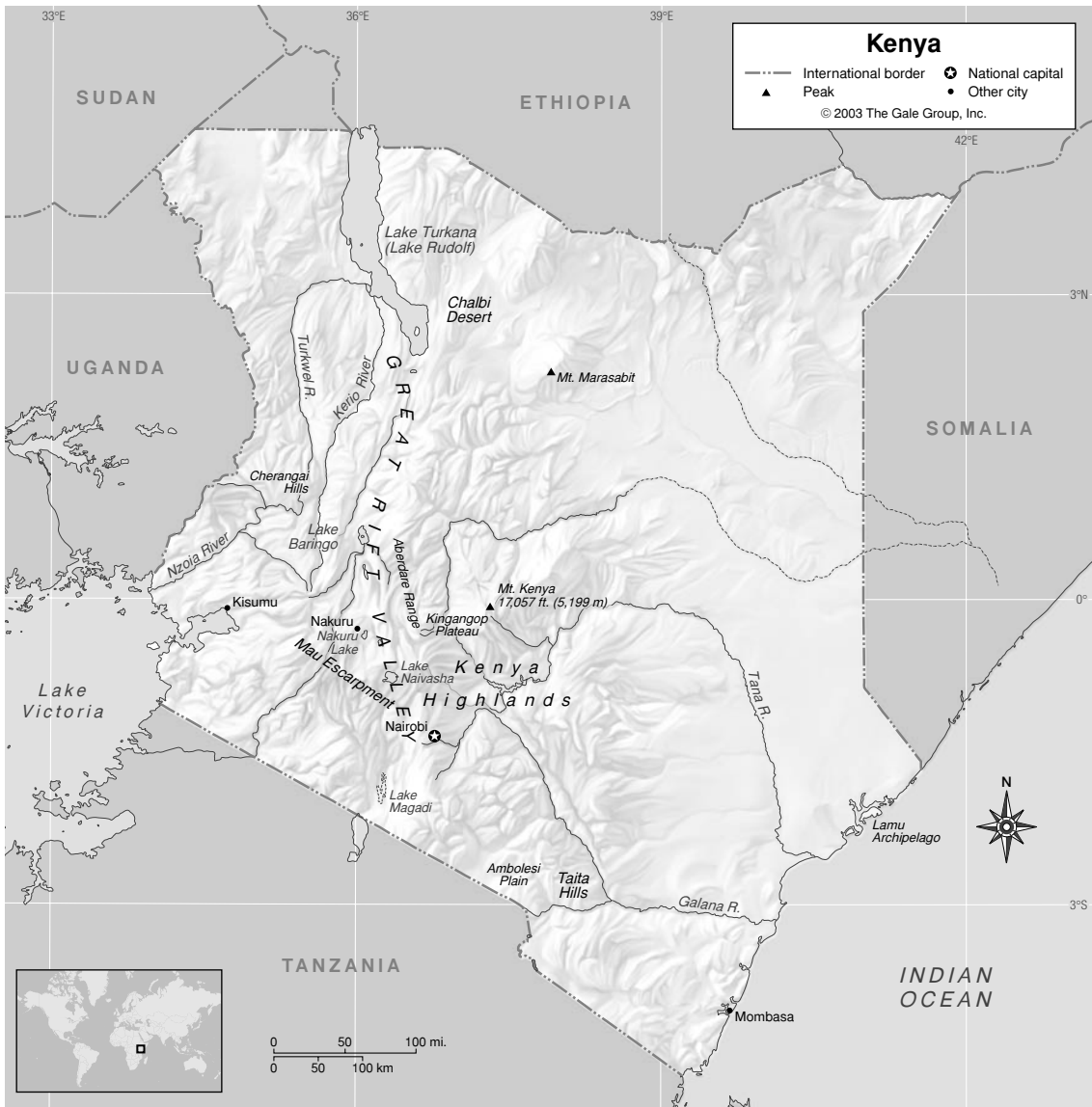
decreases about 2°C (3°F) with each increase of 300 meters (1,000 feet) in altitude. The annual average temperature in Nairobi is 19°C (66°F), whereas in the arid northern plains it ranges from 21° to 27°C (70° to 81°F).

Seasons are determined by rainfall rather than by changes of temperature. Most regions of the country have two rainy seasons: the long rainy season between April and June and the short one between October and December. The average annual rainfall varies from 13 centimeters (5 inches) in the most arid regions to 193 centimeters (76 inches) near Lake Victoria. The coast and highland areas receive an annual average rainfall of 102 centimeters (40 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Kenya has a great diversity of terrain, ranging from barrier reefs off the Indian Ocean coast to sandy desert, forested uplands, and the perpetually snow-covered Mount Kenya.

# KENYA



A particularly prominent feature is the section of the Great Rift Valley of East Africa that runs through Kenya. The most striking geographical distinction, however, is the difference between the higher land, encompassing the southwestern one-third of the country; and the remaining two-thirds of the nation, consisting of low plateaus and

plains. Geographically, the country may be divided into seven major regions: a coastal belt; plains adjoining the coastal strip; a low plateau; northern plains; the fertile Kenya Highlands; the north-south Rift Valley Region bisecting the Kenya Highlands; and an area of western plateaus that forms part of the Lake Victoria basin.

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# KENYA

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## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Kenya faces the Indian Ocean to the south-east. A coral reef running for more than 480 kilometers (300 miles) lies just off the Kenyan coast and protects its coastal beaches from destructive waves. There are three marine parks along the coast: Kisite, Watumu, and Malindi.

### Sea Inlets and Straits

Ungama Bay is a small, curved inlet of the Indian Ocean located along the coast north of Malindi.

### Islands and Archipelagos

The most notable island is Mombasa, which lies off the southern coast and has been used for centuries as a port. The Lamu Archipelago off the northern coast was formed by the submersion of the coastline as a result of a rise in the ocean level.

### Coastal Features

Extending about 402 kilometers (250 miles) from the Tanzanian border in the south to the Somalia border in the north, the coastal region exhibits somewhat different features in its southern and northern parts. The shoreline in the larger southern part (below the Tana River delta) is formed largely of coral rock and sand and is broken by bays, inlets, and branched creeks.

Mangrove swamps line these indentations, but along the ocean are many stretches of coral sand that form attractive beaches.

The coastal hinterland, forming the southern part of this region, is an erosion plain (formed by soil erosion) broken only in a few places by small, somewhat higher, hill groups. The plain rises very gradually westward, from an elevation of about 152 meters (500 feet) at the coastal ranges on its eastern edge, to about 304 meters

(1,000 feet) where it meets the Eastern Plateau Region. The Tana Plains section of the region is mainly a depositional plain (formed by deposits of soil from river flooding). It extends northward from the upper part of the Coastal Region to the northern plain lands and is equally featureless and deficient in rainfall. The Tana River flows across the plain on its course from the Kenya Highlands to the Indian Ocean.

## 6 🌐 INLAND LAKES

Kenya has two significant lakes: Lake Victoria and Lake Turkana (also called Lake Rudolf). Lake Victoria is shared by three nations: Uganda, Kenya, and Tanzania. It has an area of 69,490 square kilometers (26,830 square miles) and lies 1,130 meters (3,720 feet) above sea level. Only one-third of Lake Victoria is within the Kenyan border. The lake is 337 kilometers (209 miles) long at its greatest length and stretches about 240 kilometers (about 150 miles) at its greatest width. It is the world's second-largest freshwater lake, after Lake Superior in North America. Lake Victoria is the principal source for the Nile River.

Lake Turkana (Rudolph) is approximately 250 kilometers (155 miles) long and has a maximum width of about 56 kilometers (35 miles). It currently has no outlet; however, researchers believe that there may have been an earlier connection with the Nile River, since the lake contains a number of giant Nile perch. The area west of the lake is quite arid; annual rainfall is less than 25 centimeters (10 inches). Drought occurs in this region in some years. The Turkwel and Kerio Rivers, which originate in the Kenya Highlands, empty into Lake Rudolf during the rainy seasons. At other times, these rivers dry up. Water holes remain, however, and at various other points water lies only a short distance below riverbeds.

Lakes of less significance, such as the Baringo, Nakuru, Naivahsa, and Magadi, lie in or near the Eastern Rift.

## 7 RIVERS AND WATERFALLS

Most rivers and streams in Kenya originate in the Highlands Region and radiate eastward toward the Indian Ocean, westward to Lake Victoria, and northward to Lake Turkana. Some rivers formed in the southern highlands of Ethiopia extend into Kenya along the eastern section of their mutual boundary. These rivers are all seasonal and those that receive sufficient water during flooding to reach the sea do so through Somalia.

The two largest perennial rivers are the Tana and the Galana Rivers, both of which empty into the Indian Ocean. These are also the only navigable rivers in the country. The Tana River, at approximately 724 kilometers (450 miles), rises in the southeastern part of the Kenya Highlands. From there, it flows in a great arc northeastward along the highlands, then enters the sea at Kipini. The Galana River rises in the southern part

### DID YOU KNOW?

**W**ith a total length of about 6,693 kilometers (4,160 miles), the Nile is the longest river in the world. Even though the river does not run through the country, about one-tenth of the land in Kenya is part of the Nile River Basin. This region, located near Lake Victoria—a primary source for the Nile River—is the wettest area in the country. As a result, about 40 percent of the population in Kenya lives in this area.

of the Kenya Highlands and, with its tributaries, flows into the Indian Ocean north of Malindi. Several smaller rivers that originate in the eastern Kenya Highlands area usually disappear in the semiarid region east of the highlands. On the western slope of the Kenya Highlands, rivers that are generally parallel empty into Lake Victoria. The largest river in that area, the Nzoia (about 257 kilometers/160 miles), eventually reaches Lake Victoria after flowing through Lake Kanyaboli and the Yala Swamp.

## 8 DESERTS

The Chalbi Desert is Kenya's only terrain that is classified as a true desert. A lake, which was formed by damming from lava flows from volcanic activity in the Mount Marasabit area, once covered this extensive area. The plains around Mount Marasabit consist of a vast lava plateau; those plateaus situated farther eastward developed on the continental base rock. The landscape here is dotted with inselbergs of varying shapes and sizes. Inselbergs (also called monadnocks) are hills or rock masses that were formed as the land around them eroded. At the center of the desert is Lake Turkana.

## 9 FLAT AND ROLLING TERRAIN

The vast Northern Plain Region stretches from the Uganda border on the west to Somalia. It consists of a series of plains of differing origins, mainly resulting from erosion or formed by great outpourings of lava, and includes Lake Turkana and the Chalbi Desert. The entire area east of the Chalbi Desert supports vegetation of only the semidesert type. Certain spots have more dense flora, however, including Mount Marasabit, which at higher elevations may receive 76 centimeters or more (30 inches or more) of rain annually and has an upper forest cover.

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# KENYA

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EPD/Cynthia Bassett

*Many hunters have been killed by the cape buffalo, a massive and dangerous mammal native to Kenya. Each buffalo weighs about 700 kilograms (1,500 pounds).*

South-central Kenya features savannah grassland, and in the south near the Tanzanian border the Amboseli National Park protects grassy plains that are home to elephant and cape buffalo herds.

Much of the original forest has been cut down and the land is now used intensively to grow crops, both for subsistence and for cash. Forest still covers large areas of the northern part of the western highlands. In western Kenya, the Kakamega Forest Reserve, an area of tropical rain forest, is found in the midst of agricultural lands. The forest supports diverse plant and animal life, especially a number of primate species.

The Great Rift Valley is a massive fault system that stretches over 6,400 kilometers (4,000 miles), from the Jordan Valley in Israel to Mozambique. In general, the Great Rift Valley ranges in elevation from 395 meters (1,300 feet) below sea level at the Dead Sea to 1,830

meters (6,000 feet) above sea level in south Kenya. The western branch contains the troughs and rivers that have become part of the African Great Lakes system. A large number of volcanoes lie along this rift, which was created by the violent underground activity and motions between the African Plate (Nubian) to the west and the Eurasian, Arabian, Indian, and Somalian Plates to the east.

In Kenya, the Great Rift Valley extends from the Lake Turkana area in the north generally southward through the Kenya Highlands and into Tanzania. In the vicinity of Lake Rudolph, the elevation of the valley floor is less than 457 meters (1,500 feet) above sea level, but southward it rises steadily until in its central section in the area of Lake Naivasha the elevation is close to 1,889 meters (6,200 feet). From that point southward, it drops off to about 610 meters (2,000 feet) at the Kenya-Tanzania border.

High escarpments envelope the central section of the valley, which is about 64 kilometers (40 miles) wide. Extensive volcanic activity takes place on the valley floor, and several cones rise high above it. The area remains one of potential volcanic eruptions, with hot springs and steam emerging at numerous spots. The northern and southern parts of the valley receive a yearly rainfall averaging from 25 to 50 centimeters (10 to 20 inches).

## 10 🌐 MOUNTAINS AND VOLCANOES

The Kenya Highlands region consists of two major divisions, lying east and west of the north-south Great Rift Valley. Tectonic activity played a major part in the formation of the highlands. Plate motion created the Kenya Dome and the faulting and displacement, both major and minor, across this dome that produced the Great Rift Valley and many of the region's numerous escarpments. Great outpourings of lava have added thousands of feet to the elevation over broad areas.

A striking feature on the eastern edge of the highlands is Mount Kenya, an extinct volcano and the country's highest point, which rises to 5,199 meters (17,057 feet). An important subdivision of the eastern highlands is the area east of the Aberdare Range, which is populated by the Kikuyu, the country's largest ethnic group.

The Aberdare Range, which lies east of the Great Rift Valley and the Kinangop Plateau, has elevations above 3,962 meters (13,000 feet). On the valley's western side is the Mau Escarpment, rising to nearly 3,352 meters (10,000 feet). Farther north are the Elgeyo Escarpment and the Cherangai Hills; the latter have elevations over 3,352 meters (11,000 feet).

## 11 🌐 CANYONS AND CAVES

Kenya has a number of caves of various origin. Various ethnic groups, rebels, and outlaws have sought shelter in these caves as recently as the 1980s. One of the most well-known cave systems in the country, however, is currently being used by elephants.

Kitum, Makingeni, Chepnyalil, and Ngwarisha Caves are only four of the approximately one hundred caves in the Mount Elgon National Park. Kitum is the largest of these, with a length of about 200 meters (656 feet). Members of the Dorobo ethnic group occupied the caves until the area became a national park. Now, large groups of elephants use the caves as sleeping quarters. They also feed off the salt deposits that cover the walls of the caves.

The Akamba people once inhabited the lava tube caves of the Chyulu Hills, but the Akamba abandoned them, probably due to the lack of fresh water. Lava tubes are formed when lava streams flow continuously in the same river-like channel for many hours, or even many days. The outer edges of the flow begin to cool and form a solid crust, creating a tube through which the molten lava continues to flow. Parts of the tube remain once the initial eruption is completed, and the molten lava drains to lower ground, leaving behind a long tunnel. The longest lava tube in the area is called Leviathan. The total length of its passages is about 11 kilometers (7 miles), with a diameter from 3 to 10 meters (10 to 33 feet). It is one of the longest lava tubes in the world.

## 12 🌐 PLATEAUS AND MONOLITHS

The Eastern Plateau Region consists of a belt of plains extending north and south to the east of Kenya Highlands. Elevations run mainly between 300 and 900 meters (1,000 and 3,000 feet) except for the Chyulu Range and the Taita

Hills, both of which rise to over 2,134 meters (7,000 feet). The region appears monotonous except for the isolated hills and pinnacles (inselbergs) that were left during the erosional development of the plains. The southern part of the region includes the Ambolesi Plains, known as the site of the Ambolesi and Tsavo National Parks.

The Western Plateau Region forms part of the extensive basin in which Lake Victoria lies. The region consists mainly of faulted plateaus, marked by escarpments that descend in a gentle slope from the Kenya Highlands region to the shore of the lake. The Kano Rift Valley divides the region into northern and southern components, each of which has different features. This faulted valley lies at a right angle to the main rift running through the highlands and is separated from that valley by a great lava mass.

To the southwest of Mount Kenya, the Kinangop Plateau, a relatively small, 60-kilometer- (38-mile-) long plateau with some of Kenya's densest forest cover, is home to Aberdare National Park. The park is home to elephant, rhinoceros, and antelope. The Kinangop Plateau lies east of the Great Rift Valley and rises about 610 meters (2,000 feet) above the valley floor.

### **13** **MAN-MADE FEATURES**

There are no major man-made structures affecting the geography of Kenya.

### **14** **FURTHER READING**

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Maxon, Robert M., and Thomas P. Ofcansky. *Historical Dictionary of Kenya*. Metuchen, NJ: Scarecrow Press, 1999.

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### **DID YOU KNOW?**

**T**ourism related to wildlife safaris is a mainstay of the Kenyan economy. Kenya contains some of the best-preserved national parks and game reserves in Africa. Within these wildlife areas, visitors can see a wide range of animals, including lions, cheetahs, hippos, buffalo, giraffe, zebras, wildebeests, gazelles, black & white Colobus monkeys, Sykes monkeys, bongos, giant forest hogs, and many more. Conservation of wildlife and efforts to restore the endangered African elephant and black rhino populations within reserves are a high priority in Kenya. Five biosphere reserves have been recognized under the United Nations Educational, Scientific, and Cultural Organization's (UNESCO's) Man and the Biosphere Program.

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# Kiribati

- **Official name:** Republic of Kiribati
- **Area:** 717 square kilometers (277 square miles)
- **Highest point on mainland:** Unnamed location on Banaba (81 meters/266 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** Midnight = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** None
- **Coastline:** 1,143 kilometers (709 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Kiribati (pronounced “Kiribass”) is a group of islands in the Pacific Ocean, between Hawaii and Australia, situated at the intersection of the equator and the international date line. The islands are scattered over more than five million square kilometers (two million square miles) of ocean.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Kiribati has no territories or dependencies.

## 3 🌐 CLIMATE

Located in the equatorial region, Kiribati’s climate is tempered by the easterly trade winds, and humidity is high during the November to April rainy season. Occasional gales and tornadoes occur on the islands, even though they lie outside the tropical hurricane belt. The average temperature is 27°C (81°F) year-round. Daily temperatures, however, range between 25°C and 32°C (77°F and 90°F). Near the equator, annual rainfall averages 102 centimeters (40 inches), and in the extreme north and south, it averages 305 centimeters (120 inches). The islands also face the possibility of severe droughts.

## 4 🌐 TOPOGRAPHIC REGIONS

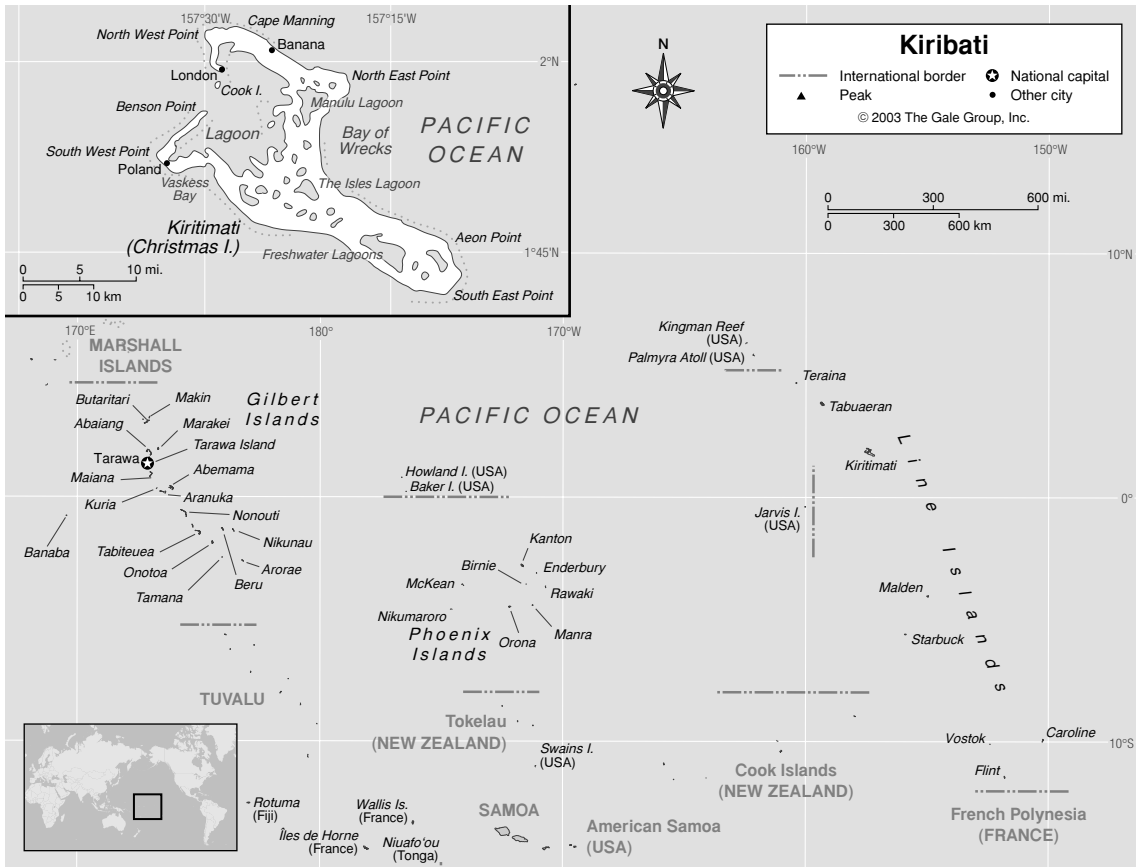
Kiribati comprises three island groups of thirty-three low atolls, or coral islands. The three island groups are dispersed over the mid-Pacific: the Gilbert Islands on the equator; the Phoenix Islands to the east; and the Line Islands to the north of the equator.

The Gilbert group consists of Abaiang, Abemama, Aranuka, Arorae, Banaba (formerly Ocean Island), Beru, Butaritari, Kuria, Maiana, Makin, Marakei, Nikunau, Nonouti, Onotoa, Tabiteuea, Tamana, and Tarawa.

The Phoenix group is composed of Birnie, Kanton (Abariringa), Enderbury, Gardner (Nikumaroro), Hull (Orona), McKean, Phoenix (Rawaki), and Sydney (Manra).

The Line Group encompasses Christmas (Kiritimati), Fanning (Tabuaeran), Malden, Starbuck, Vostock, Washington (Teraina), Caroline, and Flint; the last two are leased to commercial interests on Tahiti. Only some of the islands are inhabited. With an area of 481 square kilometers (186 square miles), Christmas Island (Kiritimati) is the largest atoll in the world.

# KIRIBATI



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

As almost all of the islands are coral atolls (except for Banaba), they are built on a submerged volcanic chain and are low-lying.

### Sea Inlets and Straits

A reef encloses a lagoon in most of the atolls.

### Islands and Archipelagos

Christmas Island (Kiritimati), representing about half the total land area of Kiribati, is the largest of the world's coral atolls. The other Line Islands—Tabuaeran, Malden, Starbuck, Vostok, Teraina, and Flint—are either sparsely

inhabited or uninhabited, although Tabuaeran Island has become a stop for cruise ships.

Banaba Island is among the most westerly islands in Kiribati, and once was a rich source of phosphate. But of all the islands making up the country, Banaba has suffered the most negative environmental effects from phosphate mining, which include air pollution, water pollution, loss of green cover, and diminished aesthetic appeal of the natural surroundings. The land quality and phosphate resources have both deteriorated to the point that Banaba is no longer either mined or inhabited.

# KIRIBATI

## Coastal Features

Because of Christmas Island's low-lying land, it is sensitive to changes in sea level; a rise of even 60 centimeters (24 inches) in sea level would leave the island uninhabitable. On the east coast of Christmas Island (Kiritimati) is the Bay of Wrecks, named for the many sunken ships that struck the coral reefs just offshore. The western coast of the island forms a large, reverse C-shape, enclosing a lagoon.

## 6 🌐 INLAND LAKES

There are dozens of lakes and ponds sprinkled across the interiors of the islands. Christmas Island has several large lagoons lying in its interior, including Manulu Lagoon in the north, Isles Lagoon in the center, and Fresh Water Lagoons in the south.

## 7 🌐 RIVERS AND WATERFALLS

The islands of Kiribati do not support any rivers.

## 8 🌐 DESERTS

There are no desert regions in Kiribati.

## 9 🌐 FLAT AND ROLLING TERRAIN

The soil is poor and rainfall is variable on the islands, making cultivation of most crops impossible. Coconut palms and pandanus trees, however, grow without difficulty on most of the islands.

The islands are low-lying, with no significant hill or valley regions.

## 10 🌐 MOUNTAINS AND VOLCANOES

The islands of Kiribati are low-lying, with little variation in elevation. The island of Banaba, however, has the country's highest elevation, at 81 meters (266 feet) high.

## DID YOU KNOW?

Most Kiribatians live in small villages of 10 to 150 houses. They build their own homes from local materials.

## 11 🌐 CANYONS AND CAVES

The islands of Kiribati have no significant canyons or caves.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no elevated regions in Kiribati above 81 meters (266 feet).

## 13 🌐 MAN-MADE FEATURES

There are no significant man-made features in Kiribati.

## 14 🌐 FURTHER READING

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- Kiribati Home Page*. <http://www.tskl.net.ki/kiribati> (accessed April 24, 2003).

# Korea, North

- **Official name:** Democratic People's Republic of Korea
- **Area:** 120,540 square kilometers (46,540 square miles)
- **Highest point on mainland:** Paektu-san (Mount Paektu) (2,744 meters/9,003 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 9 P.M. = noon GMT
- **Longest distances:** 719 kilometers (447 miles) from north-northeast to south-southwest; 371 kilometers (231 miles) from east-southeast to west-northwest
- **Land boundaries:** 1,673 kilometers (1,040 miles) total boundary length; China 1,416 kilometers (880 miles); South Korea 238 kilometers (148 miles); Russia 19 kilometers (12 miles)
- **Coastline:** 2,495 kilometers (1,550 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

North Korea is located in eastern Asia on the northern half of the Korean Peninsula, between the countries of China and South Korea. The country also shares a very short border with Russia. The Sea of Japan lies to the east and the Korea Bay to the west. With an area of about 120,540 square kilometers (46,540 square miles), the country is slightly smaller than the state of Mississippi. North Korea is divided into nine provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

North Korea has no outside dependencies or territories.

## 3 🌐 CLIMATE

The temperature in North Korea varies from north to south during the winter, with the average January temperature at  $-17^{\circ}\text{C}$  ( $1^{\circ}\text{F}$ ) along the northern border and  $-8^{\circ}\text{C}$  ( $18^{\circ}\text{F}$ ) at P'yongyang, the capital. Summer tempera-

tures have less variation from north to south, averaging  $21^{\circ}\text{C}$  ( $70^{\circ}\text{F}$ ) in the north, and  $24^{\circ}\text{C}$  ( $75^{\circ}\text{F}$ ) at P'yongyang.

Approximately 60 percent of the annual rainfall, from 75 to 100 centimeters (30 to 40 inches), occurs from June through September. The northernmost regions receive less rainfall, averaging 50 centimeters (20 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

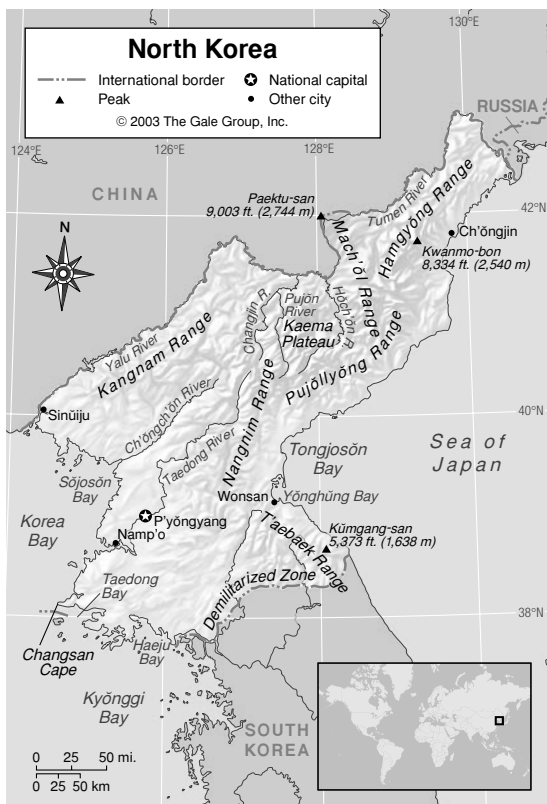
The terrain of North Korea is mountainous; Paektu-san, an extinct volcano, is the highest point. A series of plains extends along the coasts on either side of the country. North Korea is situated on the Eurasian Tectonic Plate.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Sea of Japan, an enclosed arm of the western Pacific Ocean, lies to the east of North Korea. Its coastal waters are very deep, averaging

# KOREA, NORTH



## Islands and Archipelagos

Although there are hundreds of small islands off the western coast of North Korea, none of the islands under North Korea's control are notable. The countries of North and South Korea currently are disputing ownership of many of the islands.

## Coastal Features

The western coast along the Korea Bay is highly indented and irregular, and it is studded with a multitude of small offshore islands. Many of the tidelands have potential value as agricultural land, reed fields, and salt evaporation facilities.

In the east, where steep mountains lie close to the Sea of Japan, the coastline is relatively smooth, with few offshore islands. The coast is washed by both warm and cold currents, contributing to a wide variety of marine life, and causing the coastal region to be frequently shrouded in dense fog.

## 6 GLOBE INLAND LAKES

The largest natural inland body of water in North Korea is Kwangpo, which is actually a salt lagoon that covers an area of about 13 square kilometers (5 square miles).

The Changjin Reservoir, an artificial lake, is one of the nation's biggest lakes and a primary water source. It is located on the Changjin River.

## 7 GLOBE RIVERS AND WATERFALLS

The major rivers of North Korea flow in a westerly direction into Korea Bay, the northern extent of the Yellow Sea. The longest river is the Yalu, which flows from Paektu-san to Korea Bay, a distance of almost 800 kilometers (500 miles). Because its course cuts through rocky gorges for much of its length, its alluvial plains are less extensive than its size would suggest.

about 1,676 meters (5,500 feet). Korea Bay, off the western coast, is an inlet of the Yellow Sea, which is also an arm of the Pacific Ocean. The Bay is shallow, and it has an unusually great tidal range of 6 to 12 meters (20 to 40 feet).

## Sea Inlets and Straits

The main port on the west coast is Namp'o, which is located at the mouth of the Taedong River south of Sojosen Bay and is a center for both international and domestic trade. Further south are two more bays: Taedong Bay, which cuts into the coast south of Chongsan Cape, and Haeju Bay, which is tucked in away from the larger Kyonggi Bay. The east coast has two major inlets: the large Tongjosen Bay, and the smaller Yonghung Bay.

## KOREA, NORTH

Oceangoing vessels can dock at Sinuiju and small watercraft can travel upstream as far as Hyesan. Although it is important for transportation and irrigation, the Yalu's main value lies in its hydroelectric power potential.

The Ch'ongch'on River flows in the valley between the Kangnam and the Myohyang mountain ranges.

### 8 DESERTS

There are no desert regions in North Korea.

### DID YOU KNOW?

The Demilitarized Zone (DMZ) is the stretch of land that marks the border between North and South Korea. The demarcation line, or border, was created at the 38th parallel (38° latitude) by a 1953 Armistice Agreement that ended the Korean War. Since then, the DMZ, which covers an area of about 1,000 square kilometers (386 square miles), has been almost entirely free from human intrusion. As a result, the ecosystem there has flourished and has become home for many rare and endangered species, including Asiatic black bears, Amur leopards, the red-crowned crane, and several others. Environmentalists and activists from around the world are working to make the area a protected nature reserve.

### 9 FLAT AND ROLLING TERRAIN

The plains regions are important to the nation's economy, although they constitute only one-fifth of the total area. Most of the plains are alluvial, built up from silt deposited on the banks of flooding rivers. Other plains, such as the P'yongyang peneplain, were formed by thousands of years of erosion from surrounding hills. A number of plains areas exist on the western coast, including the P'yongyang peneplain and the Unjon, Anju, Chaeryong, and Yonbaek Plains. Of these, the Chaeryong and the P'yongyang are the most extensive, each covering an area of about 618 square kilometers (200 square miles). The Yonbaek Plain comprises about 315 square kilometers (120 square miles). The rest of the plains regions each cover about 207 square kilometers (80 square miles). The plains support most of the country's farmlands, and their small sizes illustrate the severe physical limitations placed on agriculture.

### 10 MOUNTAINS AND VOLCANOES

Mountains and uplands cover 80 percent of the territory. The major mountain ranges form a crisscross pattern extending from northwest to southeast and northeast to southwest. The Mach'ol Range extends from the vicinity of Paektu-san on the Chinese border in a southeasterly direction toward the eastern coast. This range has peaks of over 1,981 meters (6,500 feet) in altitude. At the summit of Paektu-san, the country's highest peak at 2,744 meters (9,003 feet), is a crater lake: Cho'onji (Heavenly Lake).

Running northeasterly from the center of the Mach'ol Range toward the Tumen River valley is the Hamgyong Range, which also has a number of peaks over 1,981 meters (6,500 feet), including Kwanmo-bon (Mount Kwanmo) at 2,540 meters (8,334 feet). The southwest extension of the Hamgyong Range

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## KOREA, NORTH

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AP Photo/David Guttenfelder

*Tourists look out from an observation point in the Kungang-san (“Diamond Mountains”) in North Korea’s largest national park.*

is known as the Pujollyong Range. Running from north to south and marking the drainage divide for the eastern and western halves of the country is the Nangnim Range, averaging 1,499 meters (4,920 feet). To the west of the Nangnim Range are two less prominent ranges, the Myohyang and (in the center of the country) the Puktae, both of which reach heights of 500 to 1,000 meters (1,640 to 3,280 feet). Running in a southwestern direction from the Nangnim Range along the Yalu River (which forms the border with China) is the Kangnam Range, the name of which means “south of the river.”

Korea’s other major mountain chain, the T’aebaek Range, rises south of Wonsan and extends down the eastern side of the peninsula; it is often called the “backbone of Korea.” Only

a short portion of its length is in North Korea, but this section includes the scenic Kungang-san (“Diamond Mountains”) comprising the heart of North Korea’s largest national park. Near the shore of the Sea of Japan, granite mountains feature nearly vertical sheer walls, deep canyons, and spectacular waterfalls.

The terrain east of the Hamgyong and Pujollyong consists of short, parallel ridges that extend from these mountains to the Sea of Japan, creating a series of isolated valleys accessible only by rail lines branching off from the main coastal track. West of the T’aebaek Range, the terrain of central North Korea is characterized by a series of lesser ranges and hills that gradually level off into plains along the western coast.

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## KOREA, NORTH

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North Korea has an extensive coniferous forest located in its mountainous interior, especially in the north. Tree species include pine, spruce, fir, and cedar.

### 11 🌐 CANYONS AND CAVES

In some areas where mountain rock formations are made of limestone, there are many caves. One of the best-known caves is located near Yongbyon on the southern side of the Ch'ongch'on River. Known as T'ongnyonggul, it is about 5 kilometers (3 miles) long, with many chambers, some of which reach widths of 150 meters (500 feet) and heights up to 50 meters (150 feet).

### 12 🌐 PLATEAUS AND MONOLITHS

To the west of the Hamgyong and Pujollyong ranges lies Kaema Plateau, sometimes referred to as the "roof of Korea." The Kaema Plateau is a heavily forested basaltic tableland with relatively low elevation, averaging 1,000 to 1,500 meters (3,280 to 4,950 feet).

### 13 🌐 MAN-MADE FEATURES

Wind-power generating plants are located in the P'yongyang region. Dams have been built on the Yalu and four of its tributaries, the Changjin, Hoch'on, Pujon, and Tongno

Rivers. These dams provide both water and hydroelectric power.

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# Korea, South

- **Official name:** Republic of Korea
- **Area:** 98,480 square kilometers (38,023 square miles)
- **Highest point on mainland:** Chiri-san (1,915 meters/6,283 feet)
- **Highest point in territory:** Halla-san (1,950 meters/6,398 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 9 P.M. = noon GMT
- **Longest distances:** 642 kilometers (399 miles) from north-northeast to south-southwest; 436 kilometers (271 miles) from east-southeast to west-northwest
- **Land boundaries:** North Korea 238 kilometers (148 miles)
- **Coastline:** 2,413 kilometers (1,508 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

South Korea is located in eastern Asia on the southern half of the Korean Peninsula, bordering the Sea of Japan and the Yellow Sea. The country shares a border with North Korea. With an area of about 98,480 square kilometers (38,023 square miles), the country is slightly larger than the state of Indiana. South Korea is divided into nine provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

South Korea has no outside territories or dependencies.

## 3 🌐 CLIMATE

South Korea has a continental climate, with hot, rainy summers and cold winters. Temperatures range from 22°C to 29°C (71°F to 83°F) in the summers and from -7°C to 1°C (19°F to 33°F) in the winter months, with warmer winter temperatures along the southern coast and cooler temperatures in the interior.

Annual rainfall averages between 100 and 150 centimeters (40 and 50 inches), but many

areas experience less rainfall. Rainfall is greatest in the south and in inland mountainous regions. The coastal areas receive the least rainfall.

## 4 🌐 TOPOGRAPHIC REGIONS

South Korea (the Republic of Korea) occupies the southern part of the Korean Peninsula. Elongated and irregular in shape, the peninsula separates the Sea of Japan from the Yellow Sea. These seas are known in Korea as the Eastern Sea and the Western Sea, respectively. South Korea is situated on the Eurasian Tectonic Plate.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Yellow Sea lies to the west of South Korea. It is relatively shallow and has an extremely large tidal range. At low tide, large mud flats are exposed. The East China Sea lies to the southwest. The Sea of Japan forms the open body of water to the northeast of South Korea. The waters of the Sea of Japan are deep and the

# KOREA, SOUTH



on the coast near the city of Cheju. Directly east of South Korea in the Sea of Japan is Ullung-do (Ullung Island).

## Coastal Features

The southeast coastline may be divided in two sections at the Nakdong River mouth near Pusan. To the north of this point, the coast is relatively smooth, consisting of alternating bays and headlands (points of land that are usually high with a sheer drop). There are only a few offshore islands and bays in this area; the major inlet is Yongil Bay, enclosed within Cape Changgi.

To the west of the Nakdong River mouth, the coast becomes much more complex. The central and western regions of the southern coastline, where the various arms of the Sobaek Mountains reach the sea, feature a number of basins that create an intricate coastline of extensive, highly irregular peninsulas, including the Kohung and Haenam Peninsulas. These are flanked by abruptly rising islands. At times, the peninsulas almost enclose equally irregular bays that deeply penetrate the mainland.

tidal range is small. All of these seas are extensions of the Pacific Ocean.

## Sea Inlets and Straits

The Korea Strait separates South Korea from Japan and connects the East China Sea with the Sea of Japan. Around the western coast near Seoul, the tiny Asan Bay reaches into the mainland. This part of the coastline is part of the larger Kyonggi Bay shared with North Korea.

## Islands and Archipelagos

Cheju-do, an island, is located off the southwest coast of Korea, in the western end of the Korea Strait. It was formed from a volcanic eruption and features unusual lava formations

## 6 INLAND LAKES

Near Ch'unch'ŏn in the north are three artificial lakes: Uiam, Ch'unch'ŏn, and Soyang. The lakes are connected by rivers and give the city its nickname: "City of Lakes."

## 7 RIVERS AND WATERFALLS

South Korea has four major rivers: the Han River and the Kum River, which flow west to the Yellow Sea; and the Nakdong River and the Somjin River, which flow south to the Korea Strait. In addition, the Yongsan and Tongjin Rivers water South Korea's main rice-growing areas.

Because of their very low gradients, the rivers to the west of the T'aebaek Mountains watershed historically have been used for

## KOREA, SOUTH

transportation. These west-flowing rivers have built up extensive plains at their outlets to the sea. River navigation has declined in importance in modern times, however, with the introduction of new means of transportation, the diversion of water for irrigation, and the construction of dams.

River flow is highly seasonal, with the heaviest flows occurring in the summer months. Floods are common in the basins associated with the major river systems, particularly in estuary areas along the western coast. During much of the year, however, the rivers are shallow, exposing very wide, gravelly riverbeds. The Naktong River Basin in the southeast is a complex of structural basins and river floodplains separated from one another by low hills. The Naktong River is the longest river in South Korea, extending about 521 kilometers (324 miles). It forms a wide delta where it reaches the sea, a few miles west of Pusan, South Korea's major port.

### 8 🌐 DESERTS

There are no desert regions in South Korea.

### 9 🌐 FLAT AND ROLLING TERRAIN

In the southern coastal regions inland from the coast, the plains, although small in some areas, are fertile and agriculturally productive. The center of bamboo cultivation is in the west-central region, near Chinan.

### 10 🌐 MOUNTAINS AND VOLCANOES

While the Korean peninsula is very rugged and mountainous, the land elevations in South Korea are generally lower than those found in North Korea. The T'aebaek Mountain Range in South Korea runs northeast to southwest along the Sea of Japan. Dividing the country into east and west is the Sobaek Mountain Range, running generally from northeast to southwest. Throughout history, these mountains have prevented easy travel and interac-



EPD/Saxifraga/Wim Remmelzwaal

*Much of Korea is mountainous.*

tion between the regions. The highest peak on the South Korean mainland is Chiri-san—at 1,915 meters (6,283 feet)—located in the south-central part of the country at the southern end of the Sobaek Mountains range. The country's highest peak, Halla-san, is a volcanic mountain which rises to 1,950 meters (6,398 feet), and lies on Cheju-do (Cheju Island), off the southern tip of the country, with a small crater lake at its summit.

West of Ch'ongju lies Maisan (Horse Ears Mountain), a two-peaked mountain that resembles the ears of a horse. Hills separate the Sobaek mountain range from the coastal plains in the south.

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## KOREA, SOUTH

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### 11 🌐 CANYONS AND CAVES

In the central and south mountain regions, limestone caves with dramatic stalagmites and stalactites may be found. One of the most famous is Kosudonggul, known as the “Underground Palace.”

### 12 🌐 PLATEAUS AND MONOLITHS

There are no major plateau regions in South Korea.

### 13 🌐 MAN-MADE FEATURES

The Uiam Dam, built just below the junction of the Bukhan and Soyang Rivers near Ch'unch'on, created the artificial reservoir known as Lake Uiam. The largest sand gravel dam in Asia created another large reservoir, Lake Soyang. Lake Ch'unch'on was created by the Ch'unch'on Dam, also located on the Bukhan River.

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# Kuwait

- **Official name:** State of Kuwait
- **Area:** 17,820 square kilometers (11,073 square miles)
- **Highest point on mainland:** Unnamed (290 meters/950 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 176 kilometers (109 miles) from northeast to southwest; 205 kilometers (127 miles) from northwest to southeast
- **Land boundaries:** 464 kilometers (288 miles) total boundary length; Iraq 242 kilometers (150 miles), Saudi Arabia 222 kilometers (138 miles)
- **Coastline:** 499 kilometers (310 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Kuwait is a small Middle Eastern country located at the head of the Persian Gulf and surrounded by the much larger neighboring states of Saudi Arabia, Iraq, and Iran. With an area of 17,820 square kilometers (11,073 square miles), it is almost as large as the state of New Jersey.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Kuwait has no territories or dependencies.

## 3 🌐 CLIMATE

Kuwait has a desert climate, with elevated humidity in the coastal region. Summer temperatures average about 32°C (90°F), with daytime highs commonly reaching 43°C (110°F) or higher. Readings as high as 54°C (130°F) have been recorded. Winter temperatures average between 10°C and 15°C (50°F and 60°F). The prevailing northwesterly wind, which exerts a cooling influence in summer, is called the *shamal*. Average annual rainfall is less than

25 centimeters (10 inches), and less than 13 centimeters (5 inches) in the southern part of the country. The rainy season, which occurs between October and April, is characterized by sudden, violent storms.

## 4 🌐 TOPOGRAPHIC REGIONS

Kuwait is located on the coastal plain that rings much of the Persian Gulf. Its terrain consists largely of flat or rolling desert land, with maximum elevations reached at its western and southwestern corners.

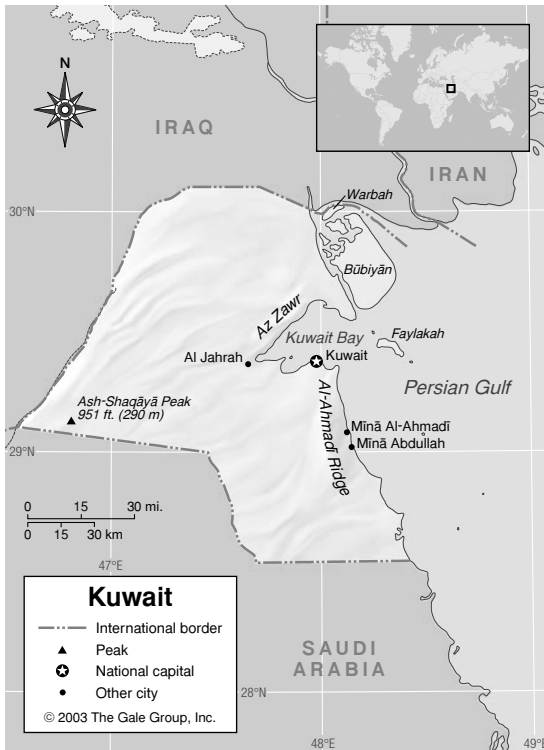
## 5 🌐 OCEANS AND SEAS

Kuwait is linked to the Arabian Sea through the Persian Gulf.

## Sea Inlets and Straits

Kuwait is located at the northwestern edge of the Persian (or Arabian) Gulf, which empties into the Arabian Sea by way of the Strait of Hormuz and the Gulf of Oman. Kuwait has one deeply indented bay, Kuwait Bay, which

# KUWAIT



## 7 🌐 RIVERS AND WATERFALLS

Some of Kuwait's *wadis*, or desert basins, fill with water during the winter rains, but the country has no permanent rivers or lakes.

## 8 🌐 DESERTS

The Kuwaiti desert is undulating and gravelly, with few hills or ridges.

## 9 🌐 FLAT AND ROLLING TERRAIN

Kuwait's terrain gradually rises, from near sea level at the coast, to elevations of about 198 meters (650 feet) in the northwest, nearly reaching 305 meters (1,000 feet) at its westernmost edge. The country's two other noticeable points of elevation are the Az Zawr escarpment on the northern shore of Kuwait Bay (145 meters/475 feet), and the Al-Ahmadī ridge south of the bay (137 meters/450 feet). Also of note is Ash-Shaqāyā Peak in the western corner of the country, rising to a height of 290 meters (951 feet).

## 10 🌐 MOUNTAINS AND VOLCANOES

Kuwait has no actual mountain ranges.

## 11 🌐 CANYONS AND CAVES

Kuwait has no canyons or caves.

## 12 🌐 PLATEAUS AND MONOLITHS

Kuwait has no distinct plateaus or monoliths.

has the only deepwater harbor on the western coast of the Persian Gulf.

Another coastal indentation is the site of several uninhabited islands.

## Islands and Archipelagos

There are nine islands off the coast of Kuwait. The largest are Būbiyān and Warbah, both uninhabited. The only one that is inhabited is Faylakah, at the edge of Kuwait Bay.

## Coastal Features

Kuwait's low-lying coast is characterized by areas of marshland, as well as mud flats, sandbars, and islets.

## 6 🌐 INLAND LAKES

There is an oasis at Al Jarah, at the western end of Kuwait Bay.

## DID YOU KNOW?

**D**istilled water is the main source of drinking water in Kuwait, which has some of the world's most sophisticated desalination facilities.

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# KUWAIT

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AP Photo/U.S. Marine Corps, Staff Sgt. Bill Lisbon

*U.S. military personnel walk among a herd of white camels that roam on a military training area in western Kuwait.*

## 13 MAN-MADE FEATURES

Although Būbiyān Island is uninhabited, there is a large bridge linking it to the mainland. Kuwait and Iraq both claim rights to the island. Since there is no actual reason to visit the island, this bridge has been called “the bridge to nowhere.”

## 14 FURTHER READING

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# Kyrgyzstan

- **Official name:** Kyrgyz Republic
- **Area:** 198,500 square kilometers (76,641 square miles)
- **Highest point on mainland:** Victory Peak (7,439 meters/24,406 feet)
- **Lowest point on land:** Kara-Daryya (Karadar'ya) (132 meters/433 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 5 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** 3,878 kilometers (2,410 miles) total boundary length; China 858 kilometers (533 miles); Kazakhstan 1,051 kilometers (652 miles); Tajikistan 870 kilometers (539 miles); Uzbekistan 1,099 kilometers (681 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Kyrgyzstan is located in central Asia, west of China, south of Kazakhstan, east of Uzbekistan, and northeast of Tajikistan.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Kyrgyzstan has no territories or dependencies.

## 3 🌐 CLIMATE

Average temperatures vary significantly by region in Kyrgyzstan. The coldest January temperatures are in the mountain valleys, where readings have been known to fall below  $-30^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$ ). The warmest January average is  $-4^{\circ}\text{C}$  ( $25^{\circ}\text{F}$ ), near the southern city of Osh and around Lake Issyk-Kul, which never freezes. In July, the average temperature is around  $27^{\circ}\text{C}$  ( $81^{\circ}\text{F}$ ) in the Fergana Valley on the high mountain peaks.

Like temperatures, precipitation rates, which include snow as well as rainfall, are largely a product of Kyrgyzstan's mountains. Precipitation occurs to a greater extent in the western mountains and to a lesser extent

in the flatter, lower regions of north-central Kyrgyzstan.

Average precipitation levels range from 10 to 50 centimeters (4 to 20 inches) in the valleys and 18 to 100 centimeters (7 to 40 inches) in the mountains. Extremes vary from less than 10 centimeters (4 inches) per year on the west bank of Issyk-Kul to 200 centimeters (79 inches) per year in the mountains above the Fergana Valley.

## 4 🌐 TOPOGRAPHIC REGIONS

Landlocked in east central Asia, Kyrgyzstan covers just 198,500 square kilometers (76,641 square miles), making it the smallest of the Central Asian countries that became independent after the breakup of the Soviet Union in the 1990s. There are a number of small areas within southwestern Kyrgyzstan that belong to neighboring Uzbekistan or Tajikistan.

Kyrgyzstan is predominantly mountainous. Only about 10 percent of the terrain is below 1,500 meters (4,900 feet) in elevation; and more than half the land surpasses 2,500 meters (8,200 feet). Permanent snowfields and



# KYRGYZSTAN



glaciers blanket about 3 percent of the country. Indeed, studies estimate that Kyrgyzstan's 6,500 glaciers contain an amazing 650 billion cubic meters (850 billion cubic yards) of water. This abundance of mountain moisture is the source of Kyrgyzstan's many lakes and fast-flowing rivers.

The primary mountain range in Kyrgyzstan is the great Tian Shan, whose peaks, valleys, and basins essentially define the whole republic. In addition, the Trans Alai mountains in the south, part of the Pamirs, are also significant. The only land flat enough to be suitable for large-scale agriculture is in the Chu, Talas, and Fergana Valleys of the north and east.

## 5 🌐 OCEANS AND SEAS

Kyrgyzstan is a landlocked country.

## 6 🌐 INLAND LAKES

There are nearly two thousand lakes in Kyrgyzstan, located at the higher elevations of 3,000 to 4,000 meters (9,840 to 13,120 feet).

Most are small, but together they have a combined surface area of some 7,000 square kilometers (2,703 square miles). Lake Issyk-Kul comprises most of the total area by itself; at 6,100 square kilometers (2,360 square miles), it is Kyrgyzstan's largest lake. Issyk-Kul is located in the northeastern Tian Shan mountain range. Some commercial fishing interests operate on the lake year-round, as it never freezes. Two other large lakes, Song-Kul and Chatyr-Kul, lie in the Naryn Basin.

## 7 🌐 RIVERS AND WATERFALLS

The majority of Kyrgyzstan's many rivers are small, fast-flowing runoff streams with origins in the melting snows of the high eastern mountains. Not one of these is navigable, however—not even the country's largest river, the Naryn, which converges with other rivers to become the great Central Asian Syr Darya. In the north, the Chu River flows northwestward, eventually drying up in the desert country of southern Kazakhstan.

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# KYRGYZSTAN

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EPD/Saxifraga/Adriaan Dijkse

*A valley in the Ala Tau Mountains in northern Kyrgyzstan.*

## **8** 🌐 **DESERTS**

The northern areas of Kyrgyzstan near the border with Kazakhstan are desert regions, with very little vegetation.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Only 4 percent of Kyrgyzstan is forest. Conifers predominate in the lower valleys and northern mountain slopes. Kyrgyzstan can boast the world's largest natural-growth walnut forest. Deer, mountain goats, and mountain sheep are abundant, but the country's forests also support many rare, protected wildlife species like the Tian Shan bear, the red wolf, and the snow leopard.

Because of its mountainous geography, Kyrgyzstan has many valleys throughout its mountain ranges. Of note are the lush Osh and Fergana Valleys.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Kyrgyzstan lies where two great Central Asian mountain systems, the Tian Shan and the Pamirs, come together. The Tian Shan Mountains run northeast to form the country's eastern border with China; Kyrgyzstan's southern border with Tajikistan follows the Trans Alai Range along the northernmost part of the Pamirs.

The Tian Shan is the largest system of mountains in Asia outside of the Himalayas, and its highest point, Victory Peak (Pik Pobedy, Jengish Chokusu; 7,439 meters/24,406 feet) is the highest peak in Kyrgyzstan. A series of secondary mountain ranges are considered part of the Tian Shan system. In Kyrgyzstan these include the Ala Tau, running generally east to west across northern Kyrgyzstan. Another chain, the central Fergana Mountains, runs southeast to northwest.

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# KYRGYZSTAN

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## 11 🌐 CANYONS AND CAVES

The Ala-Archa Canyon, located about 40 kilometers south of Bishkek, is a rugged area favored by hikers. Near Lake Issyk-Kul is the Jetti-Öghüz canyon, with cliffs composed of red sandstone.

## 12 🌐 PLATEAUS AND MONOLITHS

Plateaus dot the country's mountain ranges, most significantly the Issyk-Kul plateau that overlooks the lake of the same name.

## 13 🌐 MAN-MADE FEATURES

The Popan reservoir in southeastern Kyrgyzstan is vital to support agriculture in the Fergana Valley, which helps feed much of the country.

## 14 🌐 FURTHER READING

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# Laos

- **Official name:** Lao People's Democratic Republic
- **Area:** 236,800 square kilometers (91,400 square miles)
- **Highest point on mainland:** Mount Bia (2,820 meters/9,252 feet)
- **Lowest point on land:** Mekong River (70 meters/230 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 7 P.M. = noon GMT
- **Longest distances:** 1,162 kilometers (722 miles) from south-southeast to north-northwest; 478 kilometers (297 miles) from east-northeast to west-southwest
- **Land boundaries:** 5,083 kilometers (3,151 miles) total boundary length; Myanmar (Burma) 235 kilometers (146 miles); Cambodia 541 kilometers (335 miles); China 423 kilometers (262 miles); Thailand 1,754 kilometers (1087 miles); Vietnam 2,130 kilometers (1321 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Laos, the only landlocked Southeast Asian country, lies at the heart of the Indochina Peninsula. With an area of 236,800 square kilometers (91,400 square miles), it is slightly larger than the state of Utah and contains sixteen provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Laos has no territories or dependencies.

## 3 🌐 CLIMATE

Laos has a tropical monsoon climate with three seasons: a cool, dry season in November through February; a hot, dry season in March and April; and a rainy season in May through October. Temperatures average 28°C (82°F), ranging from highs of 40°C (104°F) along the Mekong in March and April to lows of 5°C (41°F) in the mountains in January. Humidity averages 70 to 80 percent. Annual rainfall in Laos averages 175 centimeters (69 inches).

Most of this rain occurs during the southwest monsoon between May and October. Rainfall can be anywhere from 127 to 229 centimeters (50 to 90 inches) during this period.

## 4 🌐 TOPOGRAPHIC REGIONS

Laos consists of a northern region centered on the Mekong River valley, with a narrower panhandle extending off to the southeast. Less than three-fifths of the national territory is contained in the northern section of the country, and over two-fifths is in the country's southern panhandle. Away from the Mekong, the high mountains of the Annamese Cordillera extend across the country.

## 5 🌐 OCEANS AND SEAS

Laos is a landlocked nation. The closest sea is the Gulf of Tonkin of the Pacific Ocean.

## 6 🌐 INLAND LAKES

Laos boasts few lakes. The largest by far is Ngum Reservoir.

# LAOS



## 7 🌐 RIVERS AND WATERFALLS

The Mekong River and its tributaries drain almost all of Laos. Only a few small rivers in the east flow into Vietnam and from there to the Pacific Ocean. The Mekong flows through Laos for 1,805 kilometers (1,122 miles) and is the center of its economic life. The north is the only part of the country where the river is entirely within Laos's borders. The Mekong's tributaries in the north include the Tha and the Ou Rivers, as well as the Ngum River. In the south the main tributaries are the Kading, Bangfai, Banghiang, and Dôn Rivers. Another large tributary, the Kong, flows south from Laos into Cambodia before joining the Mekong.

The Khone waterfall, one of the largest waterfalls in southeast Asia, was a barrier to invaders who wanted to enter Laos by river.

## 8 🌐 DESERTS

There are no desert regions in Laos.

## 9 🌐 FLAT AND ROLLING TERRAIN

The most extensive and fertile flatlands are found in the valleys and flood plains of the Mekong and its tributaries. Laos has several areas of karst limestone hill formations, including Vangvieng in the northwest and Nam Phoun, a National Biodiversity Area in the northeast.

## 10 🌐 MOUNTAINS AND VOLCANOES

Northern and northeastern Laos, north of the Laotian panhandle and away from the Mekong River, is characterized by rugged mountain terrain. The main ranges run from northeast to southwest, and are sharp-crested and steep-sloped. Several ranges are around 1,524 meters (5,000 feet) in height, and many peaks are well over 1,829 meters (6,000 feet). The country's highest mountain, Mount Bia (Phou Bia), rising 2,820 meters (9,252 feet) above sea level, is situated here, near the beginning of the panhandle.

The chief topographic feature of the Laotian panhandle is the Annamese Cordillera, which runs along the entire eastern side of this region. The chain parallels the flow of the Mekong River. The mountains in its upper portion have deep valleys and rugged peaks over 1,524 meters (5,000 feet), including Mount Rao (2,234 meters/7,331 feet). South of the Cammon Plateau, the chain enters a region characterized by steep ridges and peaks and sinkholes, followed by the Bolovens Plateau. From this point to the southern end of Laos, the chain again becomes very rugged.

# LAOS



EPD/Cynthia Basset

*The Mekong River flows slowly in some parts. Here it rushes toward the Khone waterfalls in Laos. Although the Khone waterfalls are only 70 meters (230 feet) in height, tremendous volumes of water rush over them.*

## 11 🌐 CANYONS AND CAVES

Where the Mekong River enters Laos, it runs through steep limestone gorges north of the city of Louangphrabang. The Hin Boon River in central Laos cuts through narrow limestone canyons.

### DID YOU KNOW? 🌐

**M**any bomb craters from the United States' aerial bombardment of Laos in the 1960s and 1970s, during the Vietnam War, have filled with water, becoming ponds.

## 12 🌐 PLATEAUS AND MONOLITHS

The Plain of Jars (Thong Hai Hin) is located on the Xiangkhoang Plateau, in the northern part of the country, lying mostly between about 1,015 and 1,219 meters (3,330 and 4,000 feet) above sea level. The Phouane Plateau is another major plateau region in northern Laos. At the neck of the panhandle section, several plateaus, including the Cammon and Nakai plateaus, buttress the Annamese Cordillera. The fertile Bolovens Plateau in the south, rising to about 1,067 meters (3,500 feet), is almost completely encircled by a high escarpment.

## 13 🌐 MAN-MADE FEATURES

The Nam Ngum hydropower dam created the Ngum reservoir, which covers an area of 250 square kilometers (96 square miles).

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# LAOS

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EPD/Cynthia Bassett

*The Plain of Jars in Laos takes its name from massive ancient hollow stones (jars) found there. No one knows the origin of the “jars.”*

About one-quarter of the Nakai Plateau is slated to be flooded by the Nam Theun II dam project.

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*Lao Embassy. Discovering Laos*. <http://www.laoembassy.com/discover/> (accessed April 11, 2003).

# Latvia

- **Official name:** Republic of Latvia
- **Area:** 64,589 square kilometers (24,938 square miles)
- **Highest point on mainland:** Gaizinkalns (312 meters/1,024 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 210 kilometers (131 miles) from north to south, 450 kilometers (281 miles) from east to west
- **Land boundaries:** 1,150 kilometers (713 miles) total boundary length; Belarus 141 kilometers (88 miles); Estonia 339 kilometers (211 miles); Lithuania 453 kilometers (281 miles); Russia 217 kilometers (135 miles)
- **Coastline:** 531 kilometers (330 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Latvia is located in northeastern Europe, east of the Baltic Sea, south of Estonia, north of Lithuania, and west of Russia. Latvia is slightly larger than the state of West Virginia and consists of twenty-six counties.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Latvia has no territories or dependencies.

## 3 🌐 CLIMATE

Summers in Latvia are generally cool, but winters are mild. The country has a moderate, maritime climate with high precipitation. January temperatures range from  $-3^{\circ}\text{C}$  ( $31^{\circ}\text{F}$ ) in Liepāja, on the western coast, to  $7^{\circ}\text{C}$  ( $44^{\circ}\text{F}$ ) in Daugavpils in the southeast. In July, they range from  $17^{\circ}\text{C}$  ( $62^{\circ}\text{F}$ ) in Liepāja to  $18^{\circ}\text{C}$  ( $64^{\circ}\text{F}$ ) in Daugavpils.

Latvia's coastal climate means the country experiences cloudiness, high humidity, and precipitation most of the year. On average,

only 72 days are sunny, 44 days are foggy, and it rains or snows 180 days. Measured in Riga, annual precipitation ranges between 56 and 79 centimeters (22 and 31 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Along with Estonia and Lithuania, Latvia is one of the Baltic states of northeastern Europe. Its capital, chief seaport, and largest city is Riga, which is found on the shores of the Gulf of Riga, a deep indentation in the country's northern coast. Approximately 75 percent of Latvia is a rolling plain used for farming, part of the vast European Plain. The remaining 25 percent of the country consists of uplands with moderate-sized hills, which are also used for farming.

Continental glaciers formed the Latvian landscape during the Quaternary period and the Pleistocene ice age.



# LATVIA



## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Along the Baltic Sea, the Latvian coastline runs uninterrupted until the Gulf of Riga juts into it on the north, where it forms the Kurzeme Peninsula on the western side.

The Gulf of Riga is shared by Latvia and Estonia. Its north-south measurement is about 145 kilometers (90 miles); from east to west, it ranges from 72 to 129 kilometers (45 to 80 miles).

### Sea Inlets and Straits

The western entrance to the Gulf of Riga is the Irben Strait, located between the Kurzeme Peninsula and Estonia's Saaremaa Island.

### Coastal Features

The Kurzeme Peninsula is located in north-western Latvia, bordering the Baltic Sea and the Gulf of Riga. The Latvian coast runs 531

kilometers (329 miles). It is known as a beautiful coastline, with many sandy beaches.

## 6 🌐 INLAND LAKES

Latvia contains many lakes both large and small, particularly in the southeast. Major lakes include Usma, in the west; Burtnieks, in the north-central area; and Lakes Lubāna and Rāzna in the east.

## 7 🌐 RIVERS AND WATERFALLS

Latvia's largest river, the Daugava (called the Dvina in neighboring Belarus), is one of the most important rivers of the Baltic region. Starting in Russia, the Daugava flows into Belarus and continues northwest through Latvia, finally emptying into the Gulf of Riga. Its total length is 1,020 kilometers (632 miles).

Lesser Latvian rivers include the Venta, in the west, which has its own 2-meter- (6-feet-) high waterfall; the Lielupe, in central Latvia; the Gauja, in the northeast; and the Aiviekste, in the east.

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# LATVIA

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## 8 🌐 DESERTS

There are no deserts in Latvia.

## 9 🌐 FLAT AND ROLLING TERRAIN

Most of Latvia is low, level terrain, which is part of the European Plain. It is largely suitable for farming, but the heavy annual precipitation means that much of Latvia's agricultural land requires drainage. The most fertile area is the central Zemgale Plain south of Riga. Other lowlands include the Middle and the East Latvian Lowlands, and the coastal lowlands. Large parts of all of these lowlands are covered by forest.

Forty-six percent of Latvia consists of forests and woodlands of pine, spruce, aspen, and birch; lumber and wood products are important Latvian exports. Blueberries, mushrooms, and cranberries grow in abundance on the forest floors. The country supports many thriving species of wildlife, including elk, deer, moose, wild boar, and fox; also wolves, lynx, beaver, otter, black storks, and eagles. The coast has a significant population of seals.

Latvia has three upland regions consisting of hills formed by glacial activity. The Kurzeme Uplands lie in the west, and are split into eastern and western portions by the Venta River. The highest elevation in the country, Gaizinkalns (312 meters/1,023 feet), is found in Vidzeme Uplands, east of the Gulf of Riga. This upland is the largest area that is more than 200 meters (660 feet) above sea level in the Baltic region. Further south and east is the Latgale Upland.

## 10 🌐 MOUNTAINS AND VOLCANOES

Latvia has no mountains or volcanoes.

## 11 🌐 CANYONS AND CAVES

There are a few small caves found near Gauja National Park. The country lacks the geological features, such as regions of limestone, necessary for large caves.

## 12 🌐 PLATEAUS AND MONOLITHS

Since Latvia consists mainly of lowlands, there are no significant plateaus in the country.

## 13 🌐 MAN-MADE FEATURES

The Daugava River is an excellent source of hydroelectric power. Dams have formed reservoirs at Kegums, Plavinas, and near Riga.

## 14 🌐 FURTHER READING

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Noble, John. *Estonia, Latvia, and Lithuania*. London: Lonely Planet, 2000.

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*Embassy of Latvia*. <http://site.yahoo.com/vestnieciba/> (accessed April 24, 2003).

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# Lebanon

- **Official name:** Lebanese Republic
- **Area:** 10,400 square kilometers (4,015 square miles)
- **Highest point on mainland:** Qurnat as-Sawdā (3,088 meters/10,132 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 217 kilometers (135 miles) from northeast to southwest; 56 kilometers (35 miles) from northwest to southeast
- **Land boundaries:** 454 kilometers (282 miles) total boundary length; Israel 79 kilometers (49 miles); Syria 375 kilometers (233 miles)
- **Coastline:** 225 kilometers (140 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Lebanon is a small Middle Eastern country located on the eastern coast of the Mediterranean Sea. With a total area of 10,400 square kilometers (4,015 square miles), it is about three-fourths as large as the state of Connecticut.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Lebanon has no territories or dependencies.

## 3 🌐 CLIMATE

Lebanon has a subtropical, temperate Mediterranean climate, with hot, dry summers and cool, humid winters. Temperatures rarely exceed 32°C (90°F). Average temperatures in Beirut are 28°C (82°F) in the summer and 13°C (55°F) in the winter. Temperatures are cooler in the mountains. Average annual rainfall ranges from about 38 centimeters (15 inches) in the Bekáa Valley, to 89 centimeters (35 inches) on the coast, to over 127 centimeters (50 inches) in the mountains. Four-fifths of the annual rainfall occurs in the winter

months, between November and March. The peaks of the Lebanon Mountains are snow-covered from winter to spring.

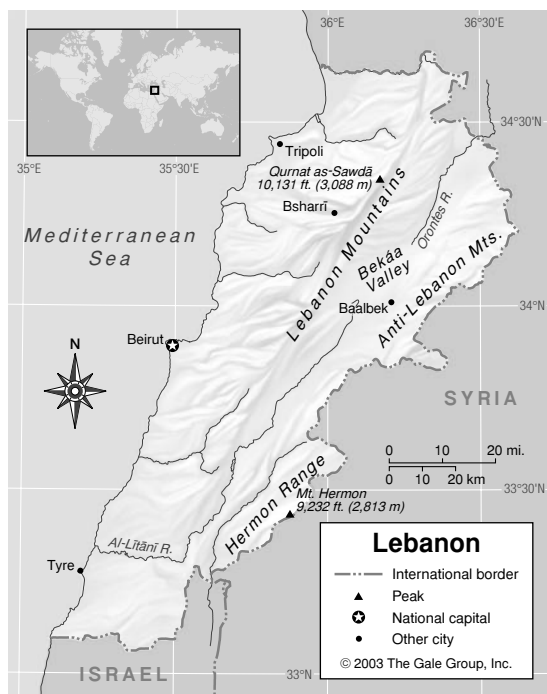
## 4 🌐 TOPOGRAPHIC REGIONS

Lebanon is mostly mountainous. Its dominant topographical feature is a central range spanning most of the country's length and reaching almost to the coast. In addition to this range—called the Lebanon Mountains—there are three other distinct geographical regions: a narrow coastal plain; a second mountain system in the east, on the border with Syria (the Anti-Lebanon and Hermon ranges); and the Bekáa Valley, which separates the coastal and interior mountains. The Bekáa Valley belongs to the same geological rift that continues southward to become the Jordan River Valley and the Great Rift Valley of eastern Africa.

## 5 🌐 OCEANS AND SEAS

Lebanon is located on the eastern shore of the Mediterranean Sea.

# LEBANON



## Coastal Features

Lebanon has a relatively smooth coastline with no major indentations. It has few good natural harbors but instead has many shallow, curved bays. The northern part of the coast is mostly rocky; south of Beirut, it becomes sandy in places.

## 6 🌐 INLAND LAKES

Lebanon has no inland lakes.

## 7 🌐 RIVERS AND WATERFALLS

Lebanon has few year-round rivers. Its most important, and longest, river is the Al-Litāni, which drains into the Mediterranean near the city of Tyre. Another major river is the Orontes, which flows through the northern Bekaa Valley into Syria and then into Turkey before emptying into the Mediterranean.

## 8 🌐 DESERTS

Lebanon has no actual deserts.

## 9 🌐 FLAT AND ROLLING TERRAIN

A narrow plain, whose shore is alternately sandy and rocky, rims Lebanon's Mediterranean coast; in the north, this plain widens into the 'Akkar Plain.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Lebanon Mountains extend about 161 kilometers (100 miles) northeast to southwest, or nearly the entire length of the country. Its peaks rise rapidly from the coast, reaching their highest elevations in the northern part of the country and gradually decreasing in elevation as they extend southward. To the east, Lebanon's border with Syria is demarcated by a second mountain system composed of two different ranges, the Anti-Lebanon Mountains to the north and the Hermon range to the south. The interior mountains are generally lower than those to the west, although Mount Hermon, which rises to 2,813 meters (9,232 feet), is the country's second-highest peak.

## 11 🌐 CANYONS AND CAVES

Lebanon has no actual canyons or caves.

## 12 🌐 PLATEAUS AND MONOLITHS

The fertile Bekaa Valley separates Lebanon's two parallel mountain systems, reaching maximum elevations of around 914 meters (3,000 feet). Extending the entire length of the Leba-

## DID YOU KNOW?

The name *Lebanon* comes from the Arabic name for the Lebanon Mountains, *Djebel Libnan*, which means "milky-white mountains" (a reference to its snow-covered peaks).

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# LEBANON

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ARAMCO/George Baramki Azar

*One of the public beaches in Beirut, Lebanon.*

non Mountains, it constitutes the country's greatest expanse of essentially level terrain.

## **13** **MAN-MADE FEATURES**

In 1999, the al-Ola, al-Griah, Alman, and Senik Bridges, which together connected the capital city of Beirut to the southern part of the country, were destroyed in Israeli air attacks aimed at terrorist bases in the country. Iran subsequently agreed to fund reconstruction of the bridges.

## **14** **FURTHER READING**

### **Books**

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# Lesotho

- **Official name:** Kingdom of Lesotho
- **Area:** 30,355 square kilometers (11,720 square miles)
- **Highest point on mainland:** Mount Ntlenyana (3,482 meters/11,424 feet)
- **Lowest point on land:** Junction of the Orange and Makhaleng Rivers (1,400 meters/4,593 feet)
- **Hemispheres:** Eastern and Southern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 248 kilometers (154 miles) from north-northeast to south-southwest; 181 kilometers (112 miles) from west-northwest to east-southeast
- **Land boundaries:** 909 kilometers (565 miles) total boundary length; all with South Africa
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Lesotho is one of the smallest countries in Africa, and one of only three sovereign nations in the world to be completely surrounded by another country (the other two similar enclaves are San Marino and Vatican City). It borders the South African provinces of KwaZulu/Natal to the east, Eastern Cape to the south, and Orange Free State to the north and west. Lesotho covers an area of 30,355 square kilometers (11,720 square miles), or slightly more than the state of Maryland.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Lesotho has no territories or dependencies.

## 3 🌐 CLIMATE

Lesotho has a dry, temperate climate, with mean temperatures of 21°C (70°F) in summer and 7°C (45°F) in winter. Extremes range from 32°C (90°F) to -7°C (20°F) in the lowlands, with winter temperatures in the highlands sometimes plummeting below -18°C (0°F). On average, there are over 300 sunny days per year.

Rainfall ranges from 60 centimeters (24 inches) in the lowlands to 191 centimeters (75 inches) in the mountains. Most rain falls between October and April. Lesotho is prone to damaging hail in the summer and periodic disastrous drought. The Maloti Mountains are generally snowcapped in winter.

## 4 🌐 TOPOGRAPHIC REGIONS

Located on the Drakensburg Escarpment, which forms its eastern border with KwaZulu province in South Africa, Lesotho is mostly mountainous. Even its “lowlands,” a strip of land lying lengthwise along its northeast-southwest border, have an average elevation of 1,524 to 1,829 meters (5,000 to 6,000 feet). Occupying roughly a quarter of the country, they extend eastward to the Cave Sandstone Foothills. These foothills form a narrow band bordering the eastern highlands.

## 5 🌐 OCEANS AND SEAS

Lesotho is landlocked.

## 6 🌐 INLAND LAKES

Lesotho has no inland lakes.

# LESOTHO



## 7 RIVERS AND WATERFALLS

Most of Lesotho is drained by the Orange River and the Caledon River, which forms the country's western border. The Orange and Tugela Rivers, as well as the tributaries of the Caledon, rise in the northern plateau region, where the Maloti Mountains merge with the main Drakensburg Range. Three other important rivers flow from north to south and feed into the Orange. The Komet-spruit (Makhaleng) is in western Lesotho, the Senqunyane flows through the center of the country, and the Malibamatso runs through northeastern Lesotho. The Maletsunyane River is notable for the Maletsunyane Falls, located in Semonkong. The falls drop from a height of 192 meters (630 feet), making it the tallest waterfall in southern Africa.

## 8 DESERTS

Lesotho has no deserts.

## 9 FLAT AND ROLLING TERRAIN

The Western Lowlands cover approximately a quarter of the country's land area, between the Caledon River and the Cave Sandstone Foothills. They consist of undulating basins and plains ranging in width from 10 kilometers (6 miles) to 64 kilometers (40 miles), with altitudes averaging between 1,524 and 1,829 meters (5,000 and 6,000 feet). With an average altitude of between 1,829 and 2,134 meters (6,000 and 7,000 feet), the Cave Sandstone Foothills constitute an intermediate region between the highlands and the lowlands.

## 10 MOUNTAINS AND VOLCANOES

Mountains cover two-thirds of Lesotho, resulting in the nickname "the Switzerland of Africa." Lesotho's highlands are part of the Drakensburg Mountains, which rise in the east and then drop abruptly at the border with South Africa. The Maloti Mountains, in the center of the country, are a spur of the Drakensburg system, joining it in the north. The average elevation of the highlands is over 2,438 meters (8,000 feet). They rise to heights of over 3,048 meters (10,000 feet) in the east and northeast, reaching their highest point at Mount Ntlenyana on the eastern border.

## 11 CANYONS AND CAVES

The ruins of caves once inhabited by cannibals can be found near the mountain fortress of Thaba Bosiu.

## 12 PLATEAUS AND MONOLITHS

The northern area where the Maloti Mountains join the Drakensburg system consists of a high plateau with average elevations between 2,700 and 3,200 meters (8,900 and 10,500 feet).

## 13 MAN-MADE FEATURES

Maseru Bridge and Ficksburg Bridge are two of the major road links between Lesotho and South Africa.

# LESOTHO



EPD/Roy Ways

*Even Lesotho's lowlands, surrounded by mountains, have an average elevation of more than 1,500 meters (5,000 feet).*

## DID YOU KNOW?

Lesotho is the only country in the world whose lowest elevation is more than 1,000 meters (3,281 feet) above sea level.

## 14 FURTHER READING

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# Liberia

- **Official name:** Republic of Liberia
- **Area:** 111,370 square kilometers (43,000 square miles)
- **Highest point on mainland:** Mount Wutivi (1,380 meters/4,528 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** Noon = noon GMT
- **Longest distances:** 274 kilometers (170 miles) from north-northeast to south-southwest; 548 kilometers (341 miles) from west-northwest to east-southeast
- **Land boundaries:** 1,585 kilometers (985 miles) total boundary length; Guinea 563 kilometers (350 miles); Côte d'Ivoire 716 kilometers (445 miles); Sierra Leone 306 kilometers (190 miles)
- **Coastline:** 579 kilometers (360 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Liberia, Africa's oldest republic, is located at the western edge of the continent, on the Atlantic coast between Sierra Leone and Côte d'Ivoire. It has an area of 111,370 square kilometers (43,000 square miles), or slightly more than the state of Tennessee.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Liberia has no territories or dependencies.

## 3 🌐 CLIMATE

Liberia has a hot, humid, tropical climate with little seasonal variation, although temperatures are cooler in the interior highlands than along the coast. The mean temperature is 27°C (81°F). Ocean breezes temper the tropical heat, sometimes accompanied by the dry desert wind called the *harmattan*, which blows in December. Most rain falls during the rainy season between April and November. Rainfall varies from

about 178 centimeters (70 inches) in the northern uplands to 510 centimeters (200 inches) on the coast.

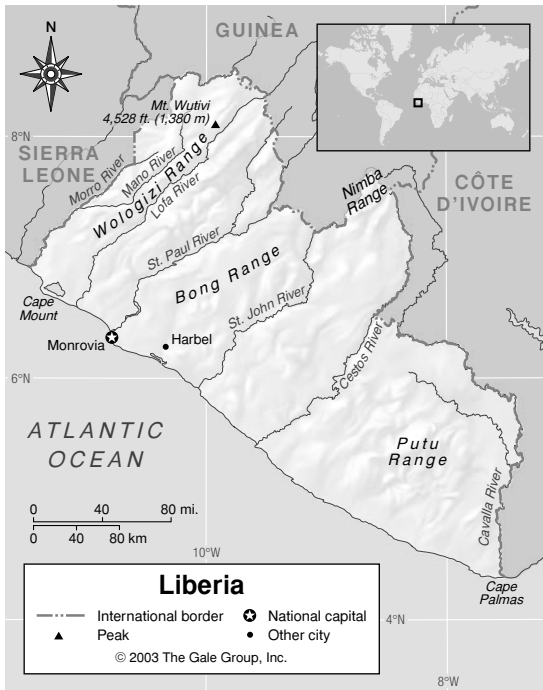
## 4 🌐 TOPOGRAPHIC REGIONS

Starting from a coastal plain that is 40 kilometers (25 miles) wide, the terrain gradually rises through two more major geographical regions: a belt of forested hills and, beyond it, an upland region of plateaus and low mountains.

## 5 🌐 OCEANS AND SEAS

Liberia is bordered on the west and southwest by the Atlantic Ocean. Since the country is only a few degrees north of the equator, it is also near the dividing point between the North Atlantic and South Atlantic Oceans. The surf is normally heavy all along the coast, but it is most tempestuous at the height of the rainy season.

# LIBERIA



## Coastal Features

The coastal region is a belt of gently rolling low plains extending 32 to 48 kilometers (20 to 30 miles) inland. It is broken along the shore by river estuaries, tidal creeks, and swamps, as well as a few prominent rocky capes and promontories. In the northwest, not far from the border with Sierra Leone, Cape Mount rises steeply from the sea to an elevation of over 305 meters (1,000 feet). Cape Mesurado is the site of Monrovia, the capital. Farther to the southeast, several other headlands break the monotony of the low shoreline. The mouths of Liberia's rivers are so obstructed by shifting sand bars, submerged rocks, and sandpits that they provide no natural harbors.

## 6 🌐 INLAND LAKES

Liberia's only sizable lake is Lake Fisherman (Lake Piso), which has an area of about 40 square miles.

## 7 🌐 RIVERS AND WATERFALLS

Most of Liberia's rivers flow in roughly parallel courses from the interior plateau to the ocean. Several of them, including the Lofa, the St. Paul, and the St. John, rise in the Guinea Highlands north of the border with Guinea. The Mano and Morro Rivers to the west form parts of the border with Sierra Leone. To the east, the Cavalla River forms the entire border with Côte d'Ivoire. The St. Paul River forms part of the border with Guinea. Rapids, waterfalls, and other barriers severely limit inland navigation.

## 8 🌐 DESERTS

Liberia has no deserts.

## 9 🌐 FLAT AND ROLLING TERRAIN

Between the coastal plain and the interior plateau is a band of heavily wooded, hilly country about 32 kilometers (20 miles) wide, with elevations of between 60 to 150 meters (200 and 500 feet).

## 10 🌐 MOUNTAINS AND VOLCANOES

There are scattered mountain ranges in Liberia's upland plateau region. They include the Putu range in the southeast, the Bong range near the center of the country, and the Wologizi and Nimba ranges in the north. The highest point in the country, Mount Wutivi, in the Wologizi range, rises to 1,380 meters (4,528 feet).

## DID YOU KNOW?

Liberia's coast was traditionally referred to as the Grain Coast, a reference to the "Grains of Paradise," or *malagueta* peppers, that attracted early European traders.

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# LIBERIA

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EPD/Michael A. Waite

*Many roads in Liberia are unpaved and become almost impassable after heavy rains.*

## 11 🌐 CANYONS AND CAVES

There are no notable caves or canyons in Liberia.

## 12 🌐 PLATEAUS AND MONOLITHS

Beyond Liberia's coastal plain and forested hills lies a rolling plateau broken abruptly by spurs of the Guinea Highlands. Ranging in elevation from 305 meters (1,000 feet) to over 1,219 meters (4,000 feet) in the high northern uplands, Liberia's inland plateau region is the country's largest geographical region.

## 13 🌐 MAN-MADE FEATURES

The Mt. Coffee hydroelectric plant is located on the St. Paul River, the second-longest river in the country.

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# Libya

- **Official name:** Great Socialist People's Libyan Arab Jamahiriya
- **Area:** 1,759,540 square kilometers (679,362 square miles)
- **Highest point on mainland:** Bikkū Bittī (Bette Peak) (2,267 meters/7,438 feet)
- **Lowest point on land:** Sabkhat Ghuzayyil (47 meters/154 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 1,989 kilometers (1,236 miles) from southeast to northwest; 1,502 kilometers (933 miles) from northeast to southwest
- **Land boundaries:** 4,383 kilometers (2,723 miles) total boundary length; Algeria 982 kilometers (610 miles); Chad 1,055 kilometers (656 miles); Egypt 1,150 kilometers (715 miles); Niger 354 kilometers (220 miles); Sudan 383 kilometers (238 miles); Tunisia 459 kilometers (285 miles)
- **Coastline:** 1,770 kilometers (1,100 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Libya is located in northern Africa on the southern border of the Mediterranean Sea. The country also shares borders with Egypt, Sudan, Chad, Niger, Algeria, and Tunisia. With an area of about 1,759,540 square kilometers (679,362 square miles), the country is slightly larger than the state of Alaska. Libya is divided into twenty-five administrative municipalities.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Libya has no outside territories or dependencies.

## 3 🌐 CLIMATE

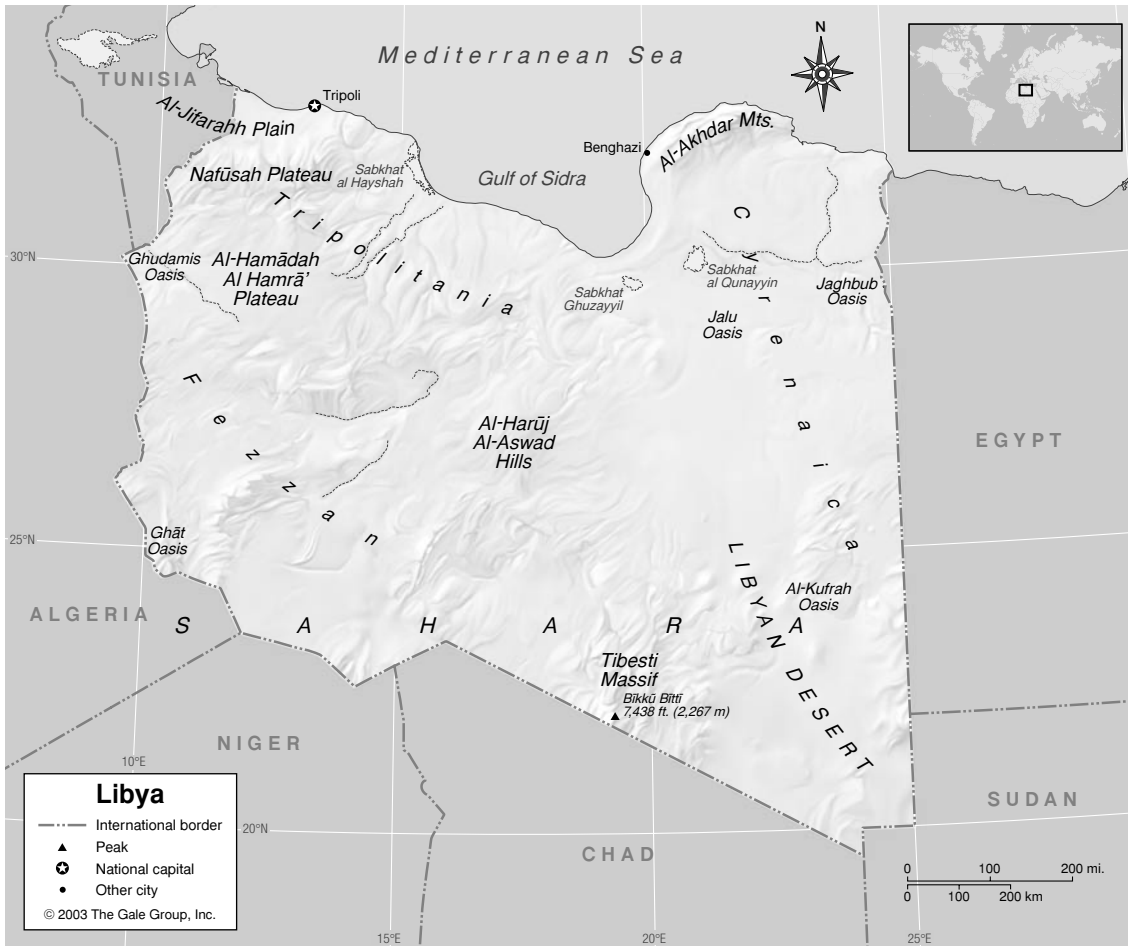
The Mediterranean Sea and the Sahara Desert influence Libya's climate. The *ghibli* (a hot, dry desert wind that lasts one to four days in both spring and fall) causes temperatures to fluctuate by as much as 17° to 22°C (30° to 40°F) in both the summer (June through September) and winter (October through May). Summer

highs along the northwestern coast are from 40°C to 46°C (104°F to 115°F), and temperatures farther to the south reach even higher. In the northeastern region, summer temperatures range from 27°C to 32°C (81°F to 90°F). In January, temperatures average 13°C (55°F) in the northern region.

During the summer months in southern Libya, virtually no rain falls and temperatures quickly climb to over 50°C (122°F). Daytime winter temperatures range between 15°C and 20°C (59°F and 68°F) and fall below 0°C (32°F) at night.

Rainfall varies between the different regions. The northeastern region receives 40 to 60 centimeters (16 to 24 inches) of rain yearly, while other regions receive less than 20 centimeters (8 inches). The Sahara Desert receives less than 5 centimeters (2 inches) of rain annually. A short winter period brings most of

# LIBYA



the rain, which usually causes floods. Evaporation is high between winters, making severe droughts common.

## 4 🌐 TOPOGRAPHIC REGIONS

More than six hundred million years ago, an enormous mountain range once covered Libya, which lies on the African Tectonic Plate. Over the centuries, the sea advanced, then retreated over the region; the corresponding water, wind, and temperature changes eroded the mountains, leaving behind the sands and plateaus that comprise Libya's landscape.

The fourth-largest country in Africa, Libya is sectioned into three main geographical areas: Tripolitania, Cyrenaica, and Fezzan. Tripolitania covers the northwestern corner of the country and the Fezzan covers the land south of Tripolitania. Cyrenaica, the largest geographic region, covers the entire eastern half of the country. Tripolitania and Cyrenaica are made up of low-lying land and plateaus. Tripolitania contains the Nafūṣah Plateau and Cyrenaica houses the Jabal al-Akhdar (Green Mountains). Fezzan is home to desert lands, including the Sahara.

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# LIBYA

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Aramco

*Camels in the Libyan Desert.*

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Libya has a northern coast along the Mediterranean Sea. The Mediterranean is an almost completely landlocked sea that lies between southern Europe, north Africa, and southwest Asia. It links to the Atlantic Ocean (at its western point) through the Strait of Gibraltar and to the Red Sea (at its southeastern shore) through the Suez Canal. It also connects to the Black Sea in the northeast through the Dardanelles, the Sea of Marmara, and the Bosphorus.

### Sea Inlets and Straits

The Gulf of Sidra is nestled between the Tripolitania and Cyrenaica regions. Important ports are located along the coast, including Benghazi, Tobruk, and Darnah.

## Coastal Features

The coastal plain is often marshy, yet beaches stretch for more than 1,600 kilometers (1,000 miles) along the Mediterranean Sea. Along the shore of the western region surrounding Tripoli, coastal oases alternate with sandy beaches and lagoons for more than 300 kilometers (180 miles).

## 6 INLAND LAKES

Although there are no major lakes in Libya, some small seasonal lakes do spring up during the rainy seasons. One small collection of lakes, Ramlet Dawada (Lakes in the Desert), is situated in the Libyan Sahara. This oasis contains eleven lakes surrounded by sand dunes and palms.

## 7 RIVERS AND WATERFALLS

In Libya there are no permanent rivers—only *wadis* (riverbeds that are seasonally or

# LIBYA

permanently dry). They catch the infrequent runoff from rainfall during the rainy season, which commonly causes flash floods in the surrounding areas. The wadis then dry out during the hot summer months.

## 8 🌐 DESERTS

The southern portion of Libya lies within the Sahara Desert. The part of the Sahara located in eastern Libya, western Egypt, and Sudan is known as the Libyan Desert. Agriculture is possible only in a few scattered oases, which

### DID YOU KNOW?

The Sahara Desert covers an area of 9,065,000 square kilometers (3,500,000 square miles) and is the largest desert in the world. The Sahara covers the entire region of North Africa, from the Atlantic coast in the west to the Red Sea in the east. It borders the Mediterranean Sea and the Atlas Mountains in the north and extends into a southern region known as the Sahel and the Sudan. Scientists believe that during the Ice Age (about fifty thousand to one hundred thousand years ago), the Sahara was once covered with shallow lakes that provided water for large areas of lush vegetation. Now, it is a vast and barren wasteland of rocky plateaus and sand.

include Jalu and Jaghub. The three largest oases in Libya's desert region are Al-Kufrah, Ghât, and Ghadâmis.

The Fezzan, in the southwestern region, is also a desert, with *ergs* (vast sand dunes) that reach several hundred feet high and change shape slowly in the shifting wind. They cover about one-fifth of the land. Also in this area are *sabkhas* (depressions on the desert floor) that contain water underground, creating occasional oases. Most of the Fezzan is flat, except for the area along the southern border near Chad, where the rugged mountain range, Tibesti Massif, is located. The range contains Libya's highest point, Bikkū Bittī (Bette Peak), at 2,267 meters (7,436 feet).

## 9 🌐 FLAT AND ROLLING TERRAIN

In the northeastern area of Cyrenaica (the region that covers almost half of Libya), the land rises from a coastal plain to the Jabal al-Akhdar (Green Mountains) with a height of just under 915 meters (3,000 feet). The lower slopes are covered with flowers, and at the higher elevations there are shrubs and juniper. In the southern region, a pastoral zone of sparse grassland gives way to the vast Sahara Desert.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Tibesti Massif, a rugged mountain range, runs along the southern border near Chad and houses Libya's highest point, Bikkū Bittī (Bette Peak), at 2,267 meters (7,438 feet). The Al-Akhdar Mountains run along the northeastern Mediterranean coast. In the center of the country are the lower Al-Harūj Al-Aswad Hills. These basaltic hills include a series of volcanoes called Qarat as-Sab'ah, which have elevations of up to 1,189 meters (3,900 feet).

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# LIBYA

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## 11 🌐 CANYONS AND CAVES

There are no major caves or canyons in Libya.

## 12 🌐 PLATEAUS AND MONOLITHS

In the northwest region of the country, Tripolitania is home to a series of terraces that rise slowly from sea level along the coastal plain of Al-Jifarahh until they reach the Nafūсах Plateau. This upland plateau is made of limestone and contains sand, shrubs, and scattered masses of stone. Elevations reach 1,000 meters (3,300 feet). Southward from the Nafūсах Plateau is the Al Hamādah Al Hamrā' (the Red Desert), a rocky plateau comprised of red sandstone. Its flat landscape stretches hundreds of miles to the southwest Fezzan Desert region. The rocky plateaus of the Fezzan Desert have been shaped by wind and extreme temperature changes.

## 13 🌐 MAN-MADE FEATURES

The discovery of vast aquifers in the south and southeast regions of Libya prompted the building of an enormous water pipeline to bring water from 225 underground wells to an

880,000-gallon reservoir in the coastal area for use in agriculture and industry. Called the Great Man-made River project, as of 2001 it was still under development. It is among the largest and most expensive engineering projects ever undertaken.

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# Liechtenstein

- **Official name:** Principality of Liechtenstein
- **Area:** 160 square kilometers (62 square miles)
- **Highest point on mainland:** Grauspitz (2,599 meters/8,527 feet)
- **Lowest point on land:** Ruggeller Riet (430 meters/1,411 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 9.4 kilometers (5.8 miles) from east to west; 24.5 kilometers (15.2 miles) from north to south
- **Land boundaries:** 76 kilometers (47 miles) total boundary length; Austria 35 kilometers (22 miles); Switzerland 41 kilometers (25 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

With an area slightly smaller than that of Washington, D.C., Liechtenstein is one of the smallest countries in the world, and the fourth-smallest in Europe. Shaped like an elongated triangle, it is sandwiched between the Swiss cantons of Graubünden and St. Gall to the south and west, and the Austrian province of Vorarlberg to the north and east.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Liechtenstein has no territories or dependencies.

## 3 🌐 CLIMATE

Liechtenstein has a continental climate tempered by a warm south wind called the *fohn*. Even at the upper Alpine elevations, winter temperatures rarely drop below  $-15^{\circ}\text{C}$  ( $5^{\circ}\text{F}$ ), and lowland temperatures average  $-5^{\circ}\text{C}$  ( $24^{\circ}\text{F}$ ) in January. Summer highs are generally between  $20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ) and  $28^{\circ}\text{C}$  ( $82^{\circ}\text{F}$ ). Annual precipitation ranges from 91 to 114 centimeters (36 to 45 inches). The higher Alpine peaks are snowcapped year-round.

## 4 🌐 TOPOGRAPHIC REGIONS

The western third of Liechtenstein lies on flat land in the floodplain of the Rhine River, which forms its western boundary. The eastern region consists of Alpine highlands.

## 5 🌐 OCEANS AND SEAS

Liechtenstein is landlocked.

## 6 🌐 INLAND LAKES

Liechtenstein has no major inland lakes.

## 7 🌐 RIVERS AND WATERFALLS

The Rhine River and its tributaries drain most of Liechtenstein. The mountain valleys to the east are drained by the Samina River, which rises in the southeast and flows northward through Liechtenstein's mountains into Austria.

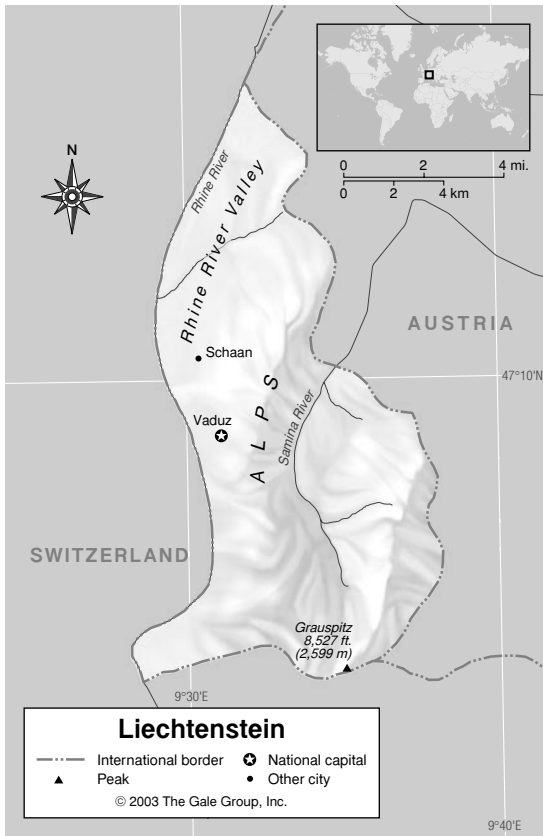
## 8 🌐 DESERTS

There are no deserts in Liechtenstein.

## 9 🌐 FLAT AND ROLLING TERRAIN

An unusual hill formation, called the Eschnerberg, rises to heights of 730 meters (2,395 feet)

# LIECHTENSTEIN



on the flat terrain of Liechtenstein's western plains area. Meadows and pastureland make up about 40 percent of the total land area.

## 10 🌐 MOUNTAINS AND VOLCANOES

Liechtenstein's Alpine foothills and peaks are located on a spur of the Rhaetian Alps called the Rhätikon Massif. Three main valleys traverse the country's mountains. Their highest point is the Grauspitz, which rises to 8,527 feet (2,599 meters) on the southeastern border with Switzerland.

## 11 🌐 CANYONS AND CAVES

Over the course of many centuries, water has carved a gorge 300 meters (985 feet) deep in the Salzach Valley.

## 12 🌐 PLATEAUS AND MONOLITHS

An unusual hill formation, called the Eschnerberg, rises to heights of 730 meters (2,395 feet) on the flat terrain of Liechtenstein's western plains area.

## 13 🌐 MAN-MADE FEATURES

Former marshland on the banks of the Rhine was reclaimed for agricultural use in the first half of the twentieth century. Both concrete and wooden bridges span the Rhine, connecting Liechtenstein to neighboring Switzerland.

## 14 🌐 FURTHER READING

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## DID YOU KNOW?

Liechtenstein is one of only two countries in the world that are doubly landlocked (surrounded by other landlocked countries). The other is Uzbekistan.

# Lithuania

- **Official name:** Republic of Lithuania
- **Area:** 65,200 square kilometers (25,174 square miles)
- **Highest point on mainland:** Juozapinė (292 meters/958 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 276 kilometers (172 miles) from north to south; 373 kilometers (233 miles) from east to west
- **Land boundaries:** 1,273 kilometers (791 miles) total boundary length; Belarus 502 kilometers (312 miles); Latvia 453 kilometers (281 miles); Poland 91 kilometers (57 miles); Russia 227 kilometers (141 miles)
- **Coastline:** 99 kilometers (62 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Lithuania, the largest of the Baltic States, is located in eastern Europe, east of the Baltic Sea. It shares land borders with Belarus, Latvia, Poland, and the Kaliningrad Oblast, which belongs to Russia. With a total area of about 65,200 square kilometers (25,174 square miles), the country is slightly larger than the state of West Virginia. Lithuania is administratively divided into forty-four regions and eleven municipalities.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Lithuania has no outside territories or dependencies.

## 3 🌐 CLIMATE

Although its climate is continental, Lithuania's proximity to the Baltic Sea provides a moderating maritime influence with mild winters and cool summers. In the east, however, conditions may vary from this pattern. The west has a growing season of 202 days, while in the east it lasts 169 days. Overall, the climate is mild. In

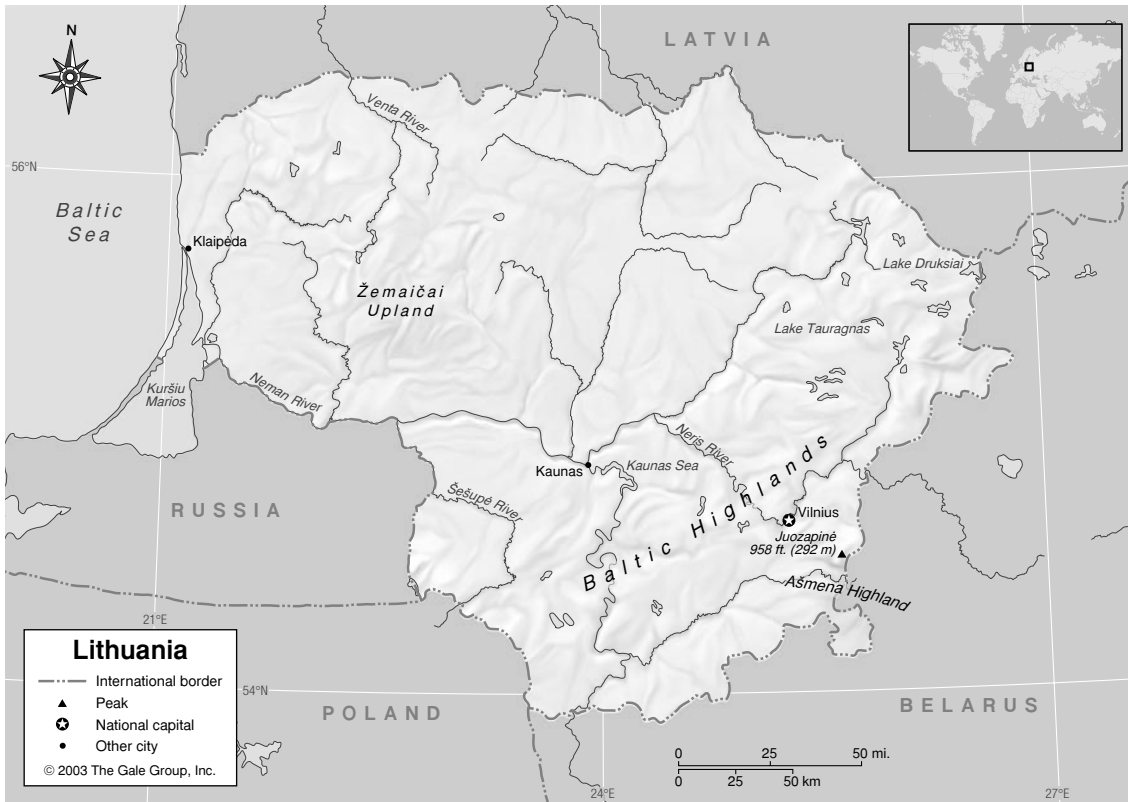
January, temperatures average 2°C (35° F). In summer, temperatures average 18°C (64°F).

Western Lithuania receives more rain than the rest of the country, with an average annual precipitation of 85 centimeters (33 inches), compared to 49 centimeters (24 inches) in the central plains and 72 centimeters (28 inches) on the east coast.

## 4 🌐 TOPOGRAPHIC REGIONS

The topography of Lithuania is characterized by alternating regions of highlands and lowlands, but the primary feature is a low-lying central plain. Like that of other nations in the region, continental glaciers formed the Lithuanian landscape during the Pleistocene ice age. No elevation is greater than 305 meters (1,000 feet). Highlands lie to the east and southeast of the central plain, while to the west the land is hilly but becomes low again along the coast. The plains of the southwestern and central regions are noted for their fertile soil.

# LITHUANIA



Lithuania is situated on the Eurasian Tectonic Plate.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Lithuania has a western coast along the Baltic Sea, which is an arm of the Atlantic Ocean. The coastline is only about 108 kilometers (67 miles) long.

### Sea Inlets and Straits

A long, narrow sandbar forms an offshore lagoon along the southern half of the coastline called Kuršiu Marios (Courland Lagoon).

## 6 🌐 INLAND LAKES

Lithuania has 2,833 lakes that each are larger than one hectare (two acres). In addition,

there are 1,600 ponds smaller than one hectare. Most are located in eastern Lithuania. Lake Druksiai, the largest lake, covers about 44.5 square kilometers (17.2 square miles). The deepest lake is Lake Tauragnas, with a depth of about 61 meters (200 feet). The longest lake, Asveja Lake, stretches for 22 kilometers (14 miles).

## 7 🌐 RIVERS AND WATERFALLS

Lithuania is notable for its many rivers as well as its numerous lakes; the country has 758 rivers that each are longer than 10 kilometers (6 miles). Only 600 kilometers (372 miles) of the country's rivers are navigable, however. The Neman is the longest river, entering the country from Belarus in the south and flowing for

# LITHUANIA

roughly 475 kilometers (295 miles) within Lithuania before entering the Baltic Sea. The total length of the Neman River is 936 kilometers (582 miles). It forms the border with Russian Kaliningrad along its lower course.

Other significant rivers include the Neris, 510 kilometers (316 miles); the Venta, 346 kilometers (215 miles); and the Šešupė, 298 kilometers (185 miles).

Like its northern neighbor, Latvia, Lithuania has many marshes and swamps. Most of the country's original wetlands, however, have been drained for agriculture. Remaining wetlands are located mostly in the north and west.

## 8 🌐 DESERTS

There are no desert regions in Lithuania.

## 9 🌐 FLAT AND ROLLING TERRAIN

About 28 percent of Lithuania's land was still covered by forest as of 2002, with patches of woodlands scattered throughout the country. The coastal region and the south favor pines, while oak trees predominate in the central region, although they are relatively scarce. Mushrooms and berries are abundant. Lithuania has set aside large forested areas as nature reserves, which support many species of wildlife. Mammals living here include elk, deer, wolves, foxes, and wild boar; bird species include white storks, herons, geese, ducks, and hawks.

There are hills and uplands on either side of Lithuania's central plain. In the west is the Žemaičiai Upland. To the southeast are the Baltic Highlands, including the Ašmena Highland. None of these hills are very tall. The highest elevation, Juozapinė (292 meters/958 feet), is situated in the southeast region on the border of Belarus.

## DID YOU KNOW?

In the northern Biržai region of Lithuania, a high gypsum and limestone content in the local terrain, plus the existence of numerous underground rivers, has caused the occurrence of over two thousand sinkholes. The water underground erodes the soil and rock above, causing the ground to cave in. The sinkholes range in size from very small holes to large, deep craters. The larger sinkholes may be filled with water from the underground rivers. Scientists are studying the sinkholes in this area to determine possible ways to counteract such erosion.

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no major mountain ranges or volcanoes in Lithuania.

## 11 🌐 CANYONS AND CAVES

Lithuania has no major caves or canyons.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no plateau regions in Lithuania.

## 13 🌐 MAN-MADE FEATURES

The Kaunas Dam was built on the Neman River to provide hydroelectric power. Construction of the dam created a reservoir called the Kaunas Sea. Several other dams have been built throughout the country for water storage, irrigation, and flood control. The reservoirs created by these dams are also used for fishing and recreation.

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# LITHUANIA

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## DID YOU KNOW?

**E**stonia, Latvia, and Lithuania, three countries located on the eastern coast of the Baltic Sea, are often politically referred to as the Baltic States. These three nations became independent countries in 1918, after World War I, but were involuntarily incorporated into Russia as provinces in 1940. They became fully independent again in 1991. Although Sweden, Finland, and Poland also border on the Baltic Sea, Sweden and Finland are culturally and socially grouped as Scandinavian countries, while Poland is more closely associated with eastern Europe.

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# Luxembourg

- **Official name:** Grand Duchy of Luxembourg
- **Area:** 2,586 square kilometers (998 square miles)
- **Highest point on mainland:** Buurgplaat (559 meters/1,834 feet)
- **Lowest point on land:** Moselle River (133 meters/436 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 57 kilometers (35 miles) from east to west; 82 kilometers (51 miles) from north to south
- **Land boundaries:** 356 kilometers (221 miles) total boundary length; Belgium 148 kilometers (92 miles), France 73 kilometers (45 miles), Germany 135 kilometers (84 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Luxembourg, one of the world's smallest countries, is a landlocked nation located at the heart of Western Europe. Together with Belgium and the Netherlands, it is part of a group known as the Benelux countries (formerly the Low Countries). With an area of 2,586 square kilometers (998 square miles), it is slightly smaller than the state of Rhode Island.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Luxembourg has no territories or dependencies.

## 3 🌐 CLIMATE

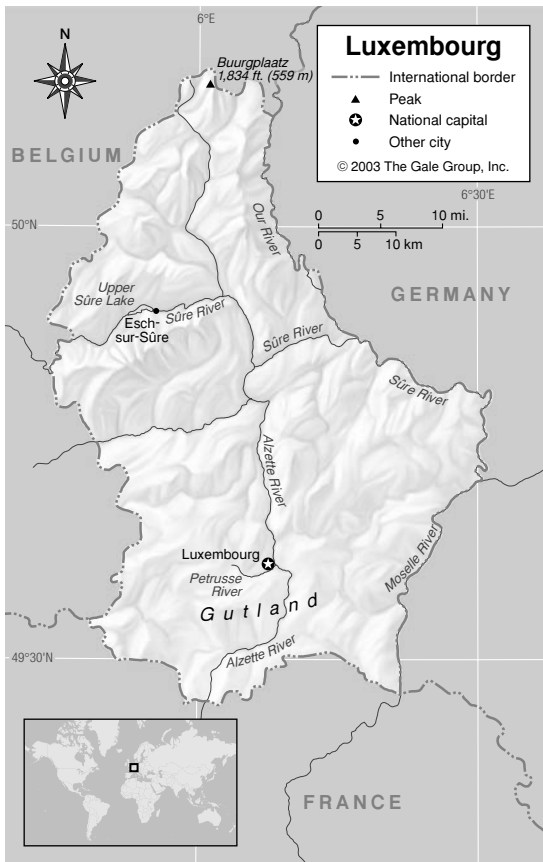
Luxembourg has a temperate climate, with cool summers, mild winters, and plentiful precipitation. The city of Luxembourg, in the south-central part of the country, has average temperatures of 0.6°C (33°F) in January and 17°C (63°F) in July. In the Oesling region to the north, temperature averages for both seasons are somewhat lower. The Moselle River

Valley in the east has an especially pleasant climate, which has led to its nickname of "Little Riviera." Rainfall, which varies from about 76 centimeters (30 inches) to 127 centimeters (50 inches) annually, is generally heavier in the north.

## 4 🌐 TOPOGRAPHIC REGIONS

Despite its small size, Luxembourg's terrain varies considerably and includes parts of three different topographical areas: the Lorraine plateau of northern France, the foothills of Belgium's Ardennes Mountains, and Germany's Moselle Valley. The intersection of these features carves Luxembourg into two major geographic regions. The northern third of the country, known as the Oesling, is a plateau region belonging to the Ardennes system of southeastern Belgium. The southern two-thirds, known as Gutland, or the Bon Pays, is a region of lower elevation consisting of hills and broad valleys.

# LUXEMBOURG



## 5 🌐 OCEANS AND SEAS

Luxembourg is landlocked.

## 6 🌐 INLAND LAKES

The most important lake is the Upper Sûre Lake, situated on the course of the Sûre River as it winds across the upper portion of the country. Esch-sur-Sûre is located at its eastern end, which is the site of both a nature reserve and a hydroelectric dam.

## 7 🌐 RIVERS AND WATERFALLS

Luxembourg's major rivers are the Moselle, the Sûre, and the Our, which together form its border with Germany. The Moselle, which originates in France and has a total length of 515 kilometers (320 miles), demarcates Luxembourg's eastern border for

31 kilometers (19 miles). The Sûre, which rises in Belgium, flows eastward across Luxembourg in a meandering course for 172 kilometers (107 miles), gathering tributaries from both the northern and southern parts of the country before reaching the German border and then flowing southward into the Moselle. In the south, the Alzette River flows northward through the center of the country until it reaches the Sûre.

## 8 🌐 DESERTS

There are no deserts in Luxembourg.

## 9 🌐 FLAT AND ROLLING TERRAIN

The southern two-thirds of Luxembourg consists of fertile, gently rolling land with an average elevation of about 229 meters (750 feet). The Moselle River Valley in the east is known for its vineyards, and there is a mining region to the southwest, near the border with France.

## 10 🌐 MOUNTAINS AND VOLCANOES

The highest point in Luxembourg's uplands, and also in the country as a whole, is Buurgplaatz, at 559 meters (1,834 feet).

## 11 🌐 CANYONS AND CAVES

The Hoestroff Cave is 4,000 meters (13,124 feet) long.

## 12 🌐 PLATEAUS AND MONOLITHS

The Ardennes region that forms Luxembourg's northern uplands consists of a plateau that has an average elevation of 450 meters (1,500 feet)

## DID YOU KNOW?

Human settlement near Luxembourg's second-largest city, Esch-sur-Alzette, can be traced back five thousand years.



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# LUXEMBOURG

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EPD/Saxifraga/Willem van Kruijsbergen

*Exposed granite rock formations lie in the middle section of Luxembourg, near the border with Germany.*

and is deeply carved by the valleys of the Sûre River and its tributaries.

## **13** **MAN-MADE FEATURES**

Luxembourg's hills and plateaus are connected by numerous bridges, which are especially prominent in the capital city. Bridges in the capital include the modern Grand Duchesse Charlotte Bridge, popularly known as the Red Bridge; the seventeenth-century Vaubon Bridge; the late-nineteenth-century Pont Adolphe, once the world's longest single-span stone bridge; and the Pont Victor Bodson.

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*Luxembourg Tourist Office.* <http://www.luxembourg.co.uk/> (accessed April 24, 2003).

# Macedonia

- **Official name:** The Former Yugoslav Republic of Macedonia
- **Area:** 25,333 square kilometers (9,781 square miles)
- **Highest point on mainland:** Golem Korab (2,753 meters/9,032 feet)
- **Lowest point on land:** Vardar River (50 meters/164 feet)
- **Hemispheres:** Northern and Western
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 175 kilometers (109 miles) from north to south; 216 kilometers (134 miles) from east to west
- **Land boundaries:** 748 kilometers (465 miles) total boundary length; Albania 151 kilometers (94 miles); Bulgaria 148 kilometers (92 miles); Greece 228 kilometers (142 miles); Serbia and Montenegro 221 kilometers (137 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Macedonia is a landlocked country on the Balkan Peninsula of southern Europe. It shares borders with Serbia and Montenegro, Bulgaria, Greece, and Albania. With a total area of about 25,333 square kilometers (9,781 square miles), the country is slightly larger than the state of Vermont. Macedonia is administratively divided into 123 municipalities.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Macedonia has no outside territories or dependencies.

## 3 🌐 CLIMATE

Macedonia's climate is a blend of continental and Mediterranean, with very cold winters and hot summers. The average annual temperature for the country is 12°C (53°F). Maximum summer temperatures in the lowlands can reach 40°C (104°F), and the coldest winter temperatures can drop to around 30°C below zero (22°F below zero).

Due to the influence of the Mediterranean Sea, which lies south of the Balkan Peninsula, rainfall is moderate in the Vardar River valley. Annual rainfall is scattered throughout the year and only averages about 50 to 70 centimeters (20 to 28 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Macedonia lies inland in the middle of the Balkan Peninsula. About 80 percent of its territory is mountainous, with large and high massifs giving way to extensive valleys and plains. Low passes or deep ravines connect the valleys with one another. There are some interior highlands in the north-central region and in the southwest corner of Macedonia.

Macedonia is on the Eurasian Tectonic Plate. A fault line extends in a north-to-south direction in east-central Macedonia. This structural seam in the earth's crust periodically shifts, causing earth tremors and occasional destructive earthquakes. In 1963, an earthquake destroyed much of Skopje, killing 1,066 people.

# MACEDONIA



## 5 🌐 OCEANS AND SEAS

Macedonia is a landlocked nation. The nearest open bodies of water are the Adriatic Sea, which lies on the far side of Albania to the west, and the Aegean Sea, which lies beyond Greece to the southeast. Both of these seas are extensions of the larger Mediterranean Sea.

## 6 🌐 INLAND LAKES

Macedonia has fifty-three natural and artificial lakes. The three largest lakes are of tectonic origin: Ohrid, Prespa, and Dojran. Lake Ohrid is in the southwestern corner of Macedonia, covering 348 square kilometers (134 square miles). Only 230 square kilometers (89 square miles) of this lake lie within Macedonia's borders; the rest is within Albania. Lake Ohrid is some 30.4 kilometers (18.9 miles) long and 14.5 kilometers (9 miles) wide, with its surface 695 meters (2,280 feet) above sea level. The clarity of the water extends some 21.5 meters (70 feet) down and the lake's maximum depth is 287 meters (942 feet). Lake Prespa is the second-largest lake

in Macedonia; of its total surface area of 274 square kilometers (106 square miles), only 177 square kilometers (68 square miles) lies within Macedonian territory. Greece and Albania share the rest of this lake. At 853 meters (2,799 feet) above sea level, the water in Lake Prespa gradually seeps through the porous limestone and ends up in Lake Ohrid, not far to the northwest.

Macedonia also has twenty-five glacial mountain lakes, known as *oci*, or mountain "eyes." Additionally, there are numerous mineral springs. The Katlanovo Spa outside Skopje is fed by several springs and has been famous since the Roman era for its therapeutic 46°C (115°F) waters.

## 7 🌐 RIVERS AND WATERFALLS

Macedonia's rivers flow into one of three basins: the Aegean Sea, the Adriatic Sea, or the Black Sea. The Vardar River, which has a total length of 388 kilometers (241 miles), enters from Serbia and Montenegro in the north and flows southeast across Macedonia for 301 kilometers (187 miles), before crossing into Greece and eventually emptying into the Aegean. The Vardar is the longest and most important river in the country, draining 80 percent of its territory. Within Macedonia, the Vardar has thirty-seven tributaries, including the Bregalnica and the Crna. The Strumica in the southeast is the only other river of note flowing into the Aegean.

The Crni Drim River drains the westernmost 13 percent of Macedonia. It flows north out of Lake Ohrid and into Albania before turning west and draining into the Adriatic Sea. Less than 0.2 percent of the country is drained by the Binacka Morava River, which has its source in Macedonia. The Binacka Morava flows only a few miles through the country before crossing into

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# MACEDONIA

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EPD/Saxifraga/Adriaan Dijkse

*Mountain scenery east of Lake Ohrid in Macedonia.*

Yugoslavia, eventually emptying into the Danube River and the Black Sea.

## **8** 🌐 **DESERTS**

There are no desert regions in Macedonia.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Macedonia has nineteen separate lowland areas, covering a total area of about 7,690 square kilometers (2,970 square miles). Valley basin lowlands comprise about 4,900 square kilometers (1,900 square miles).

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Most of Macedonia is mountainous; the average altitude of the country is about 850 meters (2,800 feet). The mountain systems are a complicated mass, with ridges running in many different directions and no truly dominant range. Some of the highest ranges are the Jakupica, in central Macedonia; Korab in the west; Plačkovica in the east;

and Kožuf and Nidže in the south. Thirty-four mountain peaks exceed 2,000 meters (6,560 feet), ranging from Mount Belasica (2,029 meters/6,657 feet) to Golem Korab (2,753 meters/9,032 feet), which is the highest peak in Macedonia. Along the northern border with the Kosovo region of Serbia and Montenegro, Šar Planina, at 80 kilometers (50 miles) long and between 10 and 20 kilometers (6 and 12 miles) wide, is the largest natural massif in Macedonia, reaching a peak of 2,747 meters (9,012 feet).

The high mountains are covered mostly with pine trees. Lower mountains have a canopy of beech and oak trees. The Macedonian Pine is an ancient native species found in the forests on Mount Pelister near Lake Prespa.

# MACEDONIA

## 11 CANYONS AND CAVES

Macedonia's canyons link the lowlands. There are 114 separate canyons in Macedonia totaling 297 kilometers (185 miles) in length, ranging from the 2.3-kilometer- (1.4-mile-) long Boshavica River canyon to the 42.5-kilometer- (26.4-mile-) long Radika canyon. The Derven, Taor, and Demir Kapija canyons are situated on the Vardar River. Demir Kapija has nearly vertical sides and several small caves.

There are dozens of glacial caves within the mountains, some of which feature water. One of these is Djonovica (located between Gostivar and Kičevo), which extends about 600 meters (2,000 feet) underground.

## 12 PLATEAUS AND MONOLITHS

There are no plateau regions in Macedonia.

## 13 MAN-MADE FEATURES

There are about fifteen artificial lakes in Macedonia. One of the largest is Mavrovo. Formed in 1953, Lake Mavrovo covers about 13.7 square kilometers (5.3 square miles). It is a reservoir on the Radika River that is linked to three hydropower plants. The lake is now part of Mavrovo National Park and has become a popular tourist spot.

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## DID YOU KNOW?

The name Macedonia has historically been used to describe a region that includes parts of modern Greece, Bulgaria, and the current Republic of Macedonia. The ancient kingdom that was based there ruled Greece for centuries and produced its most famous conqueror, Alexander the Great. When the nation now known as Macedonia declared independence from Yugoslavia (now Serbia and Montenegro) in 1991 and took "Republic of Macedonia" for its name, the government of Greece objected. To them, Macedonia is a Greek name and an important part of Greek history and culture, which the new country could not rightfully claim. Due to the ongoing controversy, many countries refer to the Republic of Macedonia as the Former Yugoslav Republic of Macedonia, or by other names.

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# Madagascar

- **Official name:** Republic of Madagascar
- **Area:** 587,040 square kilometers (226,656 square miles)
- **Highest point on mainland:** Mount Maromokotro (2,876 meters/9,436 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 1,570 kilometers (976 miles) from north-northeast to south-southwest; 569 kilometers (354 miles) from east-southeast to west-northwest
- **Land boundaries:** None
- **Coastline:** 4,828 kilometers (3,000 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Madagascar is an island nation off the coast of Mozambique in southern Africa. It is the world's fourth-largest island, and one of its southernmost countries—the most southerly part of the island lies below the Tropic of Capricorn. With an area of 587,040 square kilometers (226,656 square miles), it is almost twice the size of the state of Arizona.

Madagascar is famous for its unique wildlife and vegetation, which developed and diversified in isolation from the fauna and flora of mainland Africa. Many of these plant and animal species are threatened by the continuing loss of Madagascar's rainforest habitat through destruction and erosion.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Madagascar has no territories or dependencies.

## 3 🌐 CLIMATE

Madagascar's climate is strongly influenced by southeasterly trade winds, and its temperatures are also moderated by altitude. The coastal areas are hottest, and the highest elevations of the plateau regions are the coolest. Temperatures range from 10°C

(50°F) to 26°C (78°F) in July (the coolest month) and from 16°C (61°F) to 29°C (84°F) in December (the hottest month). The hot season between November and April is also the rainy season, while drier weather prevails throughout the rest of the year. Rainfall is heaviest on the eastern, or windward, side of the island, with an annual average of almost 380 centimeters (150 inches) occurring at Antongila Bay. Monsoons bring precipitation to the northwestern coast, which averages 211 centimeters (83 inches) of rainfall annually, compared with the arid southwest, where the average drops to a mere 36 centimeters (14 inches). Annual precipitation on the plateau falls between these extremes, averaging about 135 centimeters (53 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

The island can be broadly divided into three major regions: 1) a narrow coastal plain to the east; 2) a large central plateau that extends the entire length of the country; and 3) a hillier and less clearly defined coastal area to the west.

# MADAGASCAR



## 5 🌐 OCEANS AND SEAS

Madagascar is located in the southwestern part of the Indian Ocean, opposite Mozambique.

### Sea Inlets and Straits

Madagascar is separated from the African continent by the Mozambique Channel, which is 400 kilometers (250 miles) wide. Madagascar's

deepest coastal indentation is Antongila Bay, at the northeastern part of the island.

### Islands and Archipelagos

Small volcanic islands, including Nosy Mitsio and Nosy Be, border the northwestern coast. The only such island to the east is Nosy Boraha, south of Antongila Bay.

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# MADAGASCAR

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EPD/Saxifraga/Wiel Poelmans

*The region northwest of Antananarivo on Madagascar features rounded, barren hills.*

## Coastal Features

Sandy beaches cover most of the narrow eastern coastal plain. South of Antongila Bay, the shoreline is almost perfectly straight and it becomes relatively smooth once again to the north, terminating in a sharp point beyond the smaller Antsiranana Bay. The western coast is more irregular and indented. The northwest section is fringed with coral reefs, bordered by small islands, and broken up by a number of estuaries and bays, including Bombetoka and Ampasindava Bays. Farther south, the coastline, although curved, is smoother, with mangrove trees and small dunes at its edges.

## 6 🌐 INLAND LAKES

Madagascar has a number of volcanic lakes, of which only a few are of significant size. The largest is Lake Alaotra in the northeast, on the Ankaratra Plateau. There is a large saltwater lake, Lake Tsimanampetsotsa, at the southwestern end of the island, near Toliara.

## 7 🌐 RIVERS AND WATERFALLS

The short rivers on the eastern part of the island rush down the steep slopes of the escarpment that borders the coastal plain and either drain into the coastal lagoons or form rapids and waterfalls that cascade into the ocean. These rivers include the Mananara, Faraony, Ivondro, and Maningory. On the western part of the island, the rivers flow sluggishly westward across a broad coastal zone. The major western rivers include the Mangoky, Tsiribihina, Betsiboka, Onilahy, and Manambajo. The mouths of these rivers—which are longer and larger than those of the rivers in the east—are frequently blocked by sandbars.

## 8 🌐 DESERTS

Arid conditions produce a desert environment in the southernmost part of the island, which is characterized by spiny desert vegetation resembling that found at the same latitude on the African continent.



# MADAGASCAR

## 9 🌐 FLAT AND ROLLING TERRAIN

The coastal plain in the eastern part of the country is about 48 kilometers (30 miles) wide and is composed of alluvial soil. The sloping coastal region to the west ranges in width from 97 to 201 kilometers (60 to 125 miles).

## 10 🌐 MOUNTAINS AND VOLCANOES

Some of Madagascar's highest mountains are of volcanic origin, including those of the Tsaratanana and Ankaratra Massifs. In the north, the Tsaratanana Massif, which separates the northernmost region from the rest of the country, includes the country's highest point, Mount Maromokotro (2,876 meters/9,436 feet). The Ankaratra Massif, which occupies the center of the island, forms a watershed between three river basins; its highest point is Mount Tsiafajavona (2,642 meters/8,668 feet). To the south, the granite expanse of the Andringitra Massif rises to 2,658 meters (8,720 feet) at its highest point. The low Ambohitra Mountains at the northernmost part of the island contain a number of volcanic craters.

## 11 🌐 CANYONS AND CAVES

There are extensive caves underneath the expanses of jagged, needle-like limestone pinnacles, called *tsingy*, found in parts of the Ankaratra Plateau.

## 12 🌐 PLATEAUS AND MONOLITHS

The central plateau has average elevations of 800 to 1,400 meters (2,500 to 4,500 feet), but it rises to heights of over 2,438 meters (8,000 feet) in several places. Wide areas of the plateau are covered by rounded hills of nearly uniform height, but there is still topographical diversity in these highlands, which include terraced valleys and rolling pastureland. Elevation is gradually steeper in the east, with the Ankaratra Plateau bordered by the sheer Cliff of Angavo (the Great Cliff). The descent is more gradual in the south and west.

## DID YOU KNOW?

The lemur, Madagascar's most distinctive wildlife species, descended from primates thought to have reached the island by floating on logs millions of years ago. Lemurs on Madagascar evolved independently of monkeys and other primate species.

## 13 🌐 MAN-MADE FEATURES

Running parallel to the eastern coast for some 644 kilometers (400 miles) is a narrow, artificial waterway called the Pangalanes Canal that links a series of lagoons.

## 14 🌐 FURTHER READING

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# Malawi

- **Official name:** Republic of Malawi
- **Area:** 118,480 square kilometers (45,745 square miles)
- **Highest point on mainland:** Mount Mulanje (3,002 meters/9,849 feet)
- **Lowest point on land:** Shire River at the Mozambique border (37 meters/121 feet)
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 257 kilometers (160 miles) from east to west; 853 kilometers (530 miles) from north to south
- **Land boundaries:** 2,881 kilometers (1,790 miles) total boundary length; Mozambique 1,569 kilometers (975 miles); Tanzania 475 kilometers (295 miles); Zambia 837 kilometers (520 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Malawi, an inland nation in southeastern Africa, is well within the southern tropics. Its territory extends from north to south for 901 kilometers (560 miles) at an average width of less than 161 kilometers (100 miles), in a southern segment of the East African Rift Valley. With an area of 118,480 square kilometers (45,745 square miles), Malawi is slightly larger than the state of Pennsylvania. Malawi is divided into twenty-seven districts.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Malawi has no territories or dependencies.

## 3 🌐 CLIMATE

Variations in altitude in Malawi lead to wide differences in climate. The vast water surface of Lake Malawi has a cooling effect, but because of the low elevation, the lands surrounding the lake have long hot seasons and high humidity, with a mean annual temperature of 24°C (75°F). Lilongwe, in Central Malawi, at an elevation of 1,041 meters (3,415 feet), has a moderately warm climate

with adequate rainfall. The average daily minimum and maximum temperatures in November, the hottest month, are 17°C (63°F) and 29°C (84°F) respectively; those in July, the coolest month, are 7°C (45°F) and 23°C (73°F).

In general, the four seasons may be divided into the cool (May to mid-August); the hot (mid-August to November); the rainy (November to April), with rains continuing longer in the northern and eastern mountains; and the post-rainy (April to May), with temperatures falling in May. Precipitation is heaviest along the northern coast of Lake Malawi, where the yearly average is more than 163 centimeters (64 inches). About 70 percent of the country averages about 75 to 100 centimeters (30 to 40 inches) annually.

## 4 🌐 TOPOGRAPHIC REGIONS

A complex geologic history has contributed to the formation of a landscape of great diversity in elevations and relief features. Floodplains, marshes, hills, plateaus, escarpments,

# MALAWI



and mountains range from a few hundred feet above sea level in the lower valley of the Shire River to more than 2,590 meters (8,500 feet) in several widely separated sections of the country.

## 5 🌐 OCEANS AND SEAS

Malawi is landlocked.

## 6 🌐 INLAND LAKES

Lake Malawi (also called Lake Nyasa), one of the largest and deepest lakes in the world, extends from north to south for more than 563 kilometers (350 miles), occupying the floor of a major southern segment of the East African Rift Valley system. Lake Chilwa is a complex of lakes and marshes in the southwest that has no outlet to the sea. Shallow and saline, it is subject to seasonal variations in water level and has numerous islands, two of which are permanently inhabited.

## 7 🌐 RIVERS AND WATERFALLS

The Shire River drains the overrun from Lake Malawi, flowing southward through Lake Malombe and then continuing southward toward the Zambezi River. The Lilongwe River is dry for nearly one month each year. West of Zomba, numerous rapids and cataracts restrict transportation.

## 8 🌐 DESERTS

There are no deserts in Malawi.

## 9 🌐 FLAT AND ROLLING TERRAIN

In addition to the Shire, Lilongwe, and Nyika Plateaus, the country has extensive flat or rolling surfaces that range from 762 to 1,371 meters (2,500 to 4,500 feet) above sea level.

## 10 🌐 MOUNTAINS AND VOLCANOES

A few mountain ranges rise above the level of the highest plateaus. In the north, several peaks on the Nyika Plateau reach 2,590 meters (8,500 feet). The highest summit in the central region is Dedza Mountain, at 2,255 meters (7,400 feet). In the south, Zomba Mountain rises over 2,072 meters (6,800 feet). The Mulanje mountain system (also called the Mulanje Plateau, or the Mulanje Massif) near the southeastern border is Malawi's highest range. The highest pinnacle, Mt. Mulanje, rises to 3,002 meters (9,849 feet).

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# MALAWI

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EPD/Ezekiel Kalapeni

*The rolling terrain of Malawi is covered with fertile soil.*

## **11** 🌐 **CANYONS AND CAVES**

One of Malawi's most picturesque sites is the steep Ruo Gorge at Minunu on the Mulanje Massif. Many of the massif's steep cliffs are more than 1,000 meters (3,280 feet) high.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Malawi's plateaus are its most important geographic feature, forming three-fourths of its land area.

The Shire Plateau in the south covers about 7,251 square kilometers (2,800 square miles). Blantyre, Malawi's largest town, and the village of Zomba lie on this plateau.

The Lilongwe Plain is a much broader plateau in the central region, covering about

23,309 square kilometers (9,000 square miles). It has numerous broad valleys and dambos (areas of moist soils on impermeable subsurface layers) separated by low, rounded hills. The Nyika Plateau in the north is the highest in Malawi. It covers some 23,309 square kilometers (9,000 square miles) at elevations between 2,133 and 2,438 meters (7,000 and 8,000 feet).

## **13** 🌐 **MAN-MADE FEATURES**

The Mulunguzi Dam on the Zomba Plateau is among Malawi's largest dams. A major enlargement of the dam was carried out in the late 1990s with financial assistance from the World Bank.

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# MALAWI

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# Malaysia

- **Official name:** Malaysia
- **Area:** 329,750 square kilometers (127,317 square miles)
- **Highest point on mainland:** Mount Kinabalu (4,100 meters/13,451 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 7 P.M. = noon GMT
- **Longest distances:** Peninsular Malaysia extends 748 kilometers (465 miles) from south-southeast to north-northwest and 322 kilometers (200 miles) from east-northeast to west-southwest.
- **On Borneo, Sarawak extends** 679 kilometers (422 miles) from north-northeast to south-southwest and 254 kilometers (158 miles) from east-southeast to west-northwest; Sabah is 412 kilometers (256 miles) from east to west and 328 kilometers (204 miles) from north to south.
- **Land boundaries:** 2,669 kilometers (1,658 miles) total boundary length; Brunei 381 kilometers (237 miles); Indonesia 1,782 kilometers (1,107 miles); Thailand 506 kilometers (314 miles)
- **Coastline:** 4,675 kilometers (2,905 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Located in Southeast Asia, Malaysia consists of two separate, discontinuous regions: the southern portion of the Malay Peninsula, sharing a border with Thailand to the north; and the northern third of the island of Borneo, sharing borders with Indonesia and Brunei. The South China Sea separates the two regions. With a total area of about 329,750 square kilometers (127,317 square miles), the country is slightly larger than the state of New Mexico. Malaysia is divided into thirteen states and two federal territories.

## 2 🌐 TERRITORIES AND DEPENDENCIES

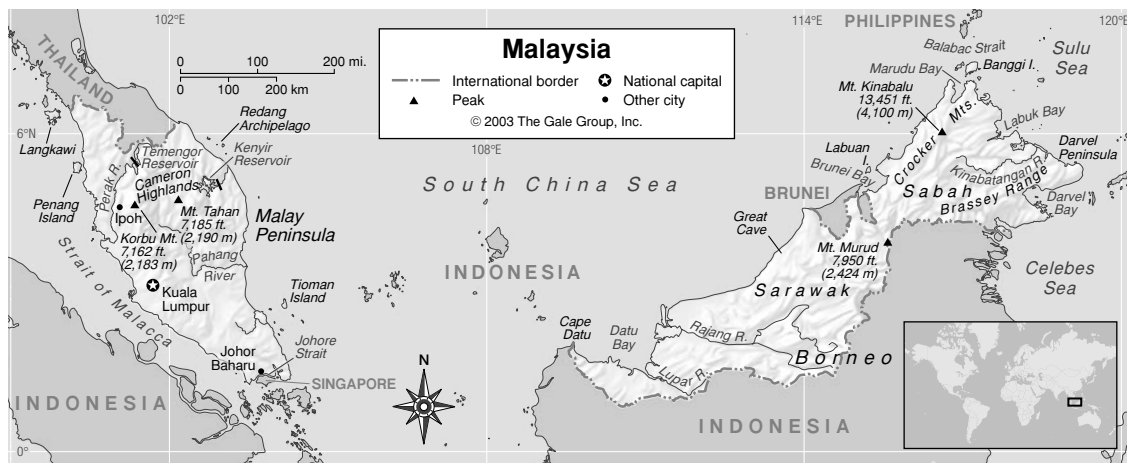
Officially, Malaysia has no outside territories or dependencies; however, Malaysia is one of

several countries that lays claim to several of the Spratly Islands in the South China Sea. The Philippines and Malaysia also disagree over the ownership of Sabah. Singapore, a small island nation south of the Malay Peninsula, and Malaysia dispute ownership of Palau Batu Putih (Pedra Branca Island). And finally, Malaysia and Indonesia both claim dominance over the Sidipan and Ligitan Islands.

## 3 🌐 CLIMATE

Malaysia has a basically tropical climate, characterized by fairly high but uniform temperatures ranging from 23°C to 31°C (73°F to 88°F), with high humidity. Lying very close to the equator, Malaysia's seasons are based primarily on rainfall patterns.

# MALAYSIA



Peninsular Malaysia experiences copious rainfall, averaging about 250 centimeters (100 inches) annually and occurring during two monsoon seasons. The heaviest rains fall during October through January; this time period is known as the northwest monsoon season. Squalls and thunderstorms characterize the southwest monsoon season, from April to October. The eastern coast receives the most abundant rainfall—at least 300 centimeters (120 inches) per year. Elsewhere, the annual average is 200 to 300 centimeters (80 to 120 inches), with the northwestern and southwestern regions experiencing the least rainfall. The nights are usually cool throughout the country because of the nearby seas.

## 4 🌐 TOPOGRAPHIC REGIONS

Peninsular Malaysia (131,587 square kilometers/50,806 square miles), formerly called West Malaysia, occupies the southern third of the Malay Peninsula on the Asian mainland. East Malaysia occupies the northern quarter of the island of Borneo and is divided into two parts: Sabah (74,398 square kilometers/28,725 square miles) in the north, and Sarawak (124,449 square kilometers/48,050 square miles) in the southwest. Sabah and Sarawak are almost, but not quite, sepa-

rated by Brunei and Indonesia, which are the other two countries on Borneo. About four-fifths of Malaysia's terrain is covered by rainforest and swamp. Peninsular Malaysia's terrain consists of a range of steep forest-covered mountains with coastal plains to the east and west. Sarawak encompasses an alluvial swampy coastal plain, an area of rolling country interspersed with mountain ranges, and a mountainous interior, most of which is covered with rainforest. Sabah is split in two by the Crocker Mountains, which extend north and south some 48 kilometers (30 miles) inland from the western coast.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The South China Sea borders Peninsular Malaysia on the east and both Sarawak and Sabah on the north. The South China Sea, an offshoot of the Pacific Ocean, is the world's second-busiest international sea lane. More than half of the world's supertanker traffic passes through the region's waters. The Celebes Sea, southeast of Sabah, is also an extension of the Pacific Ocean. The Sulu Sea, northeast of Sabah, separates the South China Sea from the Celebes Sea. The Andaman Sea on Peninsular Malaysia's

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# MALAYSIA

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northwestern coast is part of the Indian Ocean and the Bay of Bengal.

## Sea Inlets and Straits

The Strait of Johore is a narrow channel that separates the southern tip of Peninsular Malaysia from Singapore. To Malaysia's west, the Strait of Malacca lies between Malaysia and Indonesia. It is the shortest route for ships traveling between the northern Indian Ocean and the Pacific, making it a vital shipping route. Sabah is bounded to the north by the Balabac Strait, which connects the South China Sea to the Sulu Sea.

Datu Bay is an inlet on the western coast of Sarawak. Brunei, Marudu, Labuk, and Darvel Bay are all inlets on the coast of Sabah.

## Islands and Archipelagos

There are islands in all the waters surrounding Malaysia. Langkwai (363 square kilometers/140 square miles) is off the northwest coast in the Andaman Sea. Langkwai is actually made up of ninety-nine individual islands, the largest of which is Palua Senga Besar. Penang (285 square kilometers/110 square miles) is also located in the Andaman Sea. A mountainous island with heights of up to 829 meters (2,719 feet), it was the site of one of the earliest British colonies in the region and remains densely populated. Off Malaysia's eastern coast in the South China Sea lies Tioman Island, the largest of a group of sixty-four volcanic islands. The Redang Archipelago comprises nine islands in the South China Sea.

Off Sarawak's coast is the large, swampy island of Betruit (417 square kilometers/161 square miles). Labuan is an island chain off the coast of Sabah at the mouth of the Brunei Bay. It encompasses one main island and six smaller ones. Banggi (440 square kilometers/

170 square miles) is the largest of the islands off Sabah's northern coast.

Sarawak and Sabah are themselves located on northern Borneo, the third-largest island on Earth (751,929 square kilometers/290,320 square miles). Malaysia shares Borneo with Brunei and Indonesia. Borneo is part of the Malay Archipelago, most of which is part of Indonesia.

Malaysia, along with the Philippines, China, Taiwan, Vietnam, and possibly Brunei, lays claim to several atolls within the Spratly Islands, situated in the South China Sea. Some geologists believe this region contains a huge oil reserve. Singapore, a small island nation south of the Malay Peninsula, disputes Malaysia's claim to Palau Batu Putih (Pedra Branca Island). And finally, Malaysia and Indonesia both assert the right to govern Sidipan and Ligitan Islands.

## Coastal Features

Muddy beaches and wide river plains dominate the western coast of Peninsular Malaysia. Mangrove swamps are common. On the eastern coast are many sandy beaches, some of which are quite narrow. The two coasts together form a diamond shape: narrow in the north, broadening near the middle of the peninsula, then narrowing again until they meet in the south. There are no major inlets or capes on the peninsula.

Sarawak also has a regular coastline, with the exception of Datu Bay.

Sabah has a more rugged coastline than the rest of Malaysia; its mountain ranges often extend to the shore. In eastern Sabah, the Darvel Peninsula separates Labuk and Darvel Bays. A number of offshore islands around Sabah support extensive and diverse coral reefs.



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# MALAYSIA

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EPD/Wilko Gijbertsen

*The bearded pig is one of the unique species found in western Sarawak in Niah National Park in Malaysia. It gets its name from the thin whiskers covering the sides of its face.*

## 6 INLAND LAKES

The country's largest lake is artificial. Located in the northeast of Peninsular Malaysia, Kenyir Reservoir (369 square kilometers/143 square miles) is also the largest artificial lake in Southeast Asia. It surrounds about 340 islands—formerly hilltops and highlands—over 14 waterfalls, and numerous rapids. Temengor is another large reservoir, near the Thai border.

Tasik Bera, located in southwest Pahang, is the largest natural freshwater lake on the Malay Peninsula. It is situated in the saddle of the main and eastern mountain ranges of the peninsula, with an area of approximately 700 square kilometers (270 square miles).

## 7 RIVERS AND WATERFALLS

Peninsular Malaysia's main watershed follows the Titiwangsa mountain range to about 80 kilometers (50 miles) inland, roughly parallel to the western coast. The rivers flowing to the east, south, and west of this range are swift and have cut some deep gorges, but on reaching the coastal plains they become sluggish. Almost all the states in Malaysia have adopted the names of the principal rivers flowing through their respective territories.

The longest river on Peninsular Malaysia is the Pahang (458 kilometers/285 miles). It has its source in the central Cameron Highlands, then flows south and east into the South China Sea. The second-longest river on the mainland, the Perak, flows south out of the Temengor

# MALAYSIA

Reservoir for 322 kilometers (200 miles), parallel with the western coast, before entering the Strait of Malacca. The Kelantan (242 kilometers/150 miles), which flows north out of the Cameron Highlands, has spectacular waterfalls at Mount Strong and Lata Beringin.

The Rajang River flows westward across Sarawak for 565 kilometers (350 miles), making it the longest river in the country. Sarawak's other major river is the Lupar River. These rivers and their tributaries are the primary means of inland travel in Sarawak; similarly, in Sabah, the Kinabatangan River, at 563 kilometers (349 miles), provides that region's major transport route. The Libang River Valley in Sarawak separates the two halves of Brunei.

## 8 🌐 DESERTS

There are no desert regions in Malaysia.

## 9 🌐 FLAT AND ROLLING TERRAIN

There are no permanent pasture or prairie lands in Malaysia.

Hills dominate the terrain between the two major mountain chains of the Cameron Highlands. The average elevation in this area is 1,829 meters (5,999 feet). It is regarded as the "Green Bowl" of the country, supplying produce such as cabbage, tomatoes, lettuce, and green peppers throughout Malaysia and Singapore.

## 10 🌐 MOUNTAINS AND VOLCANOES

The northern regions in Peninsular Malaysia are divided by a series of mountain ranges known as the Cameron Highlands that rise abruptly from the wide, flat coastal plains. The main range, running along the backbone of the peninsula, is the Titiwangsa, stretching for 500 kilometers (310 miles) southward from the border of Thailand. Its highest peak is Korbu, at 2,183 meters (7,162 feet). A secondary mountain chain lies to the east. Although it is generally lower in altitude, it does contain

## DID YOU KNOW?

The dense forests of Malaysia are thought to be the oldest in the world. Covering more than two-thirds of the country, they stretch from the mangrove swamps of the western coast, through freshwater swamps, to lowland hardwood forests, heath forests, and mountain forest. There are believed to be around 8,500 species of flowering plants and ferns—and 2,500 species of trees—in Malaysia's forests. About 59 percent of Malaysia's total land area is tropical rainforest. The Titiwangsa Range has the largest remaining continuous forest tract in Peninsular Malaysia.

the highest mountain in Peninsular Malaysia: Mount Tahan (2,190 meters/7,185 feet).

The interior of Sarawak is an irregular, mountainous mass of unconnected ranges with a mean elevation of about 1,525 meters (5,000 feet). Mount Murud is Sarawak's highest peak, at 2,424 meters (7,950 feet). Mulu (2,376 meters/7,793 feet) is its second-highest peak; this mountain is famous for its caves.

The interior ranges of Sabah bordering Indonesia are comprised of the same complex mountain masses as those of Sarawak. The only continuous mountain system in East Malaysia, the Crocker Range, stretches from 48 kilometers (30 miles) inland from the western coast and rises to Malaysia's

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# MALAYSIA

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highest peak: Mount Kinabalu (4,100 meters/13,451 feet). Mount Kinabalu is the highest point in the country and the highest summit between the Himalayas and New Guinea. The Brassey Range is parallel to, but lower than, the Crocker Range.

## 11 🌐 CANYONS AND CAVES

The Malaysian climate, with its combination of heavy rainfall and high temperatures, provides ideal conditions for the formation of limestone caves. Spectacular cave complexes can be found throughout the country. Gua Kelam (Dark Caves), located near the Thai border, traverse approximately 370 meters (1,214 feet) of limestone hills. Tempurung Cave, near the city of Ipoh, is a white marble-and-limestone formation made up of five huge domes, whose ceilings resemble coconut shells, running from east to west. A stream runs throughout its 1.5 kilometers (0.9 miles).

Gunung Mulu National Park, a UNESCO World Heritage site, contains one of the most extensive and spectacular limestone cave systems on Earth. Mulu's Sarawak Chamber is the largest natural cavern in the world: 600 meters (1,968 feet) long, 415 meters (1,361 feet) wide, and 300 meters (984 feet) high. Nearby, Deer Cave has two huge entrances at either end of the mountain it penetrates. It is the largest known cave passage, at 2,160 meters (7,085 feet) long and 222 meters (728 feet) deep. Nearly one million bats live in this cave.

The Great Cave—2,160 meters (7,085 feet) long and 220 meters (722 feet) deep—located in Sarawak's Niah National Park is one of the largest in the world. The Niah Caves contain evidence of human existence in Borneo as early as forty thousand years

ago. Archaeologists unearthed the fossilized skull of an ancient young *homo sapiens*; some tools made out of stone, bone, and iron; and cave drawings.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no major plateau regions in Malaysia.

## 13 🌐 MAN-MADE FEATURES

Malaysia relies on several different dams throughout the country to provide flood control, hydroelectric power, and adequate water supply. Batu Dam, Semberong Dam, Bekok Dam, and Macap Dam were built primarily for flood control. Timah Tasoh Dam and Bukit Merah Dam were constructed primarily for irrigation. Kenyir Dam, Bersia Dam, Kenering Dam, Temenggong Dam, and Sultan Abu Bakar Dam were built to generate hydroelectric power as well as to supply water.

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# Maldives

- **Official name:** Republic of Maldives
- **Area:** 300 square kilometers (116 square miles)
- **Highest point on mainland:** Unnamed location on Wilingili Island in the Addu Atoll (2.4 meters/7.9 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Eastern, Northern, and Southern
- **Time zone:** 5 P.M. = noon GMT
- **Longest distances:** 823 kilometers (510 miles) from north to south; 133 kilometers (82 miles) from east to west
- **Land boundaries:** None
- **Coastline:** 644 kilometers (400 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The republic of Maldives is located on the equator, south of India. It is the smallest country in Asia, and is about one-and-a-half times the size of Washington, D.C. Maldives has nineteen atollu, or administrative divisions.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Maldives has no territories or dependencies.

## 3 🌐 CLIMATE

Maldives's climate is equatorial—usually hot and humid, with an average temperature of about 27°C (81°F). During the northeast monsoon season from November to March, the weather is mild and comfortable; the weather during the southwest monsoon season from June to August, on the other hand, is extremely rainy and violent. In the south, annual rainfall averages approximately 380 centimeters (150 inches), and in the north it averages 250 centimeters (100 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Maldives consists of an archipelago of almost twelve hundred coral islands and sandy banks in the Indian Ocean. The level and low-lying

islands are gradually washing away into the ocean; others are still forming, and these are constantly growing in size. Most islands have freshwater lagoons, and all have coastal reefs. The largest atoll group is the Malé Atoll, where the capital city, Malé is located.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Maldives is located in the Indian Ocean, about 645 kilometers (400 miles) southwest of Sri Lanka. A protective, fringing coral reef surrounds each individual island. Small patch reefs and faroes (unusual ring-shaped reefs) are located in Malé Atoll's lagoon.

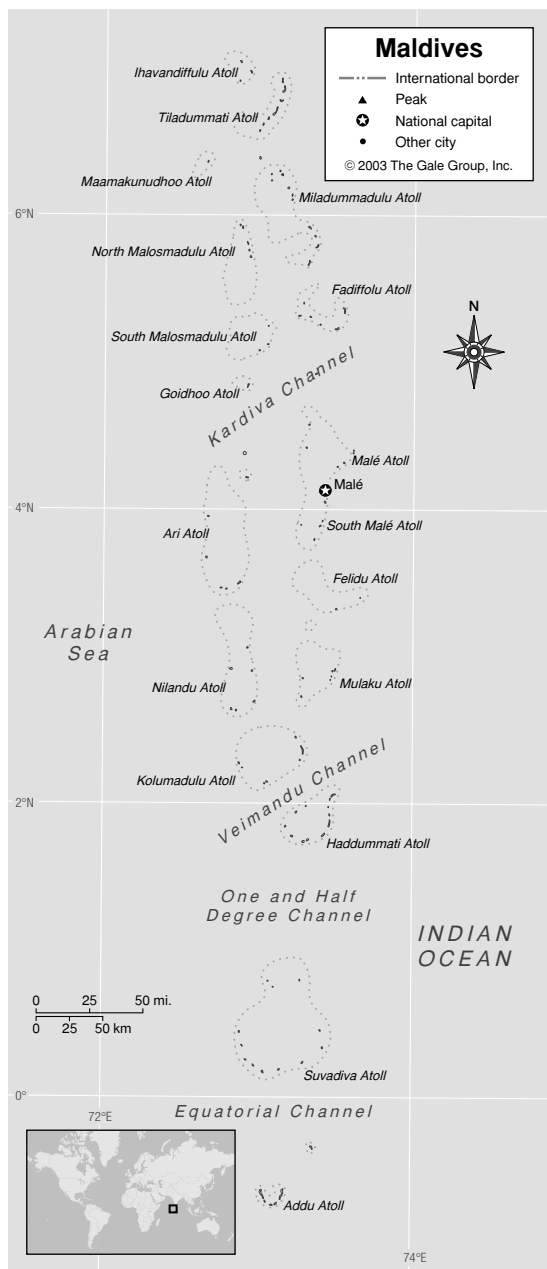
### Sea Inlets and Straits

Four ocean channels cross through the archipelago from east to west. These are the Kardiva Channel, Veimandu Channel, One and a Half Degree Channel, and Equatorial Channel.

### Islands and Archipelagos

Maldives is an archipelago made up of several atoll groups. From north to south, these groups are: Ihavandiffulu Atoll; Tiladummati Atoll;

# MALDIVES



Miladummadulu Atoll; North Malosmadulu and South Malosmadulu Atolls; and Fadifolu Atoll. Next, the Kardiva Channel separates these atolls from the following groups: Malé Atoll, South Malé Atoll, Ari Atoll, Felidu Atoll, Nilandu Atoll, Mulaku Atoll, and Kolumadulu

Atoll. Even farther south are the Veimandu Channel and Haddummati Atoll; the One and a Half Degree Channel and the Suvadiva Atoll; and finally, the Equatorial Channel and the most southerly atoll, Addu Atoll.

All the islands of Maldives are small. The island of Malé, location of the capital city of the same name, is the most densely populated and developed. It is only 2 kilometers (1.2 miles) long and just over one kilometer (0.6 miles) wide. Sea walls surrounded the island on all sides.

To the far south in Maldives lies Addu Atoll, where the town of Seenu is located.

## Coastal Features

White coral sand covers Maldives's flat beaches. Unlike other beaches in the world, there is no trace of yellow or black coloring in the sand.

## 6 🌐 INLAND LAKES

The islands of Maldives are too small to support inland lakes of any significant size.

## 7 🌐 RIVERS AND WATERFALLS

The islands of Maldives are too small to support rivers of any significant size.

## 8 🌐 DESERTS

There are no significant deserts on Maldives.

## 9 🌐 FLAT AND ROLLING TERRAIN

Dense scrub covers the islands. The central islands are less fertile than the northern and southern groups, and the western islands are less fertile than the eastern ones.

There are no thick jungles on the islands because of the poor soil, but small areas of rainforest exist on the larger islands that experience more precipitation. Coconut, plantain, banyan, and mango trees thrive in the tropical climate, along with flowers and shrubs.

# MALDIVES



UNESCO/Yann Arthus-Bertrand

*An aerial view of Malé atoll.*

The Maldives islands are almost completely flat and have no significant hills or valleys.

## 10 🌐 MOUNTAINS AND VOLCANOES

Maldives's coral islands are almost completely flat.

## 11 🌐 CANYONS AND CAVES

Maldives has no significant canyons or caves.

## 12 🌐 PLATEAUS AND MONOLITHS

Maldives does not have any notable plateaus.

## 13 🌐 MAN-MADE FEATURES

There are no significant man-made features affecting the geography of Maldives.

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# Mali

- **Official name:** Republic of Mali
- **Area:** 1,240,000 square kilometers (478,767 square miles)
- **Highest point on mainland:** Mount Hombori Tondo (1,155 meters/3,789 feet)
- **Lowest point on land:** Sénégal River (23 meters/75 feet)
- **Hemispheres:** Northern and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 1,852 kilometers (1,151 miles) from east-northeast to west-southwest; 1,258 kilometers (782 miles) from north-northwest to south-southeast
- **Land boundaries:** 7,243 kilometers (4,661 miles) total boundary length; Algeria 1,376 kilometers (855 miles); Burkina Faso 1,000 kilometers (621 miles); Côte d'Ivoire 532 kilometers (331 miles); Guinea 858 kilometers (533 miles); Mauritania 2,237 kilometers (1,390 miles); Niger 821 kilometers (510 miles); Senegal 419 kilometers (260 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Mali, a landlocked nation, is located in western Africa and is crossed by the Niger River. The country's terrain is mostly flat, arid, and sandy. With an area of 1,240,000 square kilometers (478,767 square miles), Mali is almost twice as large as the state of Texas. Mali is divided into eight administrative regions.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Mali has no territories or dependencies.

## 3 🌐 CLIMATE

Temperatures range by season and region. In Bamako in the southwest, temperatures in June through September average 20°C (68°F). In the hot, dry season from February to May, temperatures average 35°C (95°F). In the Sahelian region, the average annual temperature is 30°C (86°F). The rainy season is from June to September, although this really only applies to the south: the northern regions rarely receive

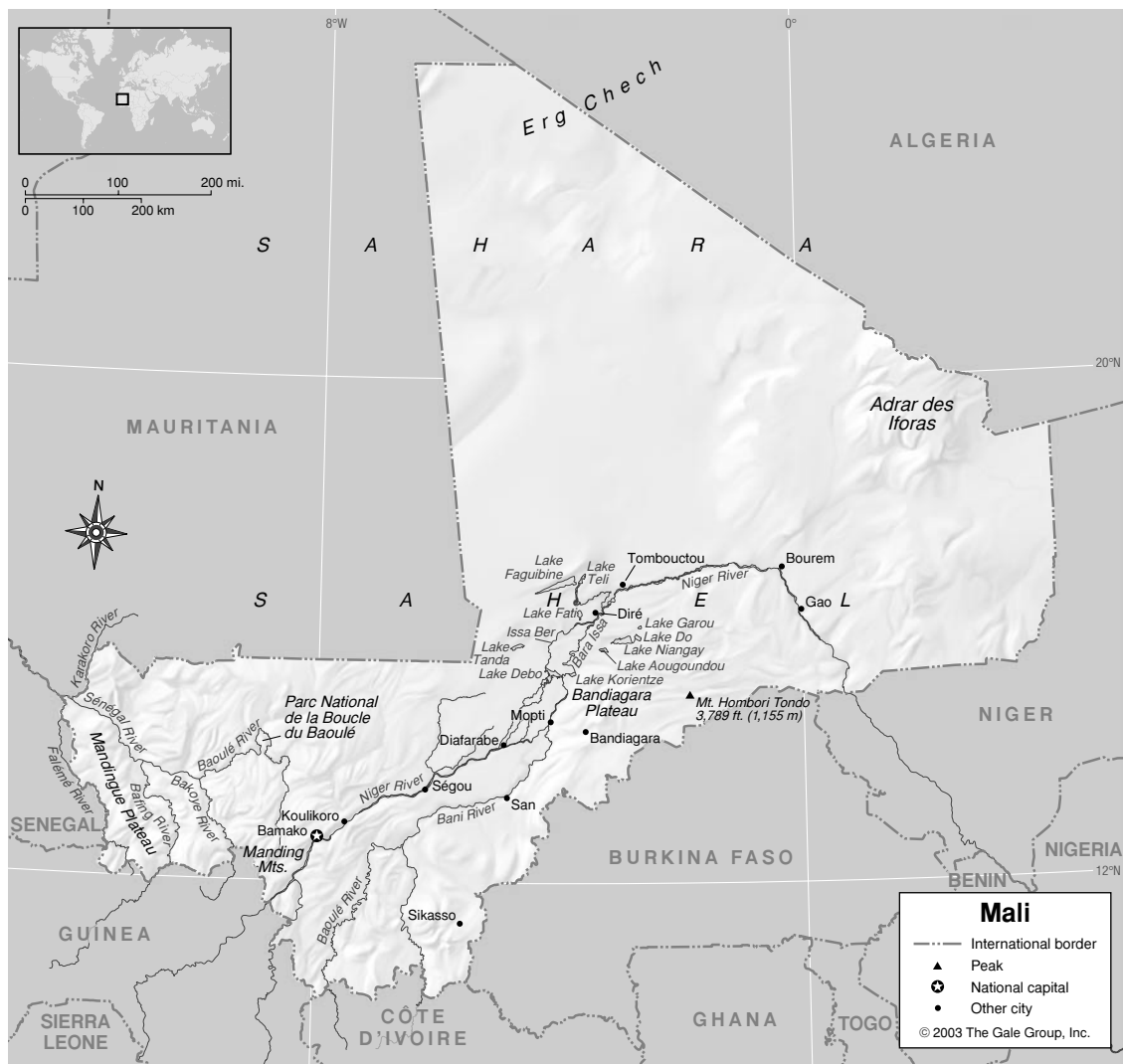
any rainfall. Average annual rainfall in the south is approximately 140 centimeters (55 inches); in the north, rainfall averages only 20 centimeters (8 inches). Precipitation varies considerably from year to year, however. It is not uncommon for less than 8 centimeters (3 inches) of rain to fall annually in the far northern Sahara Desert area.

## 4 🌐 TOPOGRAPHIC REGIONS

Mali can be roughly divided into three geographic regions: the southern region, where rainfall is the heaviest; the Sahel, the semi-desert region in the center of the country; and the Sahara Desert region of the far north.

The Sénégal River flows through the western section of the country. The Niger, one of Africa's major rivers, forms a semicircle in the south-central region, separating the semi-arid Sahel from the highlands. Oases dot the desert region of the north; these wateringholes

# MALI



were stopovers for caravans that traveled the Sahara Desert in ancient times. Most of the population lives in the southern region, in the cities and towns along the Niger, Baoulé, and Bani Rivers.

## 5 OCEANS AND SEAS

Mali is a landlocked nation.

## 6 INLAND LAKES

The only two perennial lakes of any real size are located in the center of the country on

either side of the Niger River. To the east of the river sits Lake Niangay, and northwest of this lake is the larger Lake Faguibine. Lake Faguibine is the largest lake in Mali, with a rainy-season surface area of 590 square kilometers (228 square miles). After the September-through-December rainy season, the delta region of the Niger—about 30,000 square kilometers (19,000 square miles) in total area—is flooded. Grasslands become green, and the seasonal lakes—Debo, Fati, Teli, Korientze,



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Tanda, Niangay, Do, Garou, Aougoundou, and others—are filled with water.

## 7 🌐 RIVERS AND WATERFALLS

Two main rivers cut through Mali: the Niger and the Sénégal. The Niger River traverses Mali for 1,700 kilometers (1,060 miles), nearly one-third of its total length of 4,185 kilometers (2,600 miles). Beyond the town of Ségou, the Niger forms a vast inland delta and then joins with its main tributary, the Bani, at Mopti. Beyond Mopti the Niger breaks up into two channels, the Bara Issa and the Issa Ber, that spread out in a broad flood plain covering 103,600 square kilometers (40,000 square miles) before rejoining just above Diré, between Lakes Niangay and Fagubine.

In western Mali, the Sénégal River is formed at the small town of Bafoulabé through the confluence of the Bafing and Bakoye Rivers. The Falémé River lies along the border with Senegal. It joins other tributaries to become the Sénégal. The Gorgol River, which originates in Mauritania, joins it about 200 kilometers (125 miles) downstream.

## 8 🌐 DESERTS

The Niger River Valley forms the southernmost extent of the Sahara Desert. Northern Mali lies completely within the Sahara Desert. The Erg Chech, which straddles Mali and Algeria in the extreme north, is characterized by ergs—deep, shifting parallel dunes in the sand. This region also contains two vast plains known as the Tanezrouft, whose reddish sandstone formations lead to the Ahaggar Mountains of Algeria, and Taoudenni, where salt has been mined for centuries. In the oases (low-lying places where water allows some vegetation to grow) of the Sahara, small stands of trees may be found.



UNESCO/Dominique Roger

*About one-third of the total length of the Niger River passes through Mali.*

## 9 🌐 FLAT AND ROLLING TERRAIN

The central part of Mali, lying between Mauritania and Niger, is the semi-arid Sahel, the name for the region between the Sahara Desert and the forests closer to the Atlantic coast. Historically, the Sahel was dedicated to grazing, but years of drought have caused much of the central area to begin the transition to desert. In the upper southern region, the Niger and Bani Rivers join to form a rich inland delta with green grasses during the wet season.

## 10 🌐 MOUNTAINS AND VOLCANOES

In the south, the Futa Djallon Highlands and the Manding Mountains provide a barrier that separates Mali from Guinea. These mountains are relatively low, with deep valleys

formed by the rivers and their tributaries. The eastern region contains two spectacular mountain ranges: the Bandiagara Plateau and the Hombori Mountains, the highest points of which are the holy mountain called the Hand of Fatima, and Mount Hombori Tondo. Mount Hombori Tondo is the highest point in Mali, with an elevation of 1,155 meters (3,789 feet).

### 11 CANYONS AND CAVES

In the south-central area, dramatic sandstone cliffs (600 meters/2,000 feet high) in the area of Bandiagara run from southwest to northeast. The Dogon people have built villages into the sheer faces of escarpments in the steep sandstone cliffs of southern Mali. These pyramidal or rectangular structures are built of mud, with wood supports protruding at regular intervals. The Dogon sleep on the flat roofs of their dwellings and bury their dead in caves dug into the escarpment.

### 12 PLATEAUS AND MONOLITHS

Other than the Bandiagara Plateau there are two plateau regions in Mali. The Adrar des Iforas is an eroded massif (sandstone plateau) that rises to 800 meters (2,640 feet) in northeastern Mali near the Niger and Algeria borders. It is part of the Hoggar Mountain System that extends into Algeria. In the opposite corner of the country, the Mandingue Plateau runs along the border with Senegal, turning south and extending into Guinea.

### 13 MAN-MADE FEATURES

A canal connecting the Niger River with Lake Faguibine, which had become blocked with silt from droughts in the 1970s and 1980s, was dredged and reopened in the mid-1990s. With help from the International Red Cross, 5,000 hectares (12,355 acres) of the surrounding land—double the

## DID YOU KNOW?

**T**omboucou (Timbuktu) has been a center of Islamic learning since the seventeenth century. The city's Sankore Mosque, of golden clay with its protruding wooden support structure, is a well-known landmark and center for Islamic study in Africa.

previous area—was reclaimed from river flooding. The canal now provides the irrigation water that is vital to support agriculture in central Mali.

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# Malta

- **Official name:** The Republic of Malta
- **Area:** 316 square kilometers (122 square miles)
- **Highest point on mainland:** Ta'Dmejrek (253 meters/830 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 45 kilometers (28 miles) from southeast to northwest; 13 kilometers (8 miles) from northeast to southwest
- **Land boundaries:** None
- **Coastline:** 253 kilometers (157 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Malta is an island nation in the central Mediterranean Sea, south of Sicily. The total land area of its five islands is 316 square kilometers (122 square miles), or nearly twice the size of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Malta has no territories or dependencies.

## 3 🌐 CLIMATE

The average winter temperature is 9°C (48°F), with January being the coldest month. The average summer temperature is 31°C (88°F), with temperatures peaking at midsummer (July to August). Most rainfall occurs between November and January, and average rainfall is approximately 56 centimeters (22 inches) per year.

## 4 🌐 TOPOGRAPHIC REGIONS

Malta consists of five islands. Three of the islands (Malta, Gozo, and Comino) are inhabited, and two (Cominotto and Filfla) are uninhabited. The island of Malta is the largest in the country, accounting for 246 square kilometers (95 square miles) of the total area. Gozo (67

square kilometers/26 square miles) and Comino (about 3 square kilometers/1 square mile) are much smaller.

## 5 🌐 OCEANS AND SEAS

Malta is surrounded by the Mediterranean Sea.

## Coastal Features

The rocky terrain of the islands has openings that form deep harbors, coves, and bays. There are about twenty beaches on the island of Malta, ranging from rocky to sandy. Gozo also has some popular beaches, including one at Ramla Bay on the northern shore, which is known for its reddish sand. Santa Maria Bay, on Comino Island, is famous for its clear waters and coastal lagoon, known as the Blue Lagoon.

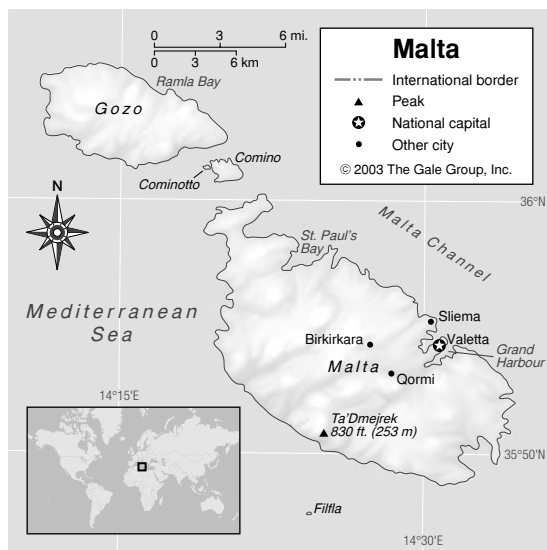
## 6 🌐 INLAND LAKES

Malta has no sizable inland lakes.

## 7 🌐 RIVERS AND WATERFALLS

Malta has no rivers. The country's reserves of fresh water are extremely limited, and it relies heavily on desalination for its water supply.

# MALTA



## 8 🌐 DESERTS

There are no deserts on Malta.

## 9 🌐 FLAT AND ROLLING TERRAIN

The terrain of Malta's islands consists of low hills (mostly limestone formations) running from east to northwest at heights of up to 239 meters (786 feet). There is little vegetation and no forests. The island of Gozo is greener and hillier than the main island Malta, and its coast has high, uneven cliffs.

## 10 🌐 MOUNTAINS AND VOLCANOES

Malta has no mountains or volcanoes.

## 11 🌐 CANYONS AND CAVES

There are caves on the islands of Gozo and Malta. Alabaster stalagmites and stalactites are found in a grotto in the town of Xaghra on

Gozo. The Ghar Dalan Cave on Malta contains fossilized remains of extinct species that are 250,000 years old.

## 12 🌐 PLATEAUS AND MONOLITHS

Malta is the site of the world's most ancient temple complexes, built about six thousand years ago. The islands' limestone megaliths are many centuries older than both Britain's Stonehenge and the Egyptian pyramids.

## 13 🌐 MAN-MADE FEATURES

The historic fortress city of Valletta, the capital, was constructed in the sixteenth century on the rocky Scerberras Peninsula on Malta's east coast. Many of Malta's buildings date back centuries.

## 14 🌐 FURTHER READING

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# Marshall Islands

- **Official name:** Republic of the Marshall Islands
- **Area:** 181 square kilometers (70 square miles)
- **Highest point on mainland:** Unnamed location on Likiep (10 meters/33 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 12 A.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** None
- **Coastline:** 370 kilometers (230 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The Marshall Islands are located in the central Pacific Ocean, between Hawaii and Papua New Guinea, and near Kiribati. Their combined land area is only slightly larger than Washington, D.C. The Marshall Islands include thirty-three municipalities.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The Marshall Islands have no territories or dependencies.

## 3 🌐 CLIMATE

Since the Marshall Islands are located near the equator, the climate is hot and humid and there is little change between seasonal temperatures. Daily temperatures generally vary between 21°C and 34°C (70°F and 93°F). The high temperatures are cooled from December through March by trade winds that blow in from the northeast.

Monthly rainfall averages between 30 and 38 centimeters (12 and 15 inches). The wettest months are October and November and the driest are December through April.

Because rainfall increases from north to south, the northern atolls receive an average of 178 centimeters (70 inches) annually, while the southern atolls average 432 centimeters (170 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

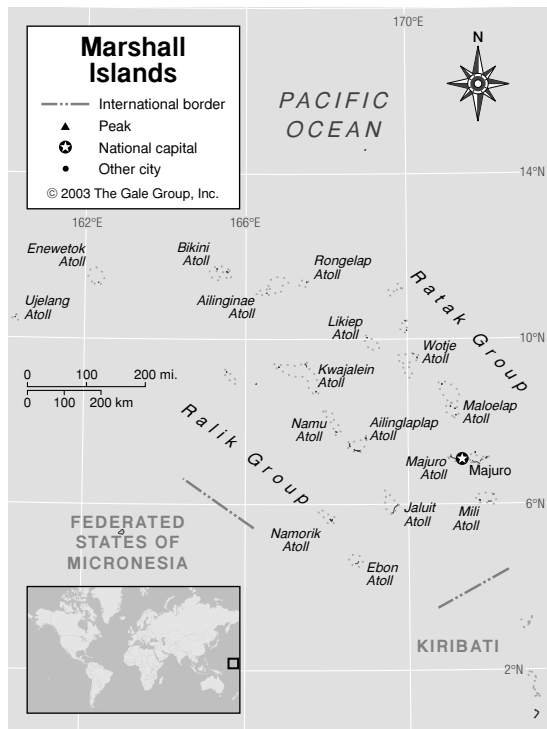
Lying in the west-central part of the Pacific Ocean, the Marshall Islands are comprised of 1,152 islands (five of which are major islands) and 29 atolls, which form two almost parallel, chain-like formations known as the Sunrise (Ratak), or Eastern, group and the Sunset (Ralik), or Western, group. Most of the islands have an atoll formation; namely, narrow strips of low-lying land enclosing a lagoon.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Located in the central Pacific Ocean, the Marshall Islands have 870 reef systems with about 160 coral species. The ocean floor around the Marshall Islands is also the final resting place of numerous Japanese and American battleships, sunk during World War II (1939-45).

# MARSHALL ISLANDS



## Coastal Features

The Marshall Islands feature many white sand beaches.

## 6 🌐 INLAND LAKES

The Marshall Islands are too small to support any bodies of water larger than small lagoons and ponds.

## 7 🌐 RIVERS AND WATERFALLS

There are no notable rivers on any of the Marshall Islands.

## 8 🌐 DESERTS

There are no desert areas on the Marshall Islands.

## 9 🌐 FLAT AND ROLLING TERRAIN

Most of the flat areas have sandy soils that are not very fertile. Coconut palms, breadfruit, pandanu, and citrus trees are the dominant tree species; in fact, about 8,900 hectares (22,000 acres) of land is planted with coconut palms.

The Marshall Islands are not particularly hilly.

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no mountains or volcanoes in the Marshall Islands; the average elevation of the country is 2 meters (7 feet) above sea level.

## 11 🌐 CANYONS AND CAVES

There are no notable canyons or caves in the Marshall Islands.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no significant plateau regions on the Marshall Islands.

## 13 🌐 MAN-MADE FEATURES

There are no notable man-made features on the Marshall Islands.

## Sea Inlets and Straits

Calien Pass, the main channel in Majuro, is deep and wide; its configuration allows large container ships to pass between the ocean and the lagoon.

## Islands and Archipelagos

Atolls, narrow strips of low land that enclose a lagoon, make up the majority of Marshall Islands. The Sunrise (Ratak) Group includes Mili, Majuro, Maloelap, Wotje, Likiep, Rongelap, Ailinginae, Bikini, Enewetok, and Ujelang Atolls. The Sunset (Ralik) Group includes Namorik, Ebon, Jaluit, Ailinglaplap, and Kwajalein Atolls. Besides atolls, the Marshall Islands also contain coral limestone and sand islands and islets.

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# MARSHALL ISLANDS

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### Web Sites

- The Marshall Islands*. <http://marshall.csu.edu.au>  
(accessed April 24, 2003).
- Republic of the Marshall Islands*. <http://www.rmiembassyus.org/about/geography.html>  
(accessed April 24, 2003).

# Mauritania

- **Official name:** Islamic Republic of Mauritania
- **Area:** 1,030,700 square kilometers (397,953 square miles)
- **Highest point on mainland:** Mount Ijill (915 meters/3,002 feet)
- **Lowest point on land:** Sebkha de Ndrhamcha (3 meters/10 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** Noon = noon GMT
- **Longest distances:** 1,515 kilometers (941 miles) from northeast to southwest; 1,314 kilometers (816 miles) from northwest to southeast
- **Land boundaries:** 5,074 kilometers (3,153 miles) total boundary length; Algeria 463 kilometers (288 miles); Mali 2,237 kilometers (1,390 miles); Senegal 813 kilometers (505 miles); Western Sahara 1,561 kilometers (970 miles)
- **Coastline:** 754 kilometers (469 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Mauritania is an arid country in western Africa. It forms a transitional zone between the Islamic, Arab-speaking countries of North Africa's Maghreb region and the sub-Saharan countries to the south. With an area of 1,030,700 square kilometers (397,953 square miles), it is more than three times the size of the state of New Mexico.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Mauritania has no territories or dependencies.

## 3 🌐 CLIMATE

The northern two-thirds of the country has an extremely hot, arid, Saharan climate. Afternoon high temperatures in the hottest months average 38°C (100°F), and often exceed 46°C (115°F) in the interior. The southern part of the country has a semidesert, Sahelian climate.

Average summer temperatures at Kifa, in this region, are around 26°C (79°F). The coastal region, although still arid, has the most moderate temperatures due to trade winds blowing in from the Atlantic Ocean. The average temperature in the coastal city of Nouakchott is around 24°C (75°F) during September, which is the hottest month in this region.

Northeasterly winds and the *harmattan* wind from the east keep Mauritania's climate dry, especially in the north. Rainfall increases gradually from north to south as the rainy season becomes longer. Average annual rainfall at Nouadhibou is between 1 and 2 inches, and rain falls only between September and November. (Farther north and east, rainfall is too rare and sparse to be measured.) At the opposite end of the scale, Sélibaby in the southern Senegal Valley



# MAURITANIA



region averages about 64 centimeters (25 inches) of rainfall annually, with a rainy season that lasts from June to October.

## 4 🌐 TOPOGRAPHIC REGIONS

Approximately one-third of the Sahara Desert is in Mauritania. The Saharan region, a generally flat plain with occasional ridges and rocky outcroppings, covers roughly the northern two-thirds of the country. It includes a series of sandstone plateaus spanning the center of Mauritania from north to south. The southern

third of the country and the coastal plain to the west are mostly semidesert, and there is a narrow strip of fertile land on the plain of the Senegal River in the southwest.

## 5 🌐 OCEANS AND SEAS

Mauritania borders the North Atlantic Ocean.

### Seacoast and Undersea Features

The waters off the coast of Mauritania are among the richest fishing areas in the world.

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# MAURITANIA

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EPD/Saxifraga/Janus Verkerk

*The desert terrain in Mauritania is rocky and sandy.*

## Sea Inlets and Straits

The Baie de Lévrier lies between Cap Timiris and the long peninsula of Cap Blanc, bordering the northern third of Mauritania's coast. This bay is one of the largest natural harbors on the west coast of Africa.

## Islands and Archipelagos

The major island is Île Tidra, which lies close to shore in the Baie de Lévrier.

## Coastal Features

Mauritania's Atlantic coast is sandy, flat, and dotted with the saltwater pools known as *sebkh*as. The coastline is smooth south of Cap Timiris, the only significant promontory. Cap Blanc is the northernmost point on the coast.

## 6 INLAND LAKES

Lake D'Aleg, Lake Rkiz, and a few other saltwater lakes are scattered throughout Mauritania. None are of considerable size, and due to recurrent droughts in recent decades they are even smaller than they once were.

## 7 RIVERS AND WATERFALLS

Most of Mauritania has little or no drainage to the sea. The Senegal River, which forms the boundary between Mauritania and Senegal, is the only permanent river between southern Morocco and central Senegal. Rising in Guinea, it flows north and west to the sea at Saint-Louis in Senegal. Its tributaries drain the fertile southwestern corner of Mauritania.

# MAURITANIA

## 8 🌐 DESERTS

The northern two-thirds of Mauritania is true Saharan desert, with vegetation other than cacti found only in oases. Sand dunes cover about half of Mauritania. Many are arranged in long ridges extending from northeast to southwest, with heights of up to 91 meters (300 feet). In the far eastern part of the country, known as El Djouf, the terrain encompasses both rocky and sandy desert.

## 9 🌐 FLAT AND ROLLING TERRAIN

The Banc d'Arguin National Park, Mauritania's only national park, is a wetlands reserve on the coastline bordering the Baie de Lévrier. It is known for the wide array of migratory birds that winter there. Various known as the Chémama or the Pre-Sahel is the Senegal River Valley zone on the country's southwestern border. This region consists of a narrow, fertile belt of land which is 400 kilometers (250 miles) long and extends from 16 to 32 kilometers (10 to 20 miles) north of the Senegal River. The Affollé Hills mark the south-central region of Mauritania along the border with Mali.

## 10 🌐 MOUNTAINS AND VOLCANOES

Mauritania is largely flat, but in places its rocky plateaus attain heights of over 457 meters (1,500 feet). Its highest point is an enormous block of hematite (a red mineral), Mount Ijll in the northwest, topping out at 915 meters (3,002 feet).

## 11 🌐 CANYONS AND CAVES

Cave paintings have been found near Chinguetti, in central Mauritania.

## 12 🌐 PLATEAUS AND MONOLITHS

Mauritania is nearly bisected by the sandstone plateaus that extend down the center of the country on a north-south axis, rising to elevations of over 300 meters (1,000 feet).

## DID YOU KNOW?

The nineteenth-century shipwreck of the frigate *Meduse*, immortalized in a famous painting by Théodore Géricault, occurred off the coast of Mauritania. Many of those who did not die aboard the fragile life raft built by the passengers perished onshore during a futile trek across the desert.

## 13 🌐 MAN-MADE FEATURES

The Manantali Dam on the Bafing River was constructed in the 1980s for irrigation, navigation, and electric power generation. It is 1,460 meters (4,790 feet) long and 65 meters (213 feet) high.

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# Mauritius

- **Official name:** Republic of Mauritius
- **Area:** 1,860 square kilometers (718 square miles)
- **Highest point on mainland:** Black River Peak (828 meters/2,717 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 4 P.M. = noon GMT
- **Longest distances:** 61 kilometers (38 miles) from north to south; 47 kilometers (29 miles) from east to west
- **Land boundaries:** None
- **Coastline:** 177 kilometers (110 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The African island nation of Mauritius is located in the Indian Ocean, east of Madagascar. With a total area of about 1,860 square kilometers (718 square miles), the country is about eleven times the size of Washington, D.C. Mauritius is divided into nine districts and three dependencies.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Rodrigues Island, and the island groups of Agalega Islands and Cargados Carajos Shoals (also called the St. Brandon group), are all dependencies of Mauritius. They also are located in the Indian Ocean, north and east of Mauritius.

## 3 🌐 CLIMATE

Mauritius has a maritime climate with temperatures that vary by altitude. At sea level temperatures range from 18°C to 30°C (64° to 86°F); at an elevation of 460 meters (1,500 feet), they range from 13°C to 26°C (55° to 79°F). Because it is in the tropics, Mauritius's climate is mostly humid, with prevailing southeast winds. The warmest months are

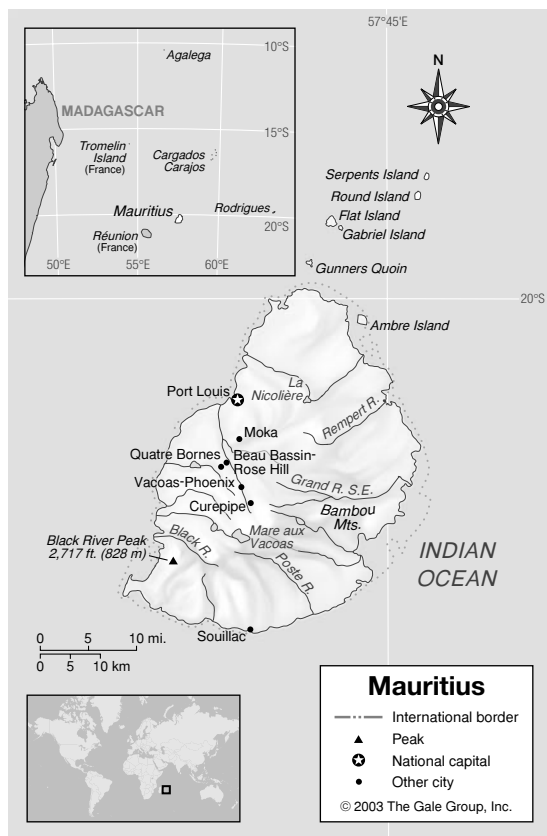
October through April (summer) and the coolest are June through September (winter).

Due to the tradewinds, the central plateau and windward slopes experience heavy rains from October to March. These areas have an annual average rainfall of more than 500 centimeters (200 inches). On the coast, yearly rainfall averages about 100 centimeters (40 inches). From April to September, daily showers occur; between December and April, occasional tropical cyclones strike Mauritius.

## 4 🌐 TOPOGRAPHIC REGIONS

Mauritius is a picturesque island nation, with rugged volcanic features and a large fertile plain. The compact main island is the worn and eroded base of an extinct volcano. It stands on a mostly undersea feature called the Mascarene Plateau (a ridge that for much of its length now lies underwater in the Indian Ocean and runs from north to south). The Mascarene Plateau was once a land bridge between Asia and Africa. The island's surface consists of a broad plateau that begins on the southern coastline, with elevations of approximately 670 meters (2,200 feet), and

# MAURITIUS



then slopes toward a northern coastal plain. Several low mountain groups and isolated peaks rise above the level of the plateau, forming a more rugged landscape. A coral reef nearly encircles the island. Mauritius sits on the African Tectonic Plate, but not near enough to any plate boundaries or fault lines to experience any major earthquakes or tectonic activity.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The Indian Ocean surrounds Mauritius and its dependencies. Third-largest of the five oceans of the world, the Indian Ocean extends north to south from Asia to Antarctica and east to west from Africa to Australia.

A large coral reef entirely surrounds Mauritius, except for a few small breaks along the coast. A large break in the reef occurs on the southern coast between Souillac and Le Bouchon, and a smaller gap occurs on the western coast at Flic-en-Flac.

### Sea Inlets and Straits

The Grand River Bay lies just south of the Port Louis Harbor. Just north of the harbor is Tombeau Bay. Grand Bay, located near the city of the same name, is situated in the far northwest shore. Tamarin Bay, by the city of Tamarin north of the Black River, is a popular spot for surfers. These, as well as many other small inlets along the Mauritius coast, boast beautiful coral sand beaches.

### Islands and Archipelagos

The inhabited Rodrigues Island lies about 560 kilometers (350 miles) to the northeast of Mauritius. It has an area of about 110 square kilometers (42.5 square miles) and a population of about 34,000. Another dependency, Agalega, lies 1,122 kilometers (697 miles) north of Mauritius and consists of two islands: North Island and South Island. Agalega has a combined area of 70 square kilometers (27 square miles).

Coral atolls surround Mauritius, including the Cargados Carajos Shoals (St. Brandon Group). Nature preserves protect the natural habitat on neighboring Round Island (Île Ronde) and Serpents Island (Île aux Serpents), among others.

### Coastal Features

A few long stretches of white sand beaches line the country on the north and east. A lagoon exists at Flic-en-Flac on the midwestern coast, south of Port Louis.

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# MAURITIUS

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UNESCO/J. For

*A Mauritian beach and lagoon landscape.*

## **6** 🌐 **INLAND LAKES**

Grand Bassin and Bassin Blanc, both of which lie in craters of extinct volcanoes, are two of the country's natural lakes. Grand Bassin, about 6 kilometers (4 miles) southeast of Mare aux Vacoas in the southwest, is believed to be sacred by Hindus. Several reservoirs are also located on the island, including La Nicolière in the north, Piton du Milieu in the central area, and Mare aux Vacoas, the largest reservoir, in the south.

## **7** 🌐 **RIVERS AND WATERFALLS**

Numerous rivers flow through Mauritius. The Grand River South East is the country's longest river, at 40 kilometers (25 miles) in length. It is located in the central-eastern region. The other main rivers are Black River

(Rivière Noire), Post River (Rivière du Poste), Grand River North West, and Rempert River. Several waterfalls exist; the highest are the Tamarin Falls in the west at 293 meters (961 feet) in height.

## **8** 🌐 **DESERTS**

There are no desert regions in Mauritius.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The coastal plains cover about 46 percent of the country, and most of these are located in the north. Nearly 50 percent of the land is arable, but only about 10 percent of the economic output comes from agriculture. Sugarcane is a primary crop.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The entire island of Mauritius is of volcanic origin, having risen from the sea floor

# MAURITIUS

roughly ten million years ago. Three mountain ranges border the central plateau of Mauritius: Moka to the northwest, Grand Port to the east, and Black River to the southwest. The highest peak on the island, Black River Peak (Piton de la Rivière Noire), is in the southwest region of the country, in the Black River Mountain Range.

## 11 CANYONS AND CAVES

Caverne Patate, located in the southwest corner of the island of Rodrigues, is a series of coral rock and limestone caves popular with tourists that stretches for about 795 meters (2608 feet). The mainland of Mauritius contains several lava caves (often called cellars); many of them are unexplored, however.

Canyons serve as the center point for the Black River Gorges National Park, created in 1994 as the nation's first national conservation area.

## 12 PLATEAUS AND MONOLITHS

From elevations of approximately 670 meters (2,200 feet) near the southern coastline, a broad central plateau slopes toward a northern coastal plain. The country's mountain ranges surround the plateau.

## 13 MAN-MADE FEATURES

There are ten man-made reservoirs in Mauritius. Earthfill dams created these reservoirs to retain fresh water for drinking and irrigation. Some of the dams also provide hydroelectric power.

## 14 FURTHER READING

### Books

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## DID YOU KNOW?

Mauritius's designation as a tropical island is based on its location between the Tropic of Cancer and the Tropic of Capricorn. The Tropic of Cancer is the parallel of latitude located at 23°30' north of the equator. The Tropic of Capricorn is located at the parallel of latitude that is 23°30' south of the equator. These imaginary lines mark the boundaries of an area in which the sun will appear to be directly overhead—or at a 90°-angle to the earth—at twelve o'clock noon. North or south of these lines, the angle of the sun at noon appears to be less than 90°. The lines were named after the constellations that the sun moves through during the winter and summer solstices (Capricorn on December 21 or 22 and Cancer on June 21 or 22).

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# Mexico

- **Official name:** United Mexican States
- **Area:** 1,972,550 square kilometers (761,602 square miles)
- **Highest point on mainland:** Pico de Orizaba (5,700 meters/18,702 feet)
- **Lowest point on land:** Laguna Salada (10 meters/33 feet below sea level)
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 1,060 kilometers (660 miles) from east-northeast to south-southwest; 3,200 kilometers (2,000 miles) from south-southeast to north-northwest
- **Land boundaries:** 4,538 kilometers (2,820 miles) total boundary length; Belize 250 kilometers (155 miles); Guatemala 962 kilometers (598 miles); United States 3,326 kilometers (2,067 miles)
- **Coastline:** 9,330 kilometers (5,798 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Mexico is the northernmost—and by far the largest—country on the isthmus that connects North and South America. It is considered part of North America, while the much smaller countries to its south make up Central America. Extending southeastward from its border with the United States, Mexico forms a generally narrowing cone, broken in the northwest by the long, narrow peninsula of Baja California and in the extreme southeast by the blunt peninsula of the Yucatán. With a total area of 1,972,550 square kilometers (761,602 square miles), Mexico is almost three times as large as the state of Texas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Mexico has no territories or dependencies.

## 3 🌐 CLIMATE

About half of Mexico lies to the south of the Tropic of Cancer. Due to altitude and other

geographical factors, however, temperatures in the north can exceed those in the south.

The various temperature zones in most of Mexico are generally categorized by altitude rather than latitude. Areas at elevations up to 914 meters (3,000 feet)—the coastal lowlands and the Yucatán peninsula—are *terra caliente* (“hot land”) and have a tropical climate. The plateau (914 to 1,829 meters/3,000 to 6,000 feet) is *terra templada* (“temperate land”), with a moderate climate, and the mountains (1,829 meters/6,000 feet) are *terra fria* (“cold land”). The average annual temperatures for cities in these three regions are, respectively, Veracruz (25°C/77°F), Jalapa (19°C/66°F), and Pachuca (15°C/59°F).

In the south, temperatures between seasons vary by as few as 5°C (10°F); temperature extremes are much greater in the north, however. For example, Baja California and the Sonoran



# MEXICO



Desert can record summer highs of 43°C (110°F) and winter lows of 0°C (32°F). Rainfall varies greatly by region, ranging from under 25 centimeters (10 inches) per year in Baja California to 500 centimeters (200 inches) in the rainforests of Tabasco. The north generally gets less rainfall than the south, but the entire gulf coastal plain is a wet area.

## 4 TOPOGRAPHIC REGIONS

Mexico can be divided into five major regions: 1) the Pacific Northwest, which includes the northwestern mainland plus the Baja California peninsula; 2) the large Central Plateau, which extends down the center of the country and includes the Sierra Madre; 3) the lowlands of the Gulf Coast and the Yucatán Peninsula; 4) Central Mexico, which occupies the transverse

volcanic range at the southern end of the Central Plateau; and 5) the highlands south of Central Mexico.

## 5 OCEANS AND SEAS

Most of Mexico's eastern coast borders the Gulf of Mexico, but the eastern shore of the Yucatán Peninsula borders the Caribbean Sea. The western coast of the mainland and the eastern coast of the Baja California peninsula border the Gulf of California, an inlet of the Pacific Ocean. The western coast of Baja California borders the Pacific.

### Seacoast and Undersea Features

The waters of the Pacific off the western coast of the Baja peninsula are known for the array of marine life they harbor, and are especially famous as the only place in the world where



EPD/Saxifraga/Henk Sierdsema

*This rainforest region lies in the south near Mexico's border with Guatemala.*

the gray whale calves. The southeastern shore of the Baja peninsula is the location of the world's northernmost coral reef.

### **Sea Inlets and Straits**

The Yucatán Channel, between the northeast tip of the Yucatán Peninsula and southern Cuba, divides the Caribbean Sea from the Gulf of Mexico. The narrow Isthmus of Tehuantepec that connects the Mexican mainland to the Yucatán Peninsula and Central America is bordered by two gulfs, the Bahía de Campeche (to the north) in the Gulf of Mexico, and the much smaller Gulf of Tehuantepec (to the south) in the Pacific Ocean.

### **Islands and Archipelagos**

Mexico has several islands, both off the western coast of the Baja California peninsula, dotting

the Gulf of California to the east. It also has a few islands opposite the southern end of the western coastal plain (in the state of Nayarit), and several more near the northeastern tip of the Yucatán Peninsula, including the islands of Cozumel and Mujeres.

### **Coastal Features**

Mexico's coastline includes sandy beaches, which draw visitors to coastal resort areas like Acapulco and Cancún (known for its white-sand beaches), but in parts of Baja California and along the southern Pacific coastline, the mountains come right down to the sea. Other parts of the coast are bordered with mangrove-lined lagoons.

Mexico's three Pacific coastlines—both coasts of the Baja California peninsula and the

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# MEXICO

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western coast of the mainland—are heavily indented in the north, with multiple bays and inlets. The shoreline in the southern reaches of the mainland coastal plain and the southern part of Baja California’s western coast are much smoother. The coast is still smooth but becomes slightly uneven as it curves around the southern highlands, and then becomes almost perfectly smooth at the Gulf of Tehuantepec. The northernmost section of Mexico’s gulf coast is the site of a distinctive inland waterway called the Laguna Madre, one of only three coastal lagoons in the world that are hypersaline (saltier than the ocean). There is a nearly identical lagoon—also called the Laguna Madre— just north of the U.S. border along the Texas gulf coast. A short distance south of Mexico’s Laguna Madre is another good-sized lagoon area called the Laguna de Tamiahua.

## 6 🌐 INLAND LAKES

Mexico has only a few natural lakes. Lake Chapala on the outskirts of Guadalajara is the country’s largest natural lake. It is approximately 75 kilometers (50 miles) long and has a maximum width of around 20 kilometers (13 miles). Another relatively large lake in Central Mexico is Lake Cuitzeo.

## 7 🌐 RIVERS AND WATERFALLS

Few major rivers traverse Mexico. The longest is the Rio Grande (known in Mexico as the Río Bravo del Norte). It flows southeast for some 2,092 kilometers (1,300 miles) before draining into the Gulf of Mexico, and the river forms more than half of Mexico’s border with the United States. Its tributary, the Conchos, drains a large part of the Mesa del Norte. The Moctezuma-Panuco River flows eastward through the Sierra Madre Oriental into the Gulf of Mexico, draining the eastern part of the Mesa Central. Farther south, two larger rivers flow into the Gulf: the Papaloapan River, whose mouth is near Veracruz, and the Gri-

jalva-Usumacinta River, which flows through the Chiapas Highlands. The Lerma River rises in the volcanic highlands, near Mexico City, then flows westward to Lake Chapala. Flowing westward farther south is the Balsas River.

## 8 🌐 DESERTS

Much of the area north of the Tropic of Cancer is considered tropical desert or steppe land. The semiarid Balsas Depression south of the transverse volcanic highlands also has a desert environment.

## 9 🌐 FLAT AND ROLLING TERRAIN

The northern section of the Central Plateau (the Mesa del Norte) includes extensive flat areas, but it is broken by numerous hill ranges, most of them longitudinal. Central Mexico’s terrain includes rolling hills in addition to its volcanic peaks and basins.

## 10 🌐 MOUNTAINS AND VOLCANOES

Two-thirds of Mexico is mountainous. The massive Sierra Madre Occidental that forms the western edge of the Central Plateau is the country’s most extensive mountain system and an extension of the Sierra Nevada range in the United States. Its peaks average 2,438 to 2,743 meters (8,000 to 9,000 feet) in elevation. At the eastern edge of the Central Plateau, the shale and limestone peaks of the Sierra Madre Oriental range, rising to maximum heights of over 3,658 meters (12,000 feet), form an extension of the Rocky Mountain range.

The loftiest peaks of the volcanic fracture zone at the southern edge of the Central Plateau extend laterally from the Pacific Ocean almost to the Gulf of Mexico. These mountains are known by various names, including the Cordillera Neovolcanica, the Sierra Volcanica Transversal, and the Transverse Volcanic Range. Most of the country’s highest peaks are in this chain. The range is anchored on the east, not far from the Gulf of Mexico, by the

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# MEXICO

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EPD/Saxifraga/Henk Sierdsema

*Scenery on the Baja California peninsula of Mexico.*

volcanic cone of Orizaba, the country's highest mountain, at an elevation of 5,700 meters (18,702 feet). South of the fracture zone lies the Sierra Madre del Sur range with altitudes of up to 3,048 meters (10,000 feet). This range is not related to the mountain systems of northern Mexico.

Beyond the Isthmus of Tehuantepec, the Sierra Madre de Chiapas extend to the Guatemalan border, separated from the Pacific by a fairly broad coastal plain. The remaining major mountain system, the Chiapas Highlands, occupies most of the interior east of the Isthmus of Tehuantepec and south of the Yucatán Peninsula.

## **11** 🌐 **CANYONS AND CAVES**

The Sierra Madre Occidental range has a number of steep canyons called *barrancas*. The most dramatic of these is the Barranca

del Cobre; it is the Mexican counterpart to the Grand Canyon in the United States.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Mexico's large Central Plateau extends southward down the center of the country from the U.S. border to the Isthmus of Tehuantepec, narrowing somewhat from north to south. Average elevations range from 1,219 meters (4,000 feet) in the north to over 2,438 meters (8,000 feet) in the south. At approximately its midpoint, near the city of San Luis Potosi, the plateau is interrupted by a series of ranges that cross between the two Sierra Madre systems. The drier, low-lying part of the plateau north of this point is called the Mesa del Norte. To the south lies the Mesa Central, which is higher, wetter, and flatter.

## 13 MAN-MADE FEATURES

Rivers that have been dammed for irrigation purposes include the Yaqui, the Fuerte, and the Culiacán Rivers, all of which flow through the narrow Pacific coastal plain. The Morelos Dam on the Colorado River at the head of the Gulf of California has converted the desert land of the Mexicali Valley into an important agricultural area devoted primarily to cotton farming. The Balsas River provides hydroelectric power through a dam at the Sierra Madre del Sur.

## 14 FURTHER READING

### Books

- Butler, Ron. *Dancing Alone in Mexico: From the Border to Baja and Beyond*. Tucson: University of Arizona Press, 2000.
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## DID YOU KNOW?

In terms of topography, the lowlands of the Yucatán Peninsula are similar to Florida; this region is unlike any other part of Mexico.

Wauer, Roland H. *Naturalist's Mexico*. College Station: Texas A&M University Press, 1992.

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- Mexico Travel Guide*. <http://www.go2mexico.com/> (accessed April 24, 2003).
- UpTravel.com*. <http://www.1uptravel.com/geography/mexico.html> (accessed April 24, 2003).

# Micronesia

- **Official name:** Federated States of Micronesia
- **Area:** 702 square kilometers (271 square miles)
- **Highest point on mainland:** Mount Totolom (791 meters/2,595 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zones:** In Pohnpei and Kosrae, 10 P.M. = noon GMT; in Yap and Chuuk, 9 P.M. = noon GMT
- **Longest distances:** 2,898 kilometers (1,800 miles) east to west from Kosrae to Yap
- **Land boundaries:** None
- **Coastline:** 6,112 kilometers (3,798 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The country of Micronesia comprises several islands in the North Pacific Ocean that are part of a larger group known as the Carolinian archipelago. In turn, this archipelago is located within a region that is also known as Micronesia, which belongs to the larger region known as Oceania. The country is located about three-quarters of the way from Hawaii to Indonesia. With an area of about 702 square kilometers (271 square miles), the country is about four times the size of Washington, D.C. Micronesia is divided into four states.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Micronesia has no outside territories or dependencies.

## 3 🌐 CLIMATE

The climate in Micronesia is maritime tropical, with little seasonal or diurnal (day-to-night) variation in temperature, which averages 27°C (80°F) year-round. Average humidity is 80 percent.

The northeast trade winds that prevail during November, December, April, and May frequently bring heavy rainfall. The short and torrential nature of the rainfall, which decreases from east to west, results in an annual average of 508 centimeters (200 inches) of rain in Pohnpei and 305 centimeters (120 inches) in Yap. Pohnpei is one of the wettest places on Earth. The eastern islands are located on the southern edge of the typhoon belt and occasionally suffer severe damage from typhoons, which are a threat from June through December.

## 4 🌐 TOPOGRAPHIC REGIONS

The country of Micronesia covers the second-largest land and sea area in the region, which is also known as Micronesia. Its four states consist of four major island groups. From east to west, they are Kosrae, Pohnpei (Ponape), Chuuk (formerly Truk), and Yap Islands. The territory is made up of 607 islands, including mountainous islands of volcanic origin and coral atolls, forty of

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# MICRONESIA

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Paul Chesley/National Geographic Image Collection

*Aerial view of Managaha Island off the west coast of Saipan Island  
in the Northern Marianas Islands, Micronesia.*

which are a significant size. Only sixty-five of the islands are inhabited. The outer islands of all states are mainly coral atolls. The primary economic activities are subsistence farming and fishing. Tourism is an emerging industry, catering mostly to sport scuba divers; geographical isolation and a lack of adequate lodging and infrastructure hinder development, however.

## **5** **OCEANS AND SEAS**

### **Seacoast and Undersea Features**

The Pacific Ocean surrounds the nation of Micronesia.

### **Sea Inlets and Straits**

The Truk Lagoon is one of the largest enclosed lagoons in the world, encircled by a

225-kilometer- (140-mile-) long barrier reef and covering an area of 2,129 square kilometers (822 square miles). Ports and harbors are located at Colonia (Yap), Kolonia (Pohnpei), Lele (Kosrae), and Moen (Chuuk).

### **Islands and Archipelagos**

Within Micronesia, each of the four states centers on one or more “high islands.” Kosrae, the smallest and easternmost state, consists of five closely situated islands, but is essentially one high island of 119 square kilometers (42 square miles). Pohnpei (344 square kilometers/133 square miles) consists of the single large island of Pohnpei (137 square kilometers/130 square miles), twenty-five smaller islands within a barrier reef, and 137 outer islands, of which the major atolls are

# MICRONESIA

Mokil, Pingelap, Kapingamarangi, Nukuoro, and Ngatik. Chuuk (Truk) (127 square kilometers/49 square miles) includes the large Truk Lagoon, which encloses ninety-eight islands, plus the major outer island groups which include the Mortlocks, Halls, Western, and Namwunweito Islands. Yap (118 square kilometers/46 square miles), the westernmost state, consists of four large islands and seven smaller islands surrounded by barrier reefs, plus 134 outer islands, of which the largest are Ulithi and Woleai.

There is moderately heavy tropical vegetation; tree species include tropical hardwoods on the slopes of higher volcanic islands and coconut palms on the coral atolls. Pohnpei and Kosrae have the only remaining patches of mountain cloud forest in Micronesia. Forest covers 40 percent of total land area in the Yap Islands, but it is largely secondary growth.

## Coastal Features

Low sheltered coastal areas of Micronesia are covered with mangrove forests. The Chuuk islands are an “almost atoll,” encircled by a barrier reef. Of the eighty countries that have coral reefs, Micronesia ranks thirteenth in area; it contains 1.53% of the world’s reefs, spanning 11,241 square kilometers (4,340 square miles). During the past century, Micronesia’s coral reefs suffered from soil erosion resulting from logging, agriculture, major coastal construction (dredging and filling), military occupation, and World War II battles, along with the poaching of giant clams, sharks, trochus (marine gastropod), and other commercial species from remote reefs.

## 6 🌐 INLAND LAKES

The four states of Micronesia have a total of 7,164 square kilometers (2,766 square miles) of lagoons within their coastal borders.

## DID YOU KNOW?

**O**ceania refers to the islands in the region that covers the central and southern Pacific Ocean and its adjacent seas. The boundaries for this region are the Tropic of Cancer in the north and the southern tip of New Zealand. The region known as Micronesia, a division of Oceania in the western Pacific Ocean, includes the islands east of the Philippines and north of the equator. The Caroline, Marshall, Mariana, and Gilbert Islands are all a part of the region of Micronesia.

## 7 🌐 RIVERS AND WATERFALLS

Pohnpei, the largest and tallest island in Micronesia, has peaks that receive much rainfall annually, creating more than forty rivers that feed the upper rain forest and create spectacular waterfalls.

## 8 🌐 DESERTS

There are no desert regions in Micronesia.

## 9 🌐 FLAT AND ROLLING TERRAIN

There are no substantial plains, hills, or valleys in Micronesia.

## 10 🌐 MOUNTAINS AND VOLCANOES

The state of Kosrae is largely mountainous, with two main peaks: Fenkol (Mount Crozer) (634 meters/2,080 feet) and Matanti (583 meters/1,913 feet). Pohnpei contains a large volcanic island, with the highest elevation at Mount Totolom (791 meters/2,595 feet), which is also the highest point in the country.



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# MICRONESIA

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Chuuk has fourteen islands that are mountainous and of volcanic origin. Yap has four large, high islands; this state's highest point is Mount Tabiwol (178 meters/584 feet). Yap is situated at the southern end of a submerged ridge; volcanic land formation has occurred in its five largest island clusters.

## 11 CANYONS AND CAVES

There are no significant caves or canyons in Micronesia.

## 12 PLATEAUS AND MONOLITHS

There are no plateau regions in Micronesia.

## 13 MAN-MADE FEATURES

There are no significant man-made structures affecting the geography of Micronesia.

## 14 FURTHER READING

### Books

Ashby, Gene, ed. *Some Things of Value: Micronesian Customs and Beliefs*. Eugene, OR: Rainy Day Press, 1985.

Karolle, Bruce G. *Atlas of Micronesia*. 2nd ed. Honolulu, Hawaii: Bess Press, 1993.

Kluge, P. F. *The Edge of Paradise: America in Micronesia*. New York: Random House, 1991.

### Web Sites

*Government of the Federated States of Micronesia*.  
<http://www.fsmgov.org/info/index.html>  
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# Moldova

- **Official name:** Republic of Moldova
- **Area:** 33,843 square kilometers (13,067 square miles)
- **Highest point on mainland:** Mount Balănești (430 meters/1,410 feet)
- **Lowest point on land:** Dniester River (2 meters/6.6 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 150 kilometers (90 miles) from east to west; 340 kilometers (210 miles) from north to south
- **Land boundaries:** 1,389 kilometers (864 miles) total boundary length; Romania 450 kilometers (280 miles); Ukraine 939 kilometers (583 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Moldova is a completely landlocked country of about 33,843 square kilometers (13,067 square miles) in area; after Armenia, it is the second-smallest republic of the former U.S.S.R. It is located in southeastern Europe, east of Romania and north, west, and northeast of Ukraine. The country's entire border with Romania lies along the Prut River in the west; on the east, the Dniester (Nistru) River follows some of the northern border with Ukraine, but it flows mostly within the nation's eastern region.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Moldova has no territories or dependencies.

## 3 🌐 CLIMATE

The Moldovan climate is continental, with conditions kept somewhat moderate by the influence of the Black Sea. Winters are generally dry and mild, with average daily temperatures in January ranging from  $-5^{\circ}\text{C}$  to  $-3^{\circ}\text{C}$  ( $3^{\circ}\text{F}$  to  $27^{\circ}\text{F}$ ). The long summers are warm; average daily temperatures in July exceed  $20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ), and daily highs may even reach  $40^{\circ}\text{C}$  ( $104^{\circ}\text{F}$ ). Precipitation in Moldova is typically light and

sometimes irregular, often resulting in dry spells. Rainfall is lightest in the south, on average 35 centimeters (14 inches) per year. At higher elevations, it can exceed 60 centimeters (20 inches). Early summer and October are the rainy seasons, with heavy showers and thunderstorms common, often causing erosion and river silting.

## 4 🌐 TOPOGRAPHIC REGIONS

Moldova is mostly a hilly plain cut by the deep valleys of many rivers and streams. In general, the terrain slopes gradually south toward the Black Sea, although the country is separated from the sea by a narrow arm of Ukraine. Moldova's average elevation is only 147 meters (482 feet) above sea level.

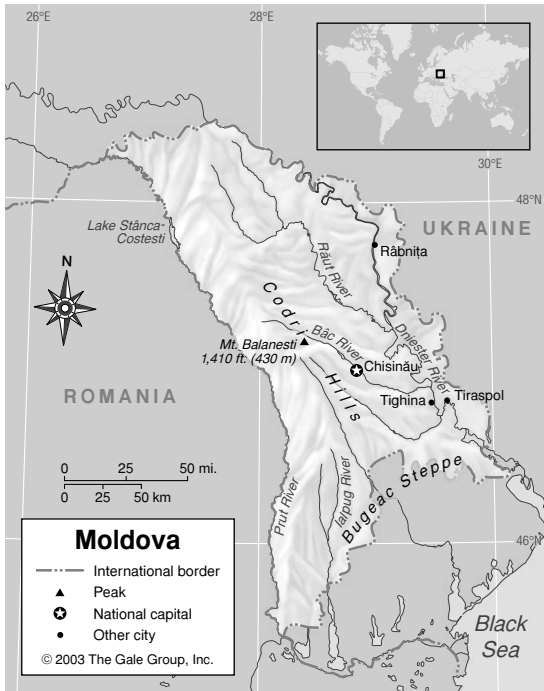
## 5 🌐 OCEANS AND SEAS

Moldova is a landlocked nation and thus borders no oceans or seas.

## 6 🌐 INLAND LAKES

Lake Stâncă-Costești, through which the Prut River flows, lies on the Moldovan-Romanian border in northwest Moldova. Two other lakes

# MOLDOVA



fed by the Prut in Moldova are the Manta and the Beleu. The Manta is a valuable fish spawning area; in fact, both of these lakes have been slated for wetlands protection by the Moldovan government.

## 7 🌐 RIVERS AND WATERFALLS

Moldova has more than three thousand rivers and streams, but only eight are longer than 100 kilometers (60 miles). The two largest rivers are the Dniester (called the Nistru in Moldova) and the Prut, which both originate in the Carpathian Mountains north of Moldova in Ukraine. The longer Nistru flows south through eastern Moldova. It forms a short section of the Moldova/Ukraine border in the northeast, flows into Moldova, then borders Ukraine again in the southeast. It finally reenters Ukraine in the south shortly before emptying into the Black Sea. The second-longest river is the Prut, a major tributary of the Danube River. The Prut River forms

Moldova's entire border with Romania before flowing south into the Danube. Like the Nistru, the Prut originates in the Carpathian Mountains in southwestern Ukraine; it flows a total distance of 909 kilometers (564 miles). Smaller Moldovan rivers include the Ialpuș, the Bâc, and the Răut.

## 8 🌐 DESERTS

Moldova has no deserts.

## 9 🌐 FLAT AND ROLLING TERRAIN

Moldova's hills are more accurately described as rolling, hilly plains that rise in elevation to the north as they approach the foothills of the Carpathian Mountains. The hill country is cut by deep ravines and gullies from the country's many rivers and streams.

## 10 🌐 MOUNTAINS AND VOLCANOES

Moldova is a generally low-lying country with no real mountain systems. Its highest point, Mount Balănești, rises to 430 meters (1,410 feet) amid the Codri Hills of west-central Moldova.

## 11 🌐 CANYONS AND CAVES

Scientists have explored and documented a number of caves in northern Moldova. The largest is the Emil Racovița Cave located near an area of karst topography in the Edineț region. Archaeological digs have dated the Brinzeni Caves, also in the Edineț region, to the Paleolithic era.

## 12 🌐 PLATEAUS AND MONOLITHS

Southern Moldova lies in an area called the Bugeac Steppe. However, in Moldova essentially the entire steppe zone has been cultivated.

## 13 🌐 MAN-MADE FEATURES

The ruins of a medieval town have been unearthed at Tribuzheni, near Orhei on the Raut River.

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# MOLDOVA

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EPD/Saxifraga/Peter Lina

*The Dniester River is Moldova's longest river.*

## 14 FURTHER READING

### Books

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Hawks, Tony. *Playing the Moldovans at Tennis*. New York: Thomas Dunne Books, 2001.

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<http://www.cepd.soros.md/moldova.htm>  
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*The Republic of Moldova Site.* [http://www.](http://www.moldova.org/)

[moldova.org/](http://www.moldova.org/) (accessed April 24, 2003).

# Monaco

- **Official name:** Principality of Monaco
- **Area:** 1.9 square kilometers (0.7 square miles)
- **Highest point on mainland:** Mont Agel (140 meters/459 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 3.18 kilometers (1.98 miles) from east to west; 1.10 kilometers (0.68 miles) from north to south
- **Land boundaries:** 4.4 kilometers (2.7 miles) total boundary length, all with France
- **Coastline:** 4.1 kilometers (2.5 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

An enclave lying entirely within the French department of Alpes-Maritimes, Monaco is the world's second-smallest country; only the Vatican is smaller. The entire principality occupies about three times the area of the Mall in Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Monaco has no territories or dependencies.

## 3 🌐 CLIMATE

Monaco's winters are mild, with temperatures rarely falling below freezing; January's average temperature is 8°C (46°F). The summer heat is comfortable because of the cooling breezes from the bordering Mediterranean Sea. The average high temperature in July and August is 26°C (79°F). Sea breezes moderate the summer heat. Monaco has a sunny climate, with

only about sixty days of rain per year. On average, the sun shines for seven hours a day. Rainfall averages about 77 centimeters (30 inches) per year.

## 4 🌐 TOPOGRAPHIC REGIONS

There is little geographic variation in this tiny country, but it is often divided into four regions based on economic activities: Monte Carlo is the northern entertainment district, site of the famous casino. La Condamine is the business district on the western side of the country's central bay. South of the bay, Monaco-Ville, the historic old city and site of the principality's lavish palace, is situated on a rocky projection about 60 meters (200 feet) above sea level. Fontvieille to the southwest is an industrial and port area that was developed on reclaimed land.

# MONACO



EPD/Tom Till

*Monaco is perched above the Mediterranean Sea.*

## 5 🌐 OCEANS AND SEAS

The Mediterranean Sea lies to the east and south of Monaco.

### Coastal Features

Monaco's coastline contains several cliffs as well as the Monte Carlo and Larvotto beaches in Monte Carlo. The Port of Monaco is located off the central coast, and the Port of Fontvieille is in the south; the two ports are separated by the small peninsula on which Monaco-Ville is located.

## 6 🌐 INLAND LAKES

There are no lakes in Monaco.

## 7 🌐 RIVERS AND WATERFALLS

No rivers flow through Monaco.

## 8 🌐 DESERTS

There are no deserts in Monaco.

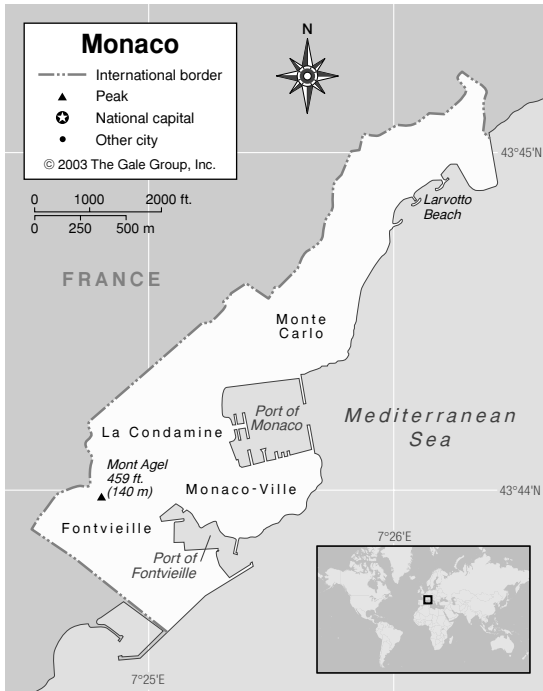
## 9 🌐 FLAT AND ROLLING TERRAIN

Much of Monaco is situated on thickly clustered hills.

## 10 🌐 MOUNTAINS AND VOLCANOES

Monaco's terrain includes rugged cliffs overlooking the Mediterranean Sea. The surrounding French countryside is mountainous.

# MONACO



## 11 🌐 CANYONS AND CAVES

There are caves in the rocky limestone cliffs on Monaco's coast.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no plateaus or monoliths in Monaco.

## 13 🌐 MAN-MADE FEATURES

The Port of Fontvieille is built on land that was reclaimed from the sea between 1966 and 1973. The project enlarged the principality by 22 hectares (54 acres) and involved moving 7.5 million cubic meters (264.8 cubic feet) of rock and earth. The reclaimed land supports not only the port itself but also an industrial zone and retail and tourist facilities.

## 14 🌐 FURTHER READING

### Books

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Edwards, Anne. *The Grimaldis of Monaco*. New York: Morrow, 1992.

Hopkins, Adams. *Essential French Riviera*. Lincolnwood, IL: Passport Books, 1994.

### Web Sites

"Monaco." *LonelyPlanet*. <http://www.lonelyplanet.com/destinations/europe/monaco/> (accessed April 24, 2003).

*Monte-Carlo Online*. <http://www.monte-carlo.mc/principalitymonaco/index.html> (accessed April 24, 2003).

# Mongolia

- **Official name:** Mongolia
- **Area:** 1,565,000 square kilometers (604,247 square miles)
- **Highest point on mainland:** Nayramadlin Orgil, also called Huyten Orgil or Mount Huyten (4,374 meters/14,350 feet)
- **Lowest point on land:** Hoh Nuur Depression (518 meters/1,709 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 8 P.M. = noon GMT
- **Longest distances:** 2,368 kilometers (1,471 miles) from east to west; 1,260 kilometers (783 miles) from north to south
- **Land boundaries:** 8,161.9 kilometers (5,072 miles) total boundary length; Russia 3,005 kilometers (1,867 miles); China 4,673 kilometers (2,904 miles); also touches Kazakhstan at westernmost point
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Mongolia, the world's largest landlocked nation, is located in east-central Asia between China and Russia. It covers an area of 1,565,000 square kilometers (604,247 square miles), or slightly more than the state of Alaska.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Mongolia has no territories or dependencies.

## 3 🌐 CLIMATE

Mongolia has two climatic zones: the continental zone in the north, and the desert in the south. The country's high altitude results in inhospitably cold, dry, and harsh weather. Temperatures can fluctuate radically each day, dropping drastically at night, and they differ greatly from season to season. Winters are especially long, with freezing temperatures from October to April. The temperature can plunge to as low as  $-52^{\circ}\text{C}$  ( $-62^{\circ}\text{F}$ ) in January. Mongolia's average winter temperature is  $-24^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ) with an average range of  $-21^{\circ}\text{C}$  to  $-30^{\circ}\text{C}$  ( $-5^{\circ}$  to  $-22^{\circ}\text{F}$ ). Spring is a brief windy and stormy transition period of five to six

weeks around May. Summer lasts from June to August, with an average temperature of  $20^{\circ}\text{C}$  ( $65^{\circ}\text{F}$ ), ranging from  $10^{\circ}$  to  $27^{\circ}\text{C}$  ( $50^{\circ}$  to  $80^{\circ}\text{F}$ ). Autumn is a five- to six-week transition period around September. Mongolia's average humidity is 65 percent in summer and 75 percent in winter.

Most of Mongolia's rainfall occurs from May to September. The country usually has at least 250 sunny days each year. Rainfall is considerably heavier in the north, and nearly nonexistent in the southern Gobi Desert. Mongolia's annual average rainfall is a low 20 to 22 centimeters (8 to 9 inches), receiving an average of 36 centimeters (14 inches) in the north and fewer than 10 centimeters (4 inches) in the south. The country experienced devastating heavy snowstorms in the winters at the start of the twenty-first century.

Less than 70 percent of Mongolia's land has a consistent supply of water. Winter freezes often cut off access to surface waters and wells. Melted snow and ice then become the water sources during the winter for residential and



# MONGOLIA



commercial use. The water situation is relatively better in the north, because it has major rivers and heavier precipitation.

## 4 TOPOGRAPHIC REGIONS

Mongolia has five topographic regions: the Altai range (the largest mountain system); the Great Lakes Depression (lakes and plains); the Hangayn-Hentiyn Mountains (medium-altitude older mountains with gentle slopes and valleys); the uplifted eastern plains (smooth and rolling terrain, sprinkled with pastures, forests, and rivers); and the Gobi Desert (hilly in the west with salt lakes and marshes in flat lowlands and sand desert).

## 5 OCEANS AND SEAS

Mongolia is a landlocked nation. The closest ocean is the Pacific's Yellow Sea, which is 700 kilometers (435 miles) to the east across northeast China.

## 6 INLAND LAKES

More than four thousand lakes, mostly of glacial or volcanic origin, relieve the dry

landscape of Mongolia. For the most part, the lakes are located high above sea level and they freeze over every winter; those with outlets usually have fresh water. Most of the sixteen biggest lakes are found in the northwest. The country also has developed more than two hundred sites of hot and cold natural mineral water springs.

The Great Lakes Depression of northwest Mongolia contains at least three hundred lakes, as well as high waterfalls and springs. Uvs Lake, a saltwater lake at 759 meters (2,490 feet) above sea level in this region, is Mongolia's largest, with a surface area of 3,366 square kilometers (1,300 square miles). Also in the Great Lakes area, the Har Us, Hyargas, and Dörgön Lakes are a trio of connected, large, shallow lakes within Har Us Nuur National Park. Mongolia contains many salt marshes and a variety of lake-centered wetland environments. The basin of Uvs Lake is subject to extremes of cold and warm weather. It is one of ten worldwide locations being studied in the International Geosphere-Biosphere Program, which is researching global climate change.

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# MONGOLIA

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ARAMCO/ Nik Wheeler

*Mongolian herders live near good grazing and a water supply. They cover their yurts with canvas instead of animal skins as their forefathers had done.*

## **7** **RIVERS AND WATERFALLS**

With more than twelve hundred rivers, Mongolia has three drainage systems: to the Arctic Ocean, to the Pacific Ocean, and to the desert or salt lakes. Rivers draining north to the Arctic Ocean include the Selenge River, as well as the Shishkhed and Bulgan Rivers. The Selenge River arises in the Hangayn uplands of northern Mongolia, and flows north into Russia's Lake Baikal; it has a total length of 992 kilometers (616 miles), about 595 kilometers (370 miles) of which is within Mongolia. Among the Selenge's numerous tributaries are the Orhon which, at a length of 1,126 kilometers (698 miles), is the longest river entirely within Mongolia, and the Tuul (703 kilometers/437 miles), on the banks of which is located the nation's capital, Ulaanbaatar.

The Kerulen, Onon, Uldz, and Halhïn Rivers of northeast Mongolia flow into the Amur River of Russia, which continues east to the Pacific Ocean. The longest of these rivers is the Kerulen, which is 1,086 kilometers (675 miles) long. Mongolia's other river systems are found in the Great Lakes Depression and in the Central Asian basin, including the Dzavhan (804 kilometers/500 miles), Tesiyn (563 kilometers/350 miles), and Khobdo (499 kilometers/310 miles) Rivers.

The river system in the Gobi region is negligible; the few small rivers of the northern portion of the desert zone rise in the Hangayn range but vanish into salt lakes.

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# MONGOLIA

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## 8 🌐 DESERTS

The great Gobi Desert occupies one-third of Mongolia, and it extends far south into China's Inner Mongolia region. It is the world's largest cold-climate desert. Less than 5 centimeters (2 inches) of rain falls in the Gobi each year, with no rainfall occurring at all in some parts of the desert. There are two types of desert within the Gobi. One is a scrubland with coarse, stunted bunchgrass and hardy bushes, which is dry but can be used for camel grazing. It contains numerous plant species, many of which bloom in the summer if they receive enough moisture during the year. The other type of desert in the Gobi is a landscape of sand dunes mixed with stone or gravel, with little to no vegetation.

## 9 🌐 FLAT AND ROLLING TERRAIN

Mongolia's elevations decline from northwest to southeast, decreasing gradually from alpine snow peaks to rolling contours, mesas, ridges and low hills, and eventually to completely flat plains. The foothills of the Altai Shan (Mountains) stretch south and east into the Gobi, forming a terrain of bare desert hills. Mongolia is famous for its beautiful grasslands. The southeast is an area of particularly extensive grasslands, known as steppes in Central Asia. The steppe hills and plains are covered with many varieties of grasses, and are grazed by domestic animals including sheep, goats, horses, cattle, yaks, and camels, as well as wild antelopes, including enormous migratory herds of gazelles.

## 10 🌐 MOUNTAINS AND VOLCANOES

The high mountains of Mongolia rise mostly in the west. Some of the peaks are long-extinct volcanoes. The lofty Altai Shan range is part of a chain that continues over the border into China, Russia, and Kazakhstan; it runs northwest to southeast in Mongolia. Some two hundred glaciers cascade through

the Altai range. Mongolia's highest mountain is Nayramadlin Orgil (Huyten Orgil or Mount Huyten, also called Mount Nayramadlin) rising 4,374 meters (14,350 feet) in the Tawan Bogdo group of the Altai at Mongolia's westernmost extension, where the country meets Russia, Kazakhstan, and China. The second-highest mountain in Mongolia, Mount Chajrchan Uul, 4,362 meters (14,311 feet), is in the central Altai range. The Hangayn (Khangai) range in central Mongolia has generally lower mountains. The highest peak in this range is Otgon Tenger (3,957 meters/12,982 feet). Another chain of low mountains is the Hentiyn (Khentei) range in north-central Mongolia, sprawling along and across the Russian border.

## 11 🌐 CANYONS AND CAVES

In the Dalanzadgad region of the Gobi Desert, Gobi Gurvansaikhan National Park contains winding canyons of colorfully streaked sandstone, including Yolym Am (Yol Canyon), which surrounds a permanently frozen stream. Also within the National Park are the Flaming Cliffs, overlooking the Nemegt, Khermiin Tsav, and Bayanzag Canyons.

## 12 🌐 PLATEAUS AND MONOLITHS

With an area of approximately 2,600,000 square kilometers (1,000,000 square miles), the Mongolian plateau spans both the independent nation of Mongolia (also called Outer Mongolia) and the Chinese province of Mongolia (called Inner Mongolia). The Gobi Desert separates the two regions. The plateau has an average elevation of 1,580 meters (5,184 feet), with passageways between mountain ranges varying in length from 1,931 to 3,218 kilometers (1,200 to 2,000 miles).

## 13 🌐 MAN-MADE FEATURES

Mongolia has few bridges or paved roads. One of the few Buddhist monasteries that survived Soviet military invasions during the twentieth

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# MONGOLIA

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century is found in Kharakhorum, the Mongolian capital under the rule of Genghis Khan in the late twelfth century. Located within a large, walled compound, the monastery contains the remaining two of four giant turtles carved out of the rock.

*Ovoos*, large ritual mounds made from rocks piled into a low pyramid, can be found throughout Mongolia. In many places, objects such as coins, bottles, animal skulls, and pieces of fabric are thrown onto *ovoos*. In northern Mongolia, the mounds are covered with wooden poles, creating a structure that resembles a teepee.

## 14 FURTHER READING

### Books

- Lawless, Jill. *Wild East: The New Mongolia*. Toronto: ECW Press, 2000.
- Man, John. *Gobi: Tracking the Desert*. New Haven, CT: Yale University Press, 1999.
- Novacek, Michael. *Dinosaurs of the Flaming Cliffs*. New York: Anchor Books, 1997.

## DID YOU KNOW?

The canyons of the Flaming Cliffs contain archaeological sites that were first excavated in the early twentieth century. Early examples of dinosaur eggs have been found there, as well as many significant dinosaur skeletons from the late Cretaceous period.

### Web Sites

- Destination Mongolia*. [http://www.lonelyplanet.com/destinations/north\\_east\\_asia/mongolia/](http://www.lonelyplanet.com/destinations/north_east_asia/mongolia/) (accessed April 24, 2003).
- Mongolia World*. <http://plaza.harmonix.ne.jp/~michie/mongolia.html> (accessed April 24, 2003).
- Visit Mongolia*. <http://www.visitmongolia.com/> (accessed April 24, 2003).

# APPENDIX A

## A CONTINENTS BY AREA, FROM LARGEST TO SMALLEST

RANK	CONTINENT	AREA (SQ MI)	AREA (SQ KM)
1	Asia	17,139,445	44,391,162
2	Africa	11,677,239	30,244,049
3	North America	9,361,791	24,247,039
4	South America	6,880,706	17,821,029
5	Antarctica	5,500,000	14,245,000
6	Europe	3,997,929	10,345,636
7	Australia	2,967,909	7,686,884

## B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
1	Russia	6,592,735	17,075,200	11.0
2	Antarctica	5,405,000	14,000,000	9.4
3	Canada	3,851,788	9,976,140	6.7
4	United States of America	3,717,792	9,629,091	6.4
5	China	3,705,386	9,596,960	6.4
6	Brazil	3,286,470	8,511,965	5.7
7	Australia	2,967,893	7,686,850	5.1
8	India	1,269,338	3,287,590	2.3
9	Argentina	1,072,157	2,776,890	1.9
10	Kazakhstan	1,049,150	2,717,300	1.8
11	Sudan	967,493	2,505,810	1.7
12	Algeria	919,590	2,381,740	1.6
13	Congo, Democratic Republic of the	905,563	2,345,410	1.6
15	Mexico	761,606	1,972,550	1.3
16	Saudi Arabia	756,984	1,960,582	1.3
17	Indonesia	741,096	1,919,440	1.3
18	Libya	679,358	1,759,540	1.2
19	Iran	636,293	1,648,000	1.1
20	Mongolia	604,247	1,565,000	1.0
21	Peru	496,223	1,285,220	0.9
22	Chad	495,755	1,284,000	0.9
23	Niger	489,189	1,267,000	0.8
24	Angola	481,350	1,246,700	0.8
25	Mali	478,764	1,240,000	0.8

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
26	South Africa	471,008	1,219,912	0.8
27	Colombia	439,733	1,138,910	0.8
28	Ethiopia	435,184	1,127,127	0.8
29	Bolivia	424,162	1,098,580	0.7
30	Mauritania	397,953	1,030,700	0.7
31	Egypt	386,660	1,001,450	0.7
32	Tanzania	364,879	945,037	0.6
33	Nigeria	356,667	923,768	0.6
34	Venezuela	352,143	912,050	0.6
35	Namibia	318,694	825,418	0.6
36	Pakistan	310,401	803,940	0.5
37	Mozambique	309,494	801,590	0.5
38	Turkey	301,382	780,580	0.5
39	Chile	292,258	756,950	0.5
40	Zambia	290,584	752,614	0.5
41	Myanmar	261,969	678,500	0.5
42	Afghanistan	250,000	647,500	0.4
43	Somalia	246,199	637,657	0.4
44	Central African Republic	240,534	622,984	0.4
45	Ukraine	233,089	603,700	0.4
46	Botswana	231,803	600,370	0.4
47	Madagascar	226,656	587,040	0.4
48	Kenya	224,961	582,650	0.4
49	France	211,208	547,030	0.4
50	Yemen	203,849	527,970	0.4
51	Thailand	198,455	514,000	0.3
52	Spain	194,896	504,782	0.3
53	Turkmenistan	188,455	488,100	0.3
54	Cameroon	183,567	475,440	0.3
55	Papua New Guinea	178,703	462,840	0.3
56	Sweden	173,731	449,964	0.3
57	Uzbekistan	172,741	447,400	0.3
58	Morocco	172,413	446,550	0.3
59	Iraq	168,753	437,072	0.3

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
60	Paraguay	157,046	406,750	0.3
61	Zimbabwe	150,803	390,580	0.3
62	Japan	145,882	377,835	0.3
63	Germany	137,846	357,021	0.2
64	Congo, Republic of	132,047	342,000	0.2
65	Finland	130,127	337,030	0.2
66	Malaysia	127,316	329,750	0.2
67	Vietnam	127,243	329,560	0.2
68	Norway	125,181	324,220	0.2
69	Côte d'Ivoire	124,502	322,460	0.2
70	Poland	120,728	312,685	0.2
71	Italy	116,305	301,230	0.2
72	Philippines	115,830	300,000	0.2
73	Ecuador	109,483	283,560	0.2
74	Burkina Faso	105,869	274,200	0.2
75	New Zealand	103,737	268,680	0.2
76	Gabon	103,347	267,667	0.2
77	Guinea	94,926	245,857	0.2
78	United Kingdom	94,525	244,820	0.2
79	Ghana	92,100	238,540	0.2
80	Romania	91,699	237,500	0.2
81	Laos	91,428	236,800	0.2
82	Uganda	91,135	236,040	0.2
83	Guyana	83,000	214,970	0.1
84	Oman	82,031	212,460	0.1
85	Belarus	80,154	207,600	0.1
86	Kyrgyzstan	76,640	198,500	0.1
87	Senegal	75,749	196,190	0.1
88	Syria	71,498	185,180	0.1
89	Cambodia	69,900	181,040	0.1
90	Uruguay	68,039	176,220	0.1
91	Tunisia	63,170	163,610	0.1
92	Suriname	63,039	163,270	0.1
93	Bangladesh	55,598	144,000	0.1

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
94	Tajikistan	55,251	143,100	0.1
95	Nepal	54,363	140,800	0.1
96	Greece	50,942	131,940	0.1
97	Nicaragua	49,998	129,494	0.1
98	Eritrea	46,842	121,320	0.1
99	Korea, North (Democratic People's Republic of)	46,540	120,540	0.1
100	Malawi	45,745	118,480	0.1
101	Benin	43,483	112,620	0.1
102	Honduras	43,278	112,090	0.1
103	Liberia	43,000	111,370	0.1
104	Bulgaria	42,822	110,910	0.1
105	Cuba	42,803	110,860	0.1
106	Guatemala	42,042	108,890	0.1
107	Iceland	39,769	103,000	0.1
108	Serbia and Montenegro	39,517	102,350	0.1
109	Korea, South (Republic of)	38,023	98,480	0.1
110	Hungary	35,919	93,030	0.1
111	Portugal	35,672	92,391	0.1
112	Jordan	35,637	92,300	0.1
114	Azerbaijan	33,436	86,600	0.1
115	Austria	32,378	83,858	0.1
116	United Arab Emirates	32,000	82,880	0.1
117	Czech Republic	30,450	78,866	0.1
118	Panama	30,193	78,200	0.1
119	Sierra Leone	27,699	71,740	0.05
120	Ireland	27,135	70,280	0.05
121	Georgia	26,911	69,700	0.05
122	Sri Lanka	25,332	65,610	0.04
123	Lithuania	25,174	65,200	0.04
124	Latvia	24,938	64,589	0.04
125	Togo	21,925	56,785	0.04
126	Croatia	21,831	56,542	0.04
127	Bosnia and Herzegovina	19,741	51,129	0.03



## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
128	Costa Rica	19,730	51,100	0.03
129	Slovakia	18,859	48,845	0.03
130	Dominican Republic	18,815	48,730	0.03
131	Bhutan	18,147	47,000	0.03
132	Estonia	17,462	45,226	0.03
133	Denmark	16,638	43,094	0.03
134	Netherlands	16,033	41,526	0.03
135	Switzerland	15,942	41,290	0.03
136	Guinea-Bissau	13,946	36,120	0.02
137	Moldova	13,067	33,843	0.02
137	Taiwan	13,892	35,980	0.02
138	Belgium	11,780	30,510	0.02
139	Lesotho	11,720	30,355	0.02
140	Armenia	11,506	29,800	0.02
141	Albania	11,100	28,748	0.02
142	Solomon Islands	10,985	28,450	0.02
143	Equatorial Guinea	10,831	28,051	0.02
144	Burundi	10,745	27,830	0.02
145	Haiti	10,714	27,750	0.02
146	Rwanda	10,169	26,338	0.02
147	Macedonia	9,781	25,333	0.02
148	Belize	8,867	22,966	0.02
149	Djibouti	8,494	22,000	0.01
150	El Salvador	8,124	21,040	0.01
151	Israel	8,019	20,770	0.01
152	Slovenia	7,820	20,253	0.01
153	Fiji	7,054	18,270	0.01
154	Kuwait	6,880	17,820	0.01
155	Swaziland	6,704	17,363	0.01
156	East Timor	5,640	14,609	0.01
157	Bahamas	5,382	13,940	0.01
158	Vanuatu	4,710	12,200	0.01
159	Qatar	4,416	11,437	0.01
160	Gambia, The	4,363	11,300	0.01

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
161	Jamaica	4,243	10,990	0.01
162	Lebanon	4,015	10,400	0.01
163	Cyprus	3,571	9,250	0.01
164	Brunei	2,228	5,770	0.004
164	Puerto Rico	3,515	9,104	0.01
165	Trinidad and Tobago	1,980	5,128	0.003
166	Cape Verde	1,557	4,033	0.003
167	Samoa	1,104	2,860	0.002
168	Luxembourg	998	2,586	0.002
169	Comoros	838	2,170	0.001
170	Mauritius	718	1,860	0.001
171	São Tomé and Príncipe	386	1,001	0.0007
172	Dominica	291	754	0.0005
173	Tonga	289	748	0.0005
174	Kiribati	277	717	0.0005
175	Micronesia	271	702	0.0005
176	Palau	177	458	0.0003
177	Bahrain	239	620	0.0004
178	Saint Lucia	239	620	0.0004
179	Andorra	181	468	0.0003
181	Singapore	250	647.5	0.0004
181	Seychelles	176	455	0.0003
182	Antigua and Barbuda	171	442	0.0003
183	Barbados	166	430	0.0003
184	Saint Vincent and the Grenadines	150	389	0.0003
185	Malta	122	316	0.0002
186	Maldives	115	300	0.0002
187	Saint Kitts and Nevis	101	261	0.0002
188	Marshall Islands	70	181.3	0.0001
189	Liechtenstein	62	160	0.0001
190	San Marino	24	61.2	--
191	Tuvalu	10	26	--
192	Nauru	8.1	21	--
193	Monaco	0.7	1.95	--
194	Vatican City	0.17	0.44	--

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
1	China	Asia	1,284,303,705
2	India	Asia	1,045,845,226
3	United States of America	North America	280,562,489
4	Indonesia	Asia	231,328,092
5	Brazil	South America	176,029,560
6	Pakistan	Asia	147,663,429
7	Russia	Europe	144,978,573
8	Bangladesh	Asia	133,376,684
9	Nigeria	Africa	129,934,911
10	Japan	Asia	126,974,628
11	Mexico	North America	103,400,165
12	Philippines	Asia	84,525,639
13	Germany	Europe	83,251,851
14	Vietnam	Asia	81,098,416
15	Egypt	Africa	70,712,345
16	Ethiopia	Africa	67,673,031
17	Turkey	Asia	67,308,928
18	Iran	Asia	66,622,704
19	Thailand	Asia	62,354,402
20	United Kingdom	Europe	59,778,002
21	France	Europe	59,765,983
22	Italy	Europe	57,715,625
23	Congo, Democratic Republic of the	Africa	55,225,478
24	Ukraine	Europe	48,396,470
25	Korea, South (Republic of)	Asia	48,324,000
26	South Africa	Africa	43,647,658
27	Myanmar	Asia	42,238,224
28	Colombia	South America	41,008,227
29	Spain	Europe	40,077,100
30	Poland	Europe	38,625,478
31	Argentina	South America	37,812,817
32	Tanzania	Africa	37,187,939
33	Sudan	Africa	37,090,298

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
34	Algeria	Africa	32,277,942
35	Canada	North America	31,902,268
36	Morocco	Africa	31,167,783
37	Kenya	Africa	31,138,735
38	Peru	South America	27,949,639
39	Afghanistan	Asia	27,755,775
40	Nepal	Asia	25,873,917
41	Uzbekistan	Asia	25,563,441
42	Uganda	Africa	24,699,073
43	Venezuela	South America	24,287,670
44	Iraq	Asia	24,001,816
45	Saudi Arabia	Asia	23,513,330
46	Malaysia	Asia	22,662,365
47	Taiwan	Asia	22,548,009
48	Romania	Europe	22,317,730
49	Korea, North (Democratic People's Republic of)	Asia	22,224,195
50	Ghana	Africa	20,244,154
51	Mozambique	Africa	19,607,519
52	Sri Lanka	Asia	19,576,783
53	Australia	Australia	19,546,792
54	Yemen	Asia	18,701,257
55	Syria	Asia	17,155,814
56	Côte d'Ivoire	Africa	16,804,784
57	Kazakhstan	Asia	16,741,519
58	Madagascar	Africa	16,473,477
59	Cameroon	Africa	16,184,748
60	Netherlands	Europe	16,067,754
61	Chile	South America	15,498,930
62	Ecuador	South America	13,447,494
63	Guatemala	North America	13,314,079
64	Cambodia	Asia	12,775,324
65	Burkina Faso	Africa	12,603,185

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
66	Zimbabwe	Africa	11,376,676
67	Mali	Africa	11,340,480
68	Cuba	North America	11,224,321
69	Malawi	Africa	10,701,824
70	Serbia and Montenegro	Europe	10,656,929
71	Greece	Europe	10,645,343
72	Niger	Africa	10,639,744
73	Angola	Africa	10,593,171
74	Senegal	Africa	10,589,571
75	Belarus	Europe	10,335,382
76	Belgium	Europe	10,274,595
77	Czech Republic	Europe	10,256,760
78	Portugal	Europe	10,084,245
79	Hungary	Europe	10,075,034
80	Zambia	Africa	9,959,037
81	Tunisia	Africa	9,815,644
82	Chad	Africa	8,997,237
83	Sweden	Europe	8,876,744
84	Dominican Republic	North America	8,721,594
85	Bolivia	South America	8,445,134
86	Austria	Europe	8,169,929
87	Azerbaijan	Asia	7,798,497
88	Guinea	Africa	7,775,065
89	Somalia	Africa	7,753,310
90	Bulgaria	Europe	7,621,337
91	Rwanda	Africa	7,398,074
92	Switzerland	Europe	7,301,994
93	Haiti	North America	7,063,722
94	Benin	Africa	6,787,625
95	Tajikistan	Asia	6,719,567
96	Honduras	North America	6,560,608
97	El Salvador	North America	6,353,681
98	Burundi	Africa	6,373,002

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
99	Israel	Asia	6,029,529
100	Paraguay	South America	5,884,491
101	Laos	Asia	5,777,180
102	Sierra Leone	Africa	5,614,743
103	Slovakia	Europe	5,422,366
104	Denmark	Europe	5,368,854
105	Libya	Africa	5,368,585
106	Jordan	Asia	5,307,470
107	Togo	Africa	5,285,501
108	Finland	Europe	5,183,545
109	Papua New Guinea	Asia	5,172,033
110	Nicaragua	North America	5,023,818
111	Georgia	Asia	4,960,951
112	Kyrgyzstan	Asia	4,822,166
113	Turkmenistan	Asia	4,688,963
114	Norway	Europe	4,525,116
115	Eritrea	Africa	4,465,651
116	Singapore	Asia	4,452,732
117	Moldova	Europe	4,434,547
118	Croatia	Europe	4,390,751
119	Bosnia and Herzegovina	Europe	3,964,388
120	Puerto Rico	North America	3,957,988
121	New Zealand	Asia	3,908,037
122	Ireland	Europe	3,883,159
123	Costa Rica	North America	3,834,934
124	Lebanon	Asia	3,677,780
125	Central African Republic	Africa	3,642,739
126	Lithuania	Europe	3,601,138
127	Albania	Europe	3,544,841
128	Uruguay	South America	3,386,575
129	Armenia	Europe	3,330,099
130	Liberia	Africa	3,288,198
131	Congo, Republic of the	Africa	2,958,448

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
132	Panama	North America	2,882,329
133	Mauritania	Africa	2,828,858
134	Mongolia	Asia	2,694,432
135	Jamaica	North America	2,680,029
136	Oman	Asia	2,713,462
137	United Arab Emirates	Asia	2,445,989
138	Latvia	Europe	2,366,515
139	Kuwait	Asia	2,111,561
140	Lesotho	Africa	2,207,954
141	Bhutan	Asia	2,094,176
142	Macedonia, The Former Yugoslav Republic of	Europe	2,054,800
143	Slovenia	Europe	1,932,917
144	Namibia	Africa	1,820,916
145	Botswana	Africa	1,591,232
146	Estonia	Europe	1,415,681
147	Gambia, The	Africa	1,455,842
148	Guinea-Bissau	Africa	1,345,479
149	Gabon	Africa	1,233,353
150	Mauritius	Africa	1,200,206
151	Trinidad and Tobago	South America	1,163,724
152	Swaziland	Africa	1,123,605
153	East Timor	Asia	952,618
154	Fiji	Asia	856,346
155	Qatar	Asia	793,341
156	Cyprus	Asia	767,314
157	Guyana	South America	698,209
158	Bahrain	Asia	656,397
159	Comoros	Africa	614,382
160	Equatorial Guinea	Africa	498,144
161	Solomon Islands	Asia	494,786
162	Djibouti	Africa	472,810
163	Luxembourg	Europe	448,569
164	Suriname	South America	436,494

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
165	Cape Verde	Africa	408,760
166	Malta	Europe	397,499
167	Brunei Darussalam	Asia	350,898
168	Maldives	Asia	320,165
169	Bahamas, The	North America	300,529
170	Iceland	Europe	279,384
171	Barbados	North America	276,607
172	Belize	North America	262,999
173	Vanuatu	Asia	196,178
174	Samoa	Asia	178,631
175	São Tomé and Príncipe	Africa	170,372
176	Saint Lucia	North America	160,145
177	Micronesia, Federated States of	Asia	135,869
178	Saint Vincent and the Grenadines	North America	116,394
179	Tonga	Asia	106,137
180	Kiribati	Asia	96,335
181	Grenada	North America	89,211
182	Seychelles	Africa	80,098
183	Marshall Islands	Asia	73,630
184	Dominica	North America	70,158
185	Andorra	Europe	68,403
186	Antigua and Barbuda	North America	67,448
187	Saint Kitts and Nevis	North America	38,736
188	Liechtenstein	Europe	32,842
189	Monaco	Europe	31,987
190	San Marino	Europe	27,730
191	Palau	Asia	19,409
192	Nauru	Asia	12,329
193	Tuvalu	Asia	11,146
194	Holy See	Europe	900
195	Antarctica	Antarctica	No permanent population



## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA

All measurements are approximate and are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
1	Pacific Ocean	60,060,000	155,557,000
2	Atlantic Ocean	29,638,000	76,762,000
3	Indian Ocean	26,469,000	68,556,000
4	Southern Ocean	7,848,000	20,327,000
5	Arctic Ocean	5,427,000	14,056,000
6	Coral Sea	1,850,000	4,791,000
7	Arabian Sea	1,492,000	3,864,000
8	South China Sea (Nan Hai)	1,423,000	3,685,000
9	Weddell Sea	1,080,000	2,796,000
10	Caribbean Sea	1,063,000	2,753,000
11	Mediterranean Sea	971,000	2,515,000
12	Tasman Sea	900,000	2,331,000
13	Bering Sea	890,000	2,305,000
14	Bay of Bengal	839,000	2,173,000
15	Sea of Okhotsk	614,000	1,590,000
16	Gulf of Mexico	596,000	1,544,000
17	Gulf of Guinea	592,000	1,533,000
18	Barents Sea	542,000	1,405,000
19	Norwegian Sea	534,000	1,383,000
20	Gulf of Alaska	512,000	1,327,000
21	Hudson Bay	476,000	1,233,000
22	Greenland Sea	465,000	1,205,000
23	Bellinghausen Sea	430,000	1,110,000
24	Amundsen Sea	400,000	1,036,000
25	Arafura Sea	400,000	1,036,000
26	Philippine Sea	400,000	1,036,000
27	Sea of Japan	378,000	979,000
28	Mozambique Channel	376,000	975,000
29	Ross Sea	370,000	958,000
30	East Siberian Sea	361,000	936,000
31	Scotia Sea	347,000	900,000

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA *(continued)*

All measurements are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
32	Kara Sea	341,000	883,000
33	Labrador Sea	309,000	800,000
34	East China Sea (Dong Hai / Tung Hai)	290,000	752,000
35	Solomon Sea	278,000	720,000
36	Laptev Sea	270,000	700,000
37	Baffin Bay	268,000	695,000
38	Banda Sea	268,000	695,000
39	Drake Passage	240,000	620,000
40	Timor Sea	237,000	615,000
41	Andaman Sea	232,000	601,000
42	North Sea	232,000	601,000
43	Davis Strait	230,000	596,000
44	Chukchi Sea	225,000	582,000
45	Great Australian Bight	187,000	484,000
46	Beaufort Sea	184,000	476,000
47	Celebes Sea	182,000	472,000
48	Black Sea	178,000	461,000
49	Red Sea	175,000	453,000
50	Java Sea	167,000	433,000
51	Sulu Sea	162,000	420,000
52	Yellow Sea (Huang Hai)	161,000	417,000
53	Baltic Sea	147,000	382,000
54	Gulf of Carpentaria	120,000	310,000
55	Molucca Sea	119,000	307,000
56	Persian Gulf	93,000	241,000
57	Gulf of Thailand	92,000	239,000
58	Gulf of St. Lawrence	92,000	239,000
59	Bismarck Sea	87,000	225,000
60	Gulf of Aden	85,000	220,000
61	Makassar Strait	75,000	194,000
62	Ceram Sea	72,000	187,000

# APPENDIX E

## E OCEAN DEPTH

All measurements are approximate.

RANK	NAME	OCEAN	DEPTH (FT)	DEPTH (M)
1	Mariana Trench	Pacific	38,635	11,784
2	Philippine Trench	Pacific	37,720	11,505
3	Tonga Trench	Pacific	37,166	11,336
4	Izu Trench	Pacific	36,850	11,239
5	Kermadec Trench	Pacific	34,728	10,592
6	Kuril Trench	Pacific	34,678	10,577
7	New Britain Trench	Pacific	31,657	9,655
8	Puerto Rico Trench	Atlantic	31,037	9,466
9	Bonin Trench	Pacific	29,816	9,094
10	Japan Trench	Pacific	29,157	8,893
11	South Sandwich Trench	Atlantic	28,406	8,664
12	Palau Trench	Pacific	27,972	8,531
13	Peru-Chile Trench	Pacific	27,687	8,445
14	Yap Trench	Pacific	27,552	8,403
15	Aleutian Trench	Pacific	26,775	8,166
16	Roanche Gap	Atlantic	26,542	8,095
17	Cayman Trench	Atlantic	26,519	8,088
18	New Hebrides Trench	Pacific	25,971	7,921
19	Ryukyu Trench	Pacific	25,597	7,807
20	Java Trench	Indian	24,744	7,547
21	Diamantina Trench	Indian	24,249	7,396
22	Mid America Trench	Pacific	22,297	6,801
23	Brazil Basin	Atlantic	22,274	6,794
24	Ob Trench	Indian	21,785	6,644
25	Vema Trench	Indian	19,482	5,942
26	Agulhas Basin	Indian	19,380	5,911
27	Ionian Basin	Mediterranean Sea	17,306	5,278
28	Eurasia Basin	Arctic	16,122	4,917

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
1	Greenland	North America	Atlantic Ocean	840,000	2,175,600
2	New Guinea	Oceania	Pacific Ocean	305,000	790,000
3	Borneo	Asia	South China Sea	285,000	737,000
4	Madagascar	Africa	Indian Ocean	226,657	587,040
5	Baffin	North America	Baffin Bay	196,000	507,000
6	Sumatra	Asia	Andaman Sea	164,000	425,000
7	Honshu	Asia	Pacific Ocean	88,000	228,000
8	Great Britain	Europe	North Sea	84,400	219,000
9	Victoria	North America	Viscount Melville Sound	83,900	217,000
10	Ellesmere	North America	Arctic Ocean	75,800	196,000
11	Sulawesi (Celebes)	Asia	Celebes Sea	67,400	174,000
12	South Island (New Zealand)	Oceania	Pacific Ocean	58,200	151,000
13	Java	Asia	Indian Ocean	50,000	129,000
14	North Island (New Zealand)	Oceania	Pacific Ocean	44,200	114,000
15	Newfoundland	North America	Atlantic Ocean	42,000	109,000
16	Cuba	North America	Caribbean Sea	40,500	105,000
17	Luzon	Asia	Pacific Ocean	40,400	105,000
18	Iceland	Europe	Atlantic Ocean	39,769	103,000
19	Mindanao	Asia	Pacific Ocean	36,500	94,600
20	Ireland	Europe	Atlantic Ocean	32,500	84,100
21	Hokkaido	Asia	Pacific Ocean	30,100	78,000
22	Sakhalin	Asia	Sea of Okhotsk	29,500	76,400
23	Hispaniola	North America	Atlantic Ocean	29,200	75,600
24	Banks	North America	Arctic Ocean	27,000	70,000
25	Sri Lanka	Asia	Indian Ocean	25,332	65,610
26	Tasmania	Australia	Indian Ocean	24,900	64,400
27	Devon	North America	Baffin Bay	21,300	55,200
28	Novaya Zemlya	Europe	North Kara Sea	18,900	48,900
29	Grande de Tierra del Fuego	South America	Atlantic Ocean	18,700	48,400
30	Marajo	South America	Atlantic Ocean	18,500	48,000
31	Alexander	Antarctica	Bellingshausen Sea	16,700	43,200
32	Axel Heiberg	North America	Arctic Ocean	16,700	43,200
33	Melville	North America	Viscount Melville Sound	16,300	42,100

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA (continued)

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
34	Southampton	North America	Hudson Bay	15,900	41,200
35	West Spitsbergen	Europe	Arctic Ocean	15,300	39,500
36	New Britain	Oceania	Bismarck Sea	14,600	37,800
37	Taiwan	Asia	Pacific Ocean	13,892	35,980
38	Kyushu	Asia	Pacific Ocean	13,800	35,700
39	Hainan	Asia	South China Sea	13,100	34,000
40	Prince of Wales	North America	Viscount Melville Sound	12,900	33,300
41	Novaya Zemlya	Europe	Barents Sea	12,800	33,300
42	Vancouver	North America	Pacific Ocean	12,100	31,300
43	Timor	Asia	Timor Sea	10,200	26,300
44	Sicily	Europe	Mediterranean	9,810	25,400
45	Somerset	North America	Lancaster Sound	9,570	24,800
46	Sardinia	Europe	Mediterranean	9,190	23,800
47	Bananal	South America	Araguaia River	7,720	20,000
48	Halmahera	Asia	Molucca Sea	6,950	18,000
49	Shikoku	Asia	Pacific Ocean	6,860	17,800
50	Ceram	Asia	Banda Sea	6,620	17,200
51	New Caledonia	Oceania	Coral Sea	6,470	16,700
52	Bathurst	North America	Viscount Melville Sound	6,190	16,000
53	Prince Patrick	North America	Arctic Ocean	6,120	15,800
54	North East Land	Europe	Barents Sea	5,790	15,000
55	Flores	Asia	Flores Sea	5,520	14,300
56	Oktyabrskoy Revolyutsii	Asia	Arctic Ocean	5,470	14,170
57	Sumbawa	Asia	Indian Ocean	5,160	13,400
58	King William	North America	Queen Maud Gulf	5,060	13,100
59	Samar	Asia	Pacific Ocean	5,050	13,100
60	Negros	Asia	Sulu Sea	4,900	12,700
61	Palawan	Asia	South China Sea	4,550	11,800
62	Kotelnyy	Asia	Arctic Ocean	4,500	11,700
63	Panay	Asia	Sulu Sea	4,450	11,500
64	Bangka	Asia	Java Sea	4,370	11,320
65	Ellef Ringnes	North America	Arctic Ocean	4,360	11,300
66	Bolshevik	Asia	Arctic Ocean	4,350	11,270
67	Sumba	Asia	Indian Ocean	4,310	11,200

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
68	Bylot	North America	Baffin Bay	4,270	11,100
69	Jamaica	North America	Caribbean Sea	4,243	10,990
70	Dolak	Asia	Arafura Sea	4,160	10,800
71	Hawaii	Oceania	Pacific Ocean	4,040	10,500
72	Viti Levu	Oceania	Pacific Ocean	4,010	10,400
73	Cape Breton	North America	Atlantic Ocean	3,980	10,300
74	Bougainville	Oceania	Pacific Ocean	3,880	10,000
75	Mindoro	Asia	South China Sea	3,760	9,730
76	Prince Charles	North America	Foxe Basin	3,680	9,520
77	Kodiak	North America	Pacific Ocean	3,670	9,510
78	Cyprus	Asia	Mediterranean	3,571	9,250
79	Komsomolets	Asia	Arctic Ocean	3,480	9,010
80	Buru	Asia	Banda Sea	3,470	9,000
81	Corsica	Europe	Mediterranean	3,370	8,720
82	Puerto Rico	North America	Atlantic Ocean	3,350	8,680
83	New Ireland	Oceania	Pacific Ocean	3,340	8,650
84	Disco	North America	Davis Strait	3,310	8,580
85	Chiloe	South America	Pacific Ocean	3,240	8,390
86	Crete	Europe	Mediterranean	3,190	8,260
87	Anticosti	North America	Gulf of St. Lawrence	3,070	7,940
88	Wrangel	Asia	Chukchi Sea	2,820	7,300
89	Leyte	Asia	Visayan Sea	2,780	7,210
90	Zealand	Europe	Baltic Sea	2,710	7,020
91	Cornwallis	North America	Barrow Strait	2,700	7,000
92	Wellington	South America	Trinidad Gulf	2,610	6,750
93	Iturup (Etorofu)	Asia	Pacific Ocean	2,600	6,720
94	Prince of Wales	North America	Pacific Ocean	2,590	6,700
95	Graham	North America	Pacific Ocean	2,460	6,360
96	East Falkland	South America	Atlantic Ocean	2,440	6,310
97	Melville	Asia	Timor Sea	2,400	6,220
98	Novaya Sibir	Asia	East Siberian Sea	2,390	6,200
99	Kerguelen	Antarctica	Indian Ocean	2,320	6,000
100	Andros	North America	Grand Bahama Bank	2,300	5,960

## APPENDIX G

### G DESERTS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (SQ MI)	AREA (SQ KM)
1	Sahara	Africa	Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Sudan, and Tunisia	3,475,000	9,000,000
2	Arabian*	Asia	Saudi Arabia, Kuwait, Qatar, the United Arab Emirates, Oman, Yemen, Jordan, Syria, Iraq	900,000	2,330,000
3	Gobi	Asia	China, Mongolia	500,000	1,300,000
4	Kalahari	Africa	Botswana, Namibia, South Africa	360,000	930,000
5	Great Victoria	Australia	Australia	134,652	348,750
6	Taklimakan (Takla Makan)	Asia	China	125,000	320,000
7	Sonoran	North America	United States of America, Mexico	120,000	310,000
8	Kara-Kum	Asia	Kazakhstan, Turkmenistan	115,830	300,000
9	Kyzyl Kum	Asia	Kazakhstan, Uzbekistan	115,000	297,850
10	Namib	Africa	Namibia, South Africa	110,000	285,000
11	Great Sandy	Australia	Australia	103,185	267,250
12	Somali	Africa	Somalia	100,000	260,000
13	Thar	Asia	India, Pakistan	90,000	233,000
14	Tanami	Australia	Australia	71,235	184,500
15	Atacama	South America	Chile, Peru	70,000	180,000
16	Simpson	Australia	Australia	68,150	176,500
17	Gibson	Australia	Australia	60,230	156,000
18	Little Sandy	Australia	Australia	43,050	111,500

\* Two deserts are commonly referred to by this name. This entry refers to the deserts of the Arabian Peninsula and not the Arabian Desert of Egypt, which is part of the Sahara.

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT

All measurements are approximate.  
Note that many mountains have multiple peaks, which will appear separately in the table.

#### AFRICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Kibo (Mt. Kilimanjaro)	Tanzania	19,341	5,895
2	Mawensi (Mt. Kilimanjaro)	Tanzania	17,100	5,210
3	Batian (Mt. Kenya)	Kenya	17,058	5,203
4	Nelion (Mt. Kenya)	Kenya	17,020	5,190
5	Margherita Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,756	5,110
6	Alexandra Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,700	5,094
7	Albert Peak (Mt. Stanley)	Dem. Rep. of the Congo	16,690	5,090
8	Savoia Peak (Mt. Stanley)	Uganda	16,330	4,981
9	Elena Peak (Mt. Stanley)	Uganda	16,300	4,972
10	Elizabeth Peak (Mt. Stanley)	Uganda	16,170	4,932
11	Phillip Peak (Mt. Stanley)	Uganda	16,140	4,923
12	Moebius Peak (Mt. Stanley)	Uganda	16,130	4,920
13	Vittorio Emanuele (Mt. Speke)	Uganda	16,040	4,892
14	Ensonga (Mt. Speke)	Uganda	15,960	4,868
15	Johnston (Mt. Speke)	Uganda	15,860	4,834
16	Edward (Mt. Baker)	Uganda	15,890	4,846
17	Umberto (Mt. Emin)	Dem. Rep. of the Congo	15,740	4,798
18	Semper (Mt. Baker)	Uganda	15,730	4,795
19	Kraepelin (Mt. Emin)	Dem. Rep. of the Congo	15,720	4,791
20	Iolanda (Mt. Gessi)	Dem. Rep. of the Congo	15,470	4,751
21	Bottego (Mt. Gesi)	Dem. Rep. of the Congo	15,418	4,699
22	Sella (Mt. Luigi)	Dem. Rep. of the Congo	15,178	4,626
23	Ras Deshen	Ethiopia	15,157	4,620
24	Weismann (Mt. Luigi)	Dem. Rep. of the Congo	15,157	4,620
25	Okusoma (Mt. Luigi)	Dem. Rep. of the Congo	15,020	4,578

#### ANTARCTICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Vinson	Antarctica	16,860	5,142
2	Tyree	Antarctica	16,290	4,968
3	Shinn	Antarctica	15,750	4,800
4	Gardner	Antarctica	15,370	4,690
5	Epperly	Antarctica	15,100	4,600



## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Everest (Zhumulangma Feng)	Nepal, China	29,030	8,850
2	K2	China, Pakistan	28,251	8,611
3	Kanchenjunga	India, Nepal	28,169	8,586
4	Lhotse	China, Nepal	27,890	8,500
5	Makalu	China, Nepal	27,824	8,481
6	Kanchenjunga, south peak	India, Nepal	27,800	8,479
7	Kanchenjunga, west peak	India, Nepal	27,620	8,424
8	Lhotse Shar	China, Nepal	27,500	8,388
9	Dhaulagiri	Nepal	26,813	8,172
10	Man slu	Nepal	26,775	8,155
11	Cho Oyu	China, Nepal	26,750	8,150
12	Nanga Parbat I	Pakistan	26,660	8,130
13	Masherbrum I	Pakistan	26,610	7,810
14	Annapurna I	Nepal	26,500	8,080
15	Gasherbrum I	Pakistan	26,470	8,070
16	Broad, highest peak	Pakistan	26,400	8,050
17	Gasherbrum II	Pakistan	26,360	8,030
18	Gosainthan	China	26,290	8,010
19	Broad, middle peak	Pakistan	26,250	8,000
20	Gasherbrum III	Pakistan	26,090	7,950
21	Annapurna II	Nepal	26,040	7,940
22	Gasherbrum IV	Pakistan	26,000	7,930
23	Gyachung Kang	China, Nepal	25,990	7,927
24	Nanga Parbat II	Pakistan	25,950	7,910
25	Kangbachen	India, Nepal	25,930	7,909
26	Man slu, east pinnacle	Nepal	25,900	7,900
27	Distaghil Sar	Pakistan	25,870	7,890
28	Nuptse	Nepal	25,850	7,880
29	Himachuh	Nepal	25,800	7,860
30	Khiangyang Kish	Pakistan	25,760	7,850

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
31	Ngojumba Ri	China, Nepal	25,720	7,847
32	Dakura	Nepal	25,710	7,842
33	Masherbrum II	Pakistan	25,660	7,826
34	Nanda Devi, west peak	India	25,650	7,823
35	Nanga Parbat III	Pakistan	25,650	7,823
36	Rakaposhi	Pakistan	25,550	7,793
37	Batura Mustagh I	Pakistan	25,540	7,790
38	GasherbrumV	Pakistan	25,500	7,770
39	Kamet	China, India	25,440	7,760

#### EUROPE

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	El'brus (Elborus), west peak	Russia	18,481	5,633
2	El'brus (Elborus), east peak	Russia	18,360	5,590
3	Shkhara	Georgia, Russia	17,064	5,205
4	Dykh, west peak	Russia	17,050	5,200
5	Dykh, east peak	Russia	16,900	5,150
6	Koshtan	Russia	16,880	5,148
7	Pushkina	Russia	16,730	5,100
8	Kazbek, east peak	Georgia	16,526	5,040
9	Dzhangi	Georgia	16,520	5,039
10	Katyn	Georgia, Russia	16,310	4,975
11	Shota Rustaveli	Georgia, Russia	16,270	4,962
12	Mizhirgi, west peak	Russia	16,170	4,932
13	Mizhirgi, east peak	Russia	16,140	4,923
14	Kundyum-Mizhirgi	Russia	16,010	4,880
15	Gestola	Georgia, Russia	15,930	4,860
16	Tetnuld	Georgia, Russia	15,920	4,850
17	Mont Blanc, main peak	France, Italy	15,772	4,810
18	Dzhimariy	Georgia	15,680	4,780
19	Adish	Georgia, Russia	15,570	4,749
20	Courmayer (Mont Blanc)	France, Italy	15,577	4,748
21	Ushba	Georgia	15,450	4,710

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### NORTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	McKinley (Denali), south peak	U.S.A.	20,323	6,194
2	Logan, central peak	Canada	19,550	5,959
3	Logan, west peak	Canada	19,470	5,930
4	McKinley (Denali), north peak	U.S.A.	19,470	5,930
5	Logan, east peak	Canada	19,420	5,920
6	Pico de Orizaba	Mexico	18,701	5,700
7	Logan, north peak	Canada	18,270	5,570
8	Saint Elias	U.S.A., Canada	18,010	5,490
9	Popocatepetl	Mexico	17,887	5,452
10	Foraker	U.S.A.	17,400	5,300
11	Ixtacihuatl	Mexico	17,342	5,286
12	Queen	Canada	17,300	5,270
13	Lucania	Canada	17,150	5,230
14	King	Canada	16,970	5,170
15	Steele	Canada	16,640	5,070
16	Bona	U.S.A.	16,500	5,033
17	Blackburn, highest peak	U.S.A.	16,390	5,000
18	Blackburn, southeast peak	U.S.A.	16,290	4,968
19	Sanford	U.S.A.	16,240	4,950
20	Wood	Canada	15,880	4,840

#### OCEANIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Puncak Jaya	Indonesia	16,503	5,033
2	Daam	Indonesia	16,150	4,926
3	Pilimsit	Indonesia	15,750	4,800
4	Trikora	Indonesia	15,580	4,752
5	Mandala	Indonesia	15,420	4,700

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### OCEANIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
6	Wisnumurti	Indonesia	15,080	4,590
7	Yamin	Indonesia	14,860	4,530
8	Wilhelm	Papua New Guinea	14,793	4,509
9	Kubor	Papua New Guinea	14,300	4,360
10	Herbert	Papua New Guinea	14,000	4,270

#### SOUTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Aconcagua	Argentina	22,835	6,960
2	Ojos del Salado, southeast peak	Argentina, Chile	22,573	6,880
3	Bonete	Argentina	22,550	6,870
4	Tupungato	Argentina, Chile	22,310	6,800
5	Pissis	Argentina	22,240	6,780
6	Mercedario	Argentina	22,210	6,770
7	Huascarán, south peak	Peru	22,204	6,768
8	Llullaillaco	Argentina, Chile	22,100	6,730
9	Libertador	Argentina	22,050	6,720
10	Ojos del Salado, northwest peak	Argentina, Chile	22,050	6,720
11	Gonzalez, highest peak	Argentina, Chile	21,850	6,664
12	Huascarán, north peak	Peru	21,840	6,661
13	Muerto	Argentina, Chile	21,820	6,655
14	Yerupaja, north peak	Peru	21,760	6,630
15	Incahuasi	Argentina, Chile	21,700	6,610
16	Galan	Argentina	21,650	6,600
17	Tres Cruces	Argentina, Chile	21,540	6,560
18	Gonzalez, north peak	Argentina, Chile	21,490	6,550
19	Sajama	Bolivia	21,463	6,542
20	Yerupaja, south peak	Peru	21,380	6,510
21	Chimborazo	Ecuador	20,681	6,267

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Tupungato	South America	Chile	22,310	6,800
2	Tipas	South America	Argentina	21,845	6,660
3	Cerro el Condor	South America	Argentina	21,425	6,532
4	Antofalfo	South America	Argentina	20,008	6,100
5	Guallatiri	South America	Chile	19,882	6,060
6	Lascar	South America	Chile	19,652	5,990
7	Cotopaxi	South America	Ecuador	19,344	5,896
8	Kilimanjaro	Africa	Tanzania	19,341	5,895
9	El Misti	South America	Peru	19,031	5,801
10	Pico de Orizaba	North America	Mexico	18,701	5,700
11	Tolima	South America	Colombia	18,425	5,616
12	Popocatepetl	North America	Mexico	17,887	5,452
13	Yucamani	South America	Peru	17,860	5,444
14	Sangay	South America	Ecuador	17,159	5,230
15	Tungurahua	South America	Ecuador	16,684	5,085
16	Cotacachi	South America	Ecuador	16,250	4,939
17	Purace	South America	Colombia	15,604	4,756
18	Klyuchevskaya	Asia	Russia	15,584	4,750
19	Kronotskaya	Asia	Russia	15,580	4,749
20	Shiveluch	Asia	Russia	15,580	4,749
21	Pichincha	South America	Ecuador	15,173	4,625
22	Karasimbi	Africa	Dem. Rep. of the Congo	14,873	4,507
23	Rainier	North America	USA	14,410	4,395
24	Wrangell	North America	USA (Alaska)	14,163	4,317
25	Colima	North America	Mexico	13,993	4,265
26	Tajumulco	North America	Guatemala	13,845	4,220
27	Mauna Kea	North America	USA (Hawaii)	13,796	4,205
28	Mauna Loa	North America	USA (Hawaii)	13,680	4,170
29	Cameroon	Africa	Cameroon	13,353	4,070
30	Tacana	North America	Guatemala	13,300	4,053
31	Kerintji	Asia	Indonesia	12,483	3,805
32	Erebus	Antarctica	Antarctica	12,448	3,794
33	Fuji	Asia	Japan	12,388	3,776
34	Fuego	North America	Guatemala	12,346	3,763

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
35	Agua	North America	Guatemala	12,307	3,751
36	Rindjani	Asia	Indonesia	12,224	3,726
37	Pico de Teide	Africa	Spain (Canary Is.)	12,198	3,718
38	Tolbachik	Asia	Russia	12,077	3,682
39	Semeru	Asia	Indonesia	12,060	3,676
40	Ichinskaya	Asia	Russia	11,800	3,621
41	Atitlan	North America	Guatemala	11,650	3,551
42	Torbert	North America	USA (Alaska)	11,450	3,480
43	Nyirangongo	Africa	Dem. Rep. of the Congo	11,365	3,465
44	Kroyaks kaya	Asia	Russia	11,336	3,456
45	Irazu	South America	Costa Rica	11,260	3,432
46	Slamet	Asia	Indonesia	11,247	3,428
47	Spurr	North America	USA (Alaska)	11,137	3,385
48	Lautaro	South America	Chile	11,120	3,380
49	Sumbing	Asia	Indonesia	11,060	3,371
50	Raung	Asia	Indonesia	10,932	3,332
51	Etna	Europe	Italy	10,902	3,323
52	Baker	North America	USA	10,778	3,285
53	Lassen	North America	USA	10,492	3,187
54	Dempo	Asia	Indonesia	10,390	3,158
55	Sundoro	Asia	Indonesia	10,367	3,151
56	Agung	Asia	Indonesia	10,337	3,142
57	Prahu	Asia	Indonesia	10,285	3,137
58	Llaima	South America	Chile	10,245	3,125
59	Redoubt	North America	USA (Alaska)	10,197	3,108
60	Tjiremai	Asia	Indonesia	10,098	3,078
61	One-Take	Asia	Japan	10,056	3,067
62	Nyamulagira	Africa	Dem. Rep. of the Congo	10,026	3,056
63	Iliamna	North America	USA (Alaska)	10,016	3,053
64	Ardjuno-Welirang	Asia	Indonesia	9,968	3,038
65	San Pedro	North America	Guatemala	9,902	3,020
66	Gede	Asia	Indonesia	9,705	2,958
67	Zhupanovsky	Asia	Russia	9,705	2,958
68	Apo	Asia	Philippines	9,692	2,954

## APPENDIX I

### I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
69	Merapi	Asia	Indonesia	9,551	2,911
70	Marapi	Asia	Indonesia	9,479	2,891
71	Geureudong	Asia	Indonesia	9,459	2,885
72	Bezymianny	Asia	Russia	9,449	2,882
73	Shishaldin	North America	USA (Alaska)	9,372	2,856
74	Tambora	Asia	Indonesia	9,350	2,850
75	Villarrica	South America	Chile	9,318	2,840
76	Fogo	Africa	Cape Verde	9,281	2,829
77	Ruapehu	Oceania	New Zealand	9,175	2,796
78	Peuetsagoe	Asia	Indonesia	9,115	2,780
79	Paricutin	North America	Mexico	9,100	2,775
80	Big Ben	Antarctica	Heard Island (dependency of Australia)	9,006	2,745
81	Balbi	Oceania	Papua New Guinea	8,999	2,743
82	Avachinskaya	Asia	Russia	8,987	2,741
83	Melbourne	Antarctica	Antarctica	8,957	2,732
84	Poas	North America	Costa Rica	8,872	2,704
85	Papandajan	Asia	Indonesia	8,744	2,665
86	Piton de la Faournaise	Africa	Reunion (dependency of France)	8,626	2,631
87	Pacaya	North America	Guatemala	8,367	2,552
88	Mt. St. Helens	North America	USA	8,366	2,550
89	Asama	Asia	Japan	8,300	2,530
90	Pavlof	North America	USA (Alaska)	8,261	2,518
91	Veniaminof	North America	USA (Alaska)	8,220	2,507
92	Mayon	Asia	Philippines	8,077	2,462
93	Sinabung	Asia	Indonesia	8,066	2,460
94	Yake Dake	Asia	Japan	8,049	2,455
95	Tandikat	Asia	Indonesia	7,993	2,438
96	Canalaon	Asia	Philippines	7,984	2,435
97	Shoshuenco	South America	Chile	7,941	2,422
98	Idjen	Asia	Indonesia	7,823	2,386
99	Izalco	North America	El Salvador	7,828	2,386
100	Karthala	Africa	Comoros	7,746	2,361

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
1	Nile	Africa	Egypt, Sudan, Uganda	4,160	6,693
2	Amazon	South America	Brazil, Colombia, Peru, Venezuela	3,900	6,280
3	Mississippi-Missouri	North America	U.S.A.	3,860	6,211
4	Chang Jiang (Yangtze or Yangtse)	Asia	China	3,434	5,525
5	Ob'-Irtysh	Asia	Kazakhstan, Russia	3,335	5,380
6	Paraná	South America	Argentina, Brazil, Paraguay	3,030	4,870
7	Huang He (Huang-ho or Yellow)	Asia	China	2,903	4,671
8	Irtysh	Asia	Kazakhstan, Russia	2,760	4,441
9	Lena	Asia	Russia	2,734	4,400
10	Amur	Asia	China, Russia	2,719	4,350
11	Congo (Zaire)	Africa	Angola, Dem. Rep. of the Congo, Rep. of the Congo	2,700	4,344
12	Mackenzie	North America	Canada	2,635	4,290
13	Mekong River (Lan ts'ang chiang or Lancang Jiang)	Asia	Cambodia, China, Laos, Myanmar, Thailand, Vietnam	2,600	4,200
14	Niger	Africa	Benin, Guinea, Mali, Niger, Nigeria	2,594	4,184
15	Yenisey	Asia	Russia	2,566	4,129
16	Missouri	North America	U.S.A.	2,466	3,968
17	Mississippi	North America	U.S.A.	2,348	3,787
18	Volga	Europe	Russia	2,293	3,689
19	Ob'	Asia	Russia	2,270	3,650
20	Euphrates	Asia	Iraq, Syria, Turkey	2,235	3,596
21	Purus	South America	Brazil, Peru	2,100	3,380
22	Madeira	South America	Brazil	2,013	3,241
23	Lower Tunguska	Asia	Russia	2,000	3,220
24	Indus	Asia	Pakistan	1,988	3,200
25	São Francisco	South America	Brazil	1,988	3,199
26	Yukon	North America	Canada, U.S.A.	1,980	3,180
27	Rio Grande	North America	Mexico, U.S.A.	1,885	3,034



## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
28	Brahmaputra (Jamuna)	Asia	Bangladesh, China, India	1,800	2,900
29	Danube	Europe	Austria, Bulgaria, Croatia, Germany, Hungary, Romania, Ukraine, Slovakia, Serbia-Montenegro	1,775	2,857
30	Salween	Asia	China, Myanmar	1,770	2,849
31	Darling	Australia	Australia	1,702	2,739
32	Tocantins	South America	Brazil	1,677	2,698
33	Nelson	North America	Canada	1,660	2,671
34	Vilyuy	Asia	Russia	1,650	2,650
35	Zambezi	Africa	Angola, Mozambique, Namibia, Zambia, Zimbabwe	1,650	2,650
36	Murray	Australia	Australia	1,609	2,589
37	Paraguay	South America	Argentina, Brazil, Paraguay	1,584	2,549
38	Amu Dar'ya	Asia	Afghanistan, Tajikistan, Turkmenistan, Uzbekistan	1,580	2,540
39	Kolyma	Asia	Russia	1,562	2,513
40	Ganges	Asia	Bangladesh, India	1,560	2,510
41	Ishim	Asia	Kazakhstan, Russia	1,520	2,450
42	Ural	Asia	Kazakhstan, Russia	1,510	2,430
43	Japurá	South America	Brazil, Colombia	1,500	2,414
44	Arkansas	North America	U.S.A.	1,460	2,350
45	Colorado	North America	U.S.A.	1,450	2,330
46	Dnieper	Europe	Belarus, Russia, Ukraine	1,420	2,290
47	Negro	South America	Brazil, Colombia, Venezuela	1,400	2,250
48	Ubangi	Africa	Central African Rep., Dem. Rep. of the Congo, Rep. of the Congo	1,400	2,253
49	Aldan	Asia	Russia	1,390	2,240
50	Columbia-Snake	North America	Canada, U.S.A.	1,390	2,240
51	Syr Dar'ya	Asia	Kazakhstan, Kyrgyzstan, Uzbekistan	1,370	2,200

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
52	Araguaia	South America	Brazil	1,366	2,198
53	Olenek	Asia	Russia	1,350	2,170
54	Irrawaddy	Asia	Myanmar	1,350	2,170
55	Kasai	Africa	Angola, Dem. Rep of the Congo	1,338	2,153
56	Ohio-Allegheny	North America	U.S.A.	1,310	2,109
57	Tarim	Asia	China	1,300	2,090
58	Orange	Africa	Lesotho, Namibia, South Africa	1,300	2,090
59	Orinoco	South America	Venezuela	1,281	2,061
60	Shabeelle	Africa	Ethiopia, Somalia	1,250	2,011
61	Xingu	South America	Brazil	1,230	1,979
62	Columbia	North America	Canada, U.S.A.	1,214	1,953
63	Mamoré	South America	Bolivia	1,200	1,931
64	Tigris	Asia	Iraq, Turkey	1,180	1,900
65	Northern Dvina	Europe	Russia	1,160	1,870
66	Don	Europe	Russia	1,153	1,860
67	Angara	Asia	Russia	1,151	1,852
68	Kama	Europe	Russia	1,120	1,800
69	Indigirka	Asia	Russia	1,112	1,789
70	Pechora	Europe	Russia	1,112	1,789
71	Limpopo	Africa	Botswana, South Africa, Mozambique	1,100	1,770
72	Sénégal	Africa	Guinea, Mali, Mauritania, Senegal	1,015	1,663
73	Salado	South America	Argentina	1,110	1,770
74	Guaporé	South America	Bolivia, Brazil	1,087	1,749
75	Tobol	Asia	Kazakhstan, Russia	1,042	1,677
76	Snake	North America	U.S.A.	1,038	1,670
77	Red	North America	U.S.A.	1,018	1,638
78	Churchill	North America	Canada	1,000	1,613
79	Jubba	Africa	Ethiopia, Somalia	1,000	1,613
80	Okavango	Africa	Angola, Botswana	1,000	1,613
81	Pilcomayo	South America	Argentina, Bolivia, Paraguay	1,000	1,613
82	Uruguay	South America	Uruguay	1,000	1,613

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
1	Angel (upper falls)	South America	Venezuela	2,648	807
2	Utigord	Europe	Norway	2,625	800
3	Monge	Europe	Norway	2,539	774
4	Mtarazi (Mutarazi)	Africa	Mozambique, Zimbabwe	2,500	760
5	Itatinga	South America	Brazil	2,060	628
6	Cuquenán (Kukenaam)	South America	Guyana, Venezuela	2,000	610
7	Kahiwa	North America	U.S.A. (Hawaii)	1,750	533
8	Tysse (Tusse)	Europe	Norway	1,749	533
9	Maradalsfos	Europe	Norway	1,696	517
10	Ribbon	North America	U.S.A.	1,612	491
11	Roraima	South America	Guyana	1,500	457
12	Della	North America	Canada	1,445	440
13	Yosemite, Upper	North America	U.S.A.	1,430	436
14	Gavarnie	Europe	France	1,385	422
15	Tugela (highest falls in chain)	Africa	South Africa	1,350	411
16	Krimml	Europe	Austria	1,250	380
17	Silver Strand	North America	U.S.A.	1,170	357
18	Basaseachic	North America	Mexico	1,020	311
19	Staubbach	Europe	Switzerland	980	299
20	Vettis	Europe	Norway	902	275
21	King George VI	South America	Guyana	850	260
22	Wallaman	Oceania	Australia	850	260
23	Takakkaw	North America	Canada	838	254
24	Hunlen	North America	Canada	830	253
25	Jog (Gersoppa)	Asia	India	830	253

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
26	Skykje	Europe	Norway	820	250
27	Sutherland, Upper	Oceania	New Zealand	815	248
28	Sutherland, Middle	Oceania	New Zealand	751	229
29	Kaieteur	South America	Guyana	741	226
30	Wollomombi	Oceania	Australia	726	220
31	Kalambo	Africa	Tanzania, Zambia	704	215
32	Fairy	North America	U.S.A.	700	213
33	Feather	North America	U.S.A.	640	195
34	Maletsunyane	Africa	Lesotho	630	192
35	Bridalveil	North America	U.S.A.	620	189
36	Multnomah	North America	U.S.A.	620	189
37	Panther	North America	Canada	600	183
38	Voringfoss	Europe	Norway	597	182
39	Nevada	North America	U.S.A.	594	181
40	Angel, Lower	South America	Venezuela	564	172
41	Augrabies (Aughrabies)	Africa	South Africa	480	146
42	Tully	Oceania	Australia	450	137
43	Helmcken	North America	Canada	450	137
44	Nachi	Asia	Japan	430	131
45	Tequendama	South America	Colombia	427	130
46	Bridal Veil	North America	U.S.A.	400	122
47	Illilouette	North America	U.S.A.	370	113
48	Yosemite, Lower	North America	U.S.A.	320	98
49	Twin	North America	Canada	260	80

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
1	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	143,000	371,000
2	Superior	North America	Canada, U.S.A.	31,820	82,732
3	Victoria	Africa	Uganda, Tanzania, Kenya	26,828	69,484
4	Aral Sea	Asia	Kazakhstan, Uzbekistan	24,900	64,500
5	Huron	North America	Canada, U.S.A.	23,000	59,570
6	Michigan	North America	U.S.A.	22,400	58,020
7	Tanganyika	Africa	Burundi, Dem. Republic of the Congo, Tanzania, Zambia	12,700	32,020
8	Baikal	Asia	Russia	12,160	31,500
9	Great Bear	North America	Canada	12,095	31,328
10	Great Slave	North America	Canada	11,030	28,570
11	Erie	North America	Canada, U.S.A.	9,920	25,690
12	Winnipeg	North America	Canada	9,420	24,390
13	Malawi	Africa	Malawi, Mozambique, Tanzania,	8,680	22,490
14	Ontario	North America	Canada, U.S.A.	7,440	19,240
15	Balkhash	Asia	Kazakhstan	7,030	18,200
16	Ladoga	Russia	Russia	7,000	18,130
17	Maracaibo	South America	Venezuela	5,020	13,010
18	Chad	Africa	Cameroon, Chad, Niger, Nigeria	4,000–10,000	10,360–25,900
19	Embalse del Río Negro	South America	Uruguay	4,000	10,360
20	Patos	South America	Brazil	3,920	10,153
21	Onega	Europe	Russia	3,750	9,720
22	Eyre	Australia	Australia	3,668	9,500
23	Volta	Africa	Ghana	3,276	8,485
24	Titicaca	South America	Bolivia, Peru	3,200	8,288
25	Nicaragua	South America	Nicaragua	3,150	8,160
26	Athabasca	North America	Canada	3,060	7,940
27	Reindeer	North America	Canada	2,570	6,650

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
28	Smallwood Reservoir	North America	Canada	2,500	6,460
29	Turkana (Rudolf)	Africa	Ethiopia, Kenya	2,473	6,405
30	Issyk Kul	Asia	Kyrgyzstan	2,360	6,100
31	Torrens	Australia	Australia	2,230	5,780
32	Albert	Africa	Dem. Republic of the Congo, Uganda	2,160	5,590
33	Vanern	Europe	Sweden	2,160	5,580
34	Netilling	North America	Canada	2,140	5,540
35	Winnipegosis	North America	Canada	2,070	5,370
36	Nasser	Africa	Egypt, Sudan	2,026	5,248
37	Bangweulu	Africa	Zambia	1,930	5,000
38	Chott el Djerid	Africa	Tunisia	1,930	5,000
39	Urmia	Asia	Iran	1,879	4,868
40	Nipigon	North America	Canada	1,870	4,850
41	Gairdner	Australia	Australia	1,840	4,770
42	Manitoba	North America	Canada	1,800	4,660
43	Kyoga	Africa	Uganda	1,710	4,430
44	Khanka	Asia	China, Russia	1,700	4,400
45	Saimaa	Europe	Finland	1,700	4,403
46	Mweru	Africa	Dem. Republic of the Congo	1,680	4,350
47	Great Salt	North America	U.S.A.	1,680	4,350
48	Qinghai (Koko)	Asia	China	1,625	4,209
49	Woods	North America	Canada	1,580	4,100
50	Taymyr	Asia	Russia	1,540	3,990
51	Nasser	Africa	Egypt	1,522	3,942
52	Orumiyeh	Asia	Iran	1,500	3,880
53	Dubawnt	North America	Canada	1,480	3,830
54	Van	Asia	Turkey	1,430	3,710
55	Tana	Africa	Ethiopia	1,390	3,600
56	Peipus	Europe	Estonia, Russia	1,386	3,555
57	Uvs	Asia	Mongolia	1,300	3,366

## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
1	Baikal	Asia	Russia	5,315	1,621
2	Tanganyika	Africa	Burundi, Tanzania, Dem. Congo (ROC), Zambia	4,825	1,471
3	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	3,363	1,025
4	Malawi	Africa	Malawi, Tanzania, Mozambique	2,316	706
5	Issyk Kul	Asia	Kyrgyzstan	2,303	702
6	Great Slave	North America	Canada	2,015	614
7	Matana	Asia	Indonesia	1,936	590
8	Crater	North America	U.S.A.	1,932	589
9	Toba	Asia	Indonesia	1,736	529
10	Hornindals	Europe	Norway	1,686	514
11	Sarez	Asia	Tajikistan	1,657	505
12	Tahoe	North America	U.S.A.	1,645	501
13	Chelan	North America	U.S.A.	1,605	489
14	Kivu	Africa	Rwanda, Congo (DROC)	1,575	480
15	Quesnel	North America	Canada	1,560	475
16	Sals	Europe	Norway	1,522	464
17	Adams	North America	Canada	1,500	457
18	Mjøsa	Europe	Norway	1,473	449
19	Manapuri	Oceania	New Zealand	1,453	443
20	Poso	Asia	Indonesia	1,444	440
21	Nahuel Huapi	South America	Argentina	1,437	438
22	Dead Sea	Asia	Israel, Jordan	1,421	433
23	Tazawa	Asia	Japan	1,394	425
24	Great Bear	North America	Canada	1,356	413
25	Como	Europe	Italy	1,352	412
26	Superior	North America	Canada, U.S.A.	1,333	406
27	Hawea	Asia	New Zealand	1,286	392
28	Wakatipu	Asia	New Zealand	1,240	378

## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH *(continued)*

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
29	Suldals	Europe	Norway	1,234	376
30	Maggiore	Europe	Italy, Switzerland	1,221	372
31	Fyres	Europe	Norway	1,211	369
32	Chilko	North America	Canada	1,200	366
33	Pend Oreille	North America	U.S.A.	1,200	366
34	Shikotsu	Asia	Japan	1,191	363
35	Powell	North America	Canada	1,174	358
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# Seven Wonders of the Ancient World

## 1 **The pyramids of Egypt**

Constructed between 2700 and 2500 B.C., the pyramids are the last surviving structures of the Seven Wonders of the Ancient World. The largest of the pyramids, which rises over 137 meters (450 feet), was built as a tomb to house the body of Pharaoh Khufu. Historians believe that it must have taken over twenty years to build with over 100,000 slave laborers.

## 2 **The gardens of Semiramis at Babylon**

The existence of these gardens is reputed, but according to fable they existed around 600 B.C. They are said to have been outside on a brick terrace 23 meters (75 feet) above the ground, encompassing an area of 37 square meters (400 square feet).

## 3 **The statue of Zeus at Olympia**

Constructed around 450 B.C. by the sculptor Phidias, this 12-meter (40-foot) high statue is of an ivory Zeus wearing a robe of gold, seated atop a throne. In his right hand was Nike, his messenger and a symbol of victory, in his left hand was the scepter signifying his rule over the gods and humankind, and atop his head was a wreathed crown.

## 4 **The temple of Artemis at Ephesus**

Built around 550 B.C. to celebrate the goddess of the hunt, this temple was one of the largest in ancient times. Beneath its tile-covered roof were rows of columns believed to be more than 12 meters (40 feet) high, leading to a marble sanctuary. The original temple was destroyed by fire in 356 B.C., but another temple was built on the same foundation. This temple was also burned, but the foundation still remains. Remnants of the second temple can be found at London's British Museum.

## 5 **The mausoleum at Halicarnassus**

Located in southwestern Turkey, this enormous white marble tomb was constructed to house the body of Mausolus, a king of Persian Empire. It was constructed around 350 B.C. by the Greek architects Satyrus and Pythius and became so well known that the term mausoleum was created to signify any large tomb. An earthquake in the 15<sup>th</sup> century caused significant damage to the tomb, which was eventually disassembled. Several of its exterior sculptures can be seen in London's British Museum.

## 6 **The Colossus at Rhodes**

Constructed around 200 B.C. by the Greek sculptor Chares, this 36-meter (120-foot) bronze statue was meant to honor the sun god Helios and celebrate the unity of the city-states of Rhodes. The statue was hollow, supported by stone blocks and iron bars inside its frame. It was destroyed by an earthquake only fifty-six years after its completion.

## 7 **The Pharos (lighthouse) of Alexandria or the Walls of Babylon**

This lighthouse, completed near 270 B.C., was, at the time, one of the tallest buildings in the known world. Standing over 122 meters (400 feet) high, it guided sailors to the shores of Alexandria, then ruled by King Ptolemy II.

# Seven Wonders of the Natural World

## **1** **Grand Canyon**

Created after millions of years of erosion from the Colorado River and its tributaries, this Arizona landmark is visited by millions of tourists each year.

## **2** **Paricutin Volcano**

Although it is not one of the largest volcanoes in Mexico, Paricutin has taken a place on the list of natural wonders following its birth in 1943. The eruption spanned ten years and covered about 2.6 square meters (10 square miles). No one was killed from the lava and ash, but it destroyed agricultural land and seriously affected the lives of those living nearby.

## **3** **The Harbor at Rio de Janeiro**

Located on the east coast of Brazil, the harbor overlooks the Guanabara Bay and the Atlantic Ocean on one side, and mountains on the other. Discovered by Portuguese navigators in 1502, this area houses a huge carnival each year.

## **4** **Northern Lights**

The northern lights, or aurora borealis, have fascinated people for centuries. Seen as souls, heavenly signs, or even messages from the dead, these shimmering light displays are caused by the interaction of solar winds with Earth's magnetic field. A similar phenomenon occurs in the southern hemisphere as well, but only the northern lights are classified as a natural wonder.

## **5** **Mt. Everest**

Formed from the collision of Asia and India over 60 million years ago, the Himalayas house Everest, the tallest mountain on Earth. Located in Nepal near the Tibetan border, this snowy peak has fascinated and challenged many climbers and non-climbers alike.

## **6** **Victoria Falls**

The largest waterfalls in the world, Victoria Falls has a drop of more than 99 meters (325 feet). Flowing from the Zambezi River, the falls were named for Queen Victoria by David Livingstone in 1855, when he became the first European to gaze upon them.

## **7** **The Great Barrier Reef**

The Great Barrier Reef extends over 1,998 kilometers (1,242 miles) on the northeast coast of Australia. The reef is quite delicate, being comprised of the skeletons of generations of marine life that lived just under the water's surface. The area is home to exotic coral, which is greatly affected by any human or natural interference, and a wide variety of marine life

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**Physical  
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VOLUME **4**

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Morocco to Slovakia

Karen Ellicott and Susan B. Gall,  
Editors



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Angola  
Benin  
Botswana  
Burkina Faso  
Burundi  
Cameroon  
Cape Verde  
Chad  
Comoros  
Congo, Democratic Republic of the  
Congo, Republic of  
Côte d'Ivoire  
Djibouti  
Egypt  
Equatorial Guinea  
Eritrea  
Ethiopia  
Gabon  
Gambia, The  
Ghana  
Guinea  
Guinea-Bissau  
Guyana  
Kenya  
Lesotho  
Liberia  
Libya  
Madagascar  
Malawi  
Mali  
Mauritania  
Mauritius  
Morocco  
Mozambique  
Namibia  
Niger  
Nigeria  
Rwanda  
São Tomé and Príncipe  
Senegal  
Seychelles  
Sierra Leone  
Somalia  
South Africa  
Sudan  
Swaziland  
Tanzania

Togo  
Tunisia  
Uganda  
Zambia  
Zimbabwe

## **Asia**

Afghanistan  
Armenia  
Azerbaijan  
Bahrain  
Bangladesh  
Bhutan  
Brunei  
Cambodia  
China  
Cyprus  
East Timor  
Georgia  
India  
Indonesia  
Iran  
Iraq  
Israel  
Japan  
Jordan  
Kazakhstan  
Korea, North (Democratic People's Republic of)  
Korea, South (Republic of)  
Kuwait  
Kyrgyzstan  
Laos  
Lebanon  
Malaysia  
Mongolia  
Myanmar  
Nepal  
Oman  
Pakistan  
Philippines  
Qatar  
Russia  
Saudi Arabia  
Singapore  
Sri Lanka  
Syria  
Taiwan  
Tajikistan  
Thailand

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# COUNTRIES OF THE WORLD, BY CONTINENT

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Turkey  
Turkmenistan  
United Arab Emirates  
Uzbekistan  
Vietnam  
Yemen

## **Australia**

Australia

## **Europe**

Albania  
Andorra  
Austria  
Belarus  
Belgium  
Bosnia and Herzegovina  
Bulgaria  
Croatia  
Czech Republic  
Denmark  
Estonia  
Finland  
France  
Germany  
Greece  
Hungary  
Iceland  
Ireland  
Italy  
Latvia  
Liechtenstein  
Lithuania  
Luxembourg  
Macedonia  
Malta  
Moldova  
Monaco  
Netherlands  
Norway  
Poland  
Portugal  
Romania  
Russia  
San Marino  
Serbia and Montenegro  
Slovakia  
Slovenia  
Spain  
Sweden  
Switzerland  
Ukraine  
United Kingdom  
Vatican City

## **North America**

Antigua and Barbuda  
Bahamas  
Barbados  
Belize  
Canada  
Costa Rica  
Cuba  
Dominica  
Dominican Republic  
Ecuador  
El Salvador  
Guatemala  
Haiti  
Honduras  
Jamaica  
Mexico  
Nicaragua  
Panama  
Puerto Rico  
Saint Kitts and Nevis  
Saint Lucia  
Saint Vincent and the Grenadines  
United States of America

## **Oceania**

Note: The island nations lying in the Pacific Ocean are not part of any continent.

Fiji  
Kiribati  
Marshall Islands  
Micronesia  
Nauru  
New Zealand  
Palau  
Papua New Guinea  
Samoa  
Solomon Islands  
Tonga  
Tuvalu  
Vanuatu

## **South America**

Argentina  
Bolivia  
Brazil  
Chile  
Colombia  
Paraguay  
Peru  
Suriname  
Trinidad and Tobago  
Uruguay  
Venezuela

# Reader's Guide

*Junior Worldmark Encyclopedia of Physical Geography* presents a comprehensive survey of the physical geography of 192 countries of the world plus Taiwan, Antarctica, and Puerto Rico.

The entries are arranged alphabetically by country in five volumes. Following the format of other popular titles in the *Junior Worldmark* series, information in each entry is presented in a consistent format, allowing student researchers to find information and compare countries quickly and easily.

A topographic map—with notable mountain ranges and peaks, lakes, rivers, deserts, and coastal areas labeled—accompanies each entry. In addition, more than 200 photographs illustrate the varied landscapes found in the countries of the world. Adding further interest are the “Did You Know?” boxes appearing in the entries, noting interesting or unusual geographic features or facts or explaining regional geographic references.

## Organization

Each volume begins with the contents listed for that volume, followed by a cumulative table of contents for all five volumes in the set. To help researchers who wish to identify a country within one of the world's continents, a finder table—Countries of the World by Continent—appears at the front of each volume. Words to Know, a glossary of terms related to geography, completes the front matter. Entries for individual countries follow. Although all numbered rubrics are included in every entry, entries vary in length depending primarily on the geographic complexity of the country's land area.

Each entry begins with a list of key facts about the physical characteristics of the country; measurements are provided in both metric and English units. Student researchers should be reminded that geography is an imprecise science, and measurements of geographical features may vary from source to source.

## Key Facts

### ■ Official name

The countries of the world are referred to by a common name; the more formal official name is listed here.

### ■ Area

The country's area, usually including islands, is provided in square kilometers and square miles.

### ■ Highest point on mainland

The height, in meters and feet, is given for the highest point on the mainland portion of the country. For most countries, this is also the highest point anywhere in the country.

### ■ Highest point in territory

For some countries with islands and territories, the highest point not on the mainland is provided in meters and feet.

### ■ Lowest point on land

The elevation, in meters and feet, for the lowest point on the mainland portion of the country is provided.

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## READER'S GUIDE

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### ■ Hemispheres

The country's hemispheres (Northern, Southern, Eastern, and Western) help the researcher locate the country on the globe.

### ■ Time zone

The time zone of the country's capital is provided, with the time related to Greenwich Mean Time (GMT). For some large countries, more than one time zone may be listed.

### ■ Longest distances

Measurements in kilometers and miles of the country's widest points from north to south and east to west are given. For some countries, longest distances may be measured on a slight diagonal (northwest to southeast, for example).

### ■ Land boundaries

The total distance making up the country's borders with other nations is provided in kilometers and miles, followed by the border distances with the individual neighboring countries.

### ■ Coastline

Coastline measurements, in kilometers and miles, are approximate. Coastline measurements are likely to vary from source to source.

### ■ Territorial sea limits

The territory extending into the ocean over which the country claims control or jurisdiction. Territorial sea limits are given in kilometers and nautical miles, and generally govern activities such as fishing and mineral rights.

*The first four numbered rubrics offer a general overview of the country.*

### 1 🌐 LOCATION AND SIZE

This section gives the reader an overview of where the country lies and provides its relation to the bodies of water around it. Also included is information about whether the country is divided into states, provinces, or other internal administrative units.

### 2 🌐 TERRITORIES AND DEPENDENCIES

Many countries exercise jurisdiction over territories—often islands—that are not part of the mainland. This section lists any such territories and dependencies.

### 3 🌐 CLIMATE

The general climate of the country is described, with a table providing seasonal temperature ranges included for many countries. General information about rainfall and snow patterns is also included here.

### 4 🌐 TOPOGRAPHIC REGIONS

An overview of the general topography (shape of the country's land surface) is provided, with key features (mountain ranges, plateaus, deserts, valleys, lakes, rivers) noted.

*The next eight numbered rubrics—5 through 12—describe specific geographic features. All entries include all eight headings. Since all countries do not include every geographic feature, individual entries note the absence of specific features.*

### 5 🌐 OCEANS AND SEAS

The oceans and seas bounding the country are listed. Subheadings describe specific features of the country and its coastal areas. Subheads are used in entries as appropriate and may include:

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### Seacoast and Undersea Features

Includes discussion of nearby undersea features of note, such as deep ocean trenches or coral reefs.

### Sea Inlets and Straits

Includes major bays, gulfs, sounds, channels, straits, and other sea inlets that characterize the coastal areas.

### Islands and Archipelagos

Major islands and island chains are described here.

### Other Coastal Features

Includes notable peninsulas, isthmuses, and describes the type and quality of the coastal areas.

### 6 INLAND LAKES

Major and significant lakes are included. When a lake straddles a border between two countries, it is covered in both entries. Major man-made reservoirs are also included in this section in some entries.

### 7 RIVERS AND WATERFALLS

Describes important rivers, giving length and general characteristics. Also includes major waterfalls.

### 8 DESERTS

Arid and semi-arid flatland regions are described.

### 9 FLAT AND ROLLING TERRAIN

Areas that range from flat and treeless to rounded terrain are described.

### 10 MOUNTAINS AND VOLCANOES

Mountain peaks, including volcanoes, are described here, typically in the context of a mountain range.

### 11 CANYONS AND CAVES

Notable canyons and cave systems are described.

### 12 PLATEAUS AND MONOLITHS

Regions of high elevation but with relatively flat terrain and monoliths (huge stone outcroppings) are described here.

*The final two numbered rubrics describe notable man-made features, and provide resources for further study. Supplementing the Further Reading suggestions provided in each entry is the Selected Sources for Further Study that appears in the back of each volume.*

### 13 MAN-MADE FEATURES

Notable man-made features—such as dams, canals, major bridges, tunnels, and other structures—that affect a country's geography are described.

### 14 FURTHER READING

This section lists selected books and Web sites that provide more information on the country's geography.

### Additional Features

Additional reference materials appear at the back of each volume. Researchers looking for comparative information on some of the world's key geographic features can refer to a series of Appendixes. These provide the following rankings: continents by area;

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countries by area; countries by population; oceans and seas by area; oceans by depth; islands by area; deserts by area; mountain peaks by height; volcanoes by height; rivers by length; waterfalls by height; lakes by area; and lakes by depth. The seven wonders of the ancient world and seven wonders of the natural world are described in the final two appendixes. Lastly, a listing of selected references for the further study of physical geography completes the backmatter. Volume 5 contains a cumulative general index to all five volumes. Topographic world maps appear on each volume's endsheets.

### Photographs

The photographs in *Junior Worldmark Encyclopedia of Physical Geography* were assembled

with assistance from ARAMCO; Raoul Russo, UNESCO imaging; Marcia L. Schiff, AP/Wide World Photos; Maura Malone, EPD Photos; and Mimi Dornack, National Geographic Imaging.

### Comments and Suggestions

We welcome your comments and suggestions for features to be included in future editions. Please write: Editors, *Junior Worldmark Encyclopedia of Physical Geography*, U•X•L, 27500 Drake Road, Farmington Hills, Michigan 48331-3535; call toll-free: 1-800-877-4253; fax to (248) 699-8097; or send e-mail via <http://www.gale.com>.

# Words to Know

## A

**aboriginal** ④ Something that is the first or earliest known of its type in a country or region, such as an aboriginal forest.

**aborigines** ④ The first known inhabitants of a country and their descendants.

**acid rain** ④ Rain (or snow) that has become slightly acidic by mixing with industrial air pollution.

**alluvial plain** ④ Flatlands containing deposits of alluvium.

**alluvium** ④ Clay, silt, sand, or gravel deposited by running water, such as a stream or river.

**Antarctic Circle** ④ (also called South **Frigid Zone**) The parallel of latitude approximately 66°33' south and the region that lies between this latitude and the south pole; the region surrounding Antarctica.

**aquatic** ④ Of or relating to the water, particularly the animals and plants that live there.

**aqueduct** ④ A pipe or channel, usually man-made, that carries water from a remote source. Also, a bridge-like structure that carries water over obstacles.

**aquifer** ④ An underground layer of porous rock, sand, or gravel that holds water.

**arable land** ④ Land that is naturally suitable for cultivation by plowing and is used for growing crops.

**archipelago** ④ A group of islands or a body of water containing many islands.

**Arctic** ④ Relating to the northernmost part of the Earth that lies within and around the Arctic Circle. Also, **arctic**: anything that is frigidly and invariably cold.

**Arctic Circle** ④ (also called the North **Frigid Zone**) The parallel of latitude approximately 66°33' north and the region that lies between this latitude and the north pole.

**arid** ④ Extremely dry, particularly applied to regions of low rainfall where there is little natural vegetation and agriculture is difficult.

**artesian well** ④ A type of well where underground pressure forces water to overflow up to the surface.

**atmosphere** ④ The air surrounding the Earth's surface.

**atoll** ④ An island consisting of a strip or ring of coral surrounding a central lagoon.

**avalanche** ④ A swift sliding of snow or ice down a mountain.

## B

**badlands** ④ Eroded and barren land.

**Balkan Peninsula** ④ The southernmost peninsula of Europe, which is surrounded by the Adriatic, Ionian, Aegean, and Black seas

**Balkan States** ④ (also called The Balkans) Those countries that lie on or near the Balkan Peninsula; includes Albania, Bulgaria, continental Greece, southeast Romania, European Turkey, Serbia and Montenegro, Slovenia, Croatia, Bosnia and Herzegovina, and Macedonia.

**Baltic States** ④ The countries of Estonia, Latvia, and Lithuania. These independent countries were once provinces of Russia and all border on the Baltic Sea.

**barren land** ④ Unproductive land that is partly or entirely treeless.

**barrier island** ④ An island parallel to the shore that was formed by wave and tidal action and protects the shore from rough ocean waves.

**barrier reef** ④ A coral reef that lies parallel to the coast, often forming a lagoon along the shore.

**basalt** ④ Black or nearly black dense rock, usually formed by the solidification of magma or from some other high-temperature geological event.

**basin** ④ A depression on land or on the ocean floor. Usually relatively broad and gently sloped, as compared to a trench, canyon, or crater.

**bay** ④ A wide inlet of a sea or a lake.

**bayou** ④ A stagnant or slow-moving body of water.

**beach** ④ An area of sediment deposited along the shoreline of a large body of water through the action of waves and the process of erosion.

**bedrock** ④ Solid rock lying under loose earth.



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## WORDS TO KNOW

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**bight** ☉ A bend in a coastline that forms an open bay.

**bluff** ☉ Elevated area with a broad, steep cliff face.

**bog** ☉ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter.

**bora** ☉ A very cold wind blowing from the north in the Adriatic Sea region.

**broadleaf forest** ☉ A forest composed mainly of broadleaf (deciduous) trees, as opposed to a coniferous forest.

**butte** ☉ An elevated, flat-topped area, similar to but smaller than a plateau or mesa.

### C

**caldera** ☉ A crater formed by the eruption of a volcano.

**canal** ☉ An artificial waterway constructed to connect two bodies of water or for irrigation of farmland.

**canyon** ☉ A deep gorge cut by a river, usually found in arid regions and often surrounded by plateaus.

**cape** ☉ A part of the coast that protrudes into a body of water.

**Caribbean** ☉ The region that includes the Caribbean Sea, its islands, and the Central or South American coastal areas of the sea.

**catchment** ☉ Area that collects water.

**cave** ☉ Hollow man-made or natural passages in the Earth with an opening to the surface.

**cay (or key)** ☉ A small, low-lying island or reef formed by coral or sand.

**Caucasus** ☉ Region between the Black and Caspian seas that forms the traditional boundary between Europe and Asia; includes the countries of Georgia, Azerbaijan, and Armenia, as well as parts of southwestern Russia.

**Central America** ☉ A region of southern North America that extends from the southern border of Mexico to the northern border of Colombia; includes the countries of Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama

**channel** ☉ A narrow body of water that connects two larger areas of water; an area where water flows through a narrow restricted path.

**cliff** ☉ A high, vertical face of rock.

**climate** ☉ Weather conditions pertaining to a specific area.

**cloud forest** ☉ A tropical forest that is covered in clouds throughout most of the year, usually located on mountain peaks.

**coast** ☉ Typically, the land that borders an ocean or sea.

**coastal** ☉ Relating to the area along the coast.

**coastal plain** ☉ A fairly level area of land along the coast of a land mass.

**coniferous forest** ☉ A forest consisting mainly of evergreen trees such as pine, fir, and cypress trees.

**conifers** ☉ Trees and plants that have needle-like, or scale-like, leaves and also produce cones; evergreens.

**contiguous** ☉ Sharing an edge or boundary or connected without any breaks, as in *the 48 contiguous states*.

**continent** ☉ One of the seven major land masses of Earth.

**continental climate** ☉ A climate typical of the interior of a continent. Particulars can vary widely depending on the region, but in general, areas with a continental climate have greater variations in daily and seasonal temperatures than areas with a maritime climate.

**continental divide** ☉ An extensive elevated region of land that separates the drainage basins of a continent so that the rivers on either side of the divide flow in opposite directions.

**continental shelf** ☉ A shallow submarine plain extending from the coast of a continent into the sea and varying in width; typically the shelf ends in a steep slope to the ocean floor.

**coral reef** ☉ A ridge in warm water areas of the ocean made up of the limestone and calcium deposits of coral animals.

**cordillera** ☉ A continuous ridge, range, or chain of mountains; part of the principal mountain system of a continent or country.

**crater** ☉ A bowl-shaped depression on the surface of the Earth, generally with relatively deep, steep, sides. The most common type of crater is a caldera, formed by volcanic eruption. Other craters are created by explosions or by impact, such as from a meteoroid.

**cyclone** ☉ A violent rotating wind storm, particularly one that originates in the southwestern Pacific or the Indian Ocean. Cyclones rotate counterclockwise in the northern hemisphere and clockwise in the southern hemisphere.

## WORDS TO KNOW

### D

**dam** ☉ A structure built across a river that restricts its flow, causing a reservoir to form behind it. Dams are often used to generate hydropower.

**deciduous** ☉ Relates to trees or shrubs that shed their leaves on a regular basis, as opposed to those that retain them (coniferous).

**deforestation** ☉ The removal or clearing of a forest, usually to enable the land to be used for another purpose, such as agriculture or settlements.

**delta** ☉ Triangular-shaped deposits of soil formed at the mouths of large rivers. They are formed out of the silt carried by the river and have the effect of forcing the river to split into distributary channels, sometimes over a very wide area.

**depression** ☉ Any place where the Earth's surface is lower than the surrounding terrain.

**desert** ☉ Any dry land area with little precipitation and sparse vegetation; often a sandy region but also includes areas of permanent cold that are generally lacking plant life.

**desertification** ☉ The process where land that supports vegetation gradually becomes desert as a result of climatic changes, land mismanagement, or both.

**dike** ☉ An artificial riverbank built up to control the flow of water.

**discontiguous** ☉ Not connected to or sharing a boundary with.

**distributary** ☉ A stream that branches off from a river and never rejoins it, flowing independently into another body of water.

**doldrums** ☉ An area near the equator characterized by variable winds and periods of calm.

**dormant volcano** ☉ A volcano that has not exhibited any signs of activity for an extended period of time.

**dune** ☉ A mound or ridge of loose, wind-blown sand.

### E

**Earth** ☉ Fifth-largest planet in the solar system; its orbit is third from the sun, its circumference is 40,064 kilometers (24,900 miles) at the equator and 40,000 kilometers (24,860 miles) when measured around the poles. The diameter at the equator is 12,753 kilometers (7,926 miles) and, from pole to pole, 12,711 kilometers (7,900 miles).

**earthquake** ☉ Shaking or other movement of the earth that is caused by tectonic shifts or volcanic activity.

**East Asia** ☉ A subregion of Asia that includes the countries of China, Mongolia, Korea, and the islands of Taiwan and Japan.

**easterlies** ☉ Winds or air currents blowing more or less consistently from east to west.

**Eastern Europe** ☉ A geopolitical term that usually refers to those countries in the east of Europe that were once allied with the Soviet Union under the Warsaw Pact (1955-1991). Today, the independent countries of the region include: Albania, Bulgaria, Czech Republic, Slovakia, Hungary, Croatia, Slovenia, Bosnia and Herzegovina, Poland, Romania, Serbia and Montenegro, and Macedonia.

**Eastern Hemisphere** ☉ The half of the Earth's surface that extends east of the Prime Meridian to the 180th meridian.

**eddy** ☉ An air or water current that follows a course different from that of the main flow and usually has a swirling circular motion.

**El Niño** ☉ The warming of the ocean off the west coast of South America that causes a change in climate elsewhere in the world, especially in North America. El Niño conditions have occurred about every four to twelve years.

**enclave** ☉ A country or portion of a country that lies entirely within the boundaries of one other country. Also, a culturally distinct community within a country.

**endangered species** ☉ A plant or animal species that is at risk of becoming extinct.

**endemic** ☉ Anything that is native to, unique to, or characteristic of a specific place or region.

**equator** ☉ An imaginary line running around the middle of the Earth halfway between the North and South Poles. Identified as 0° latitude, it divides the Northern and Southern Hemispheres.

**erosion** ☉ Changes in the shape of the Earth's surface as a result of damage from wind, water, or ice.

**escarpment** ☉ (also called scarp land) A steep slope that separates areas of different elevations.

**estuary** ☉ The region where a river and a large lake or sea meet so that their waters gradually blend into each other.

**Eurasia** ☉ The land mass that contains the continents of Europe and Asia.

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## WORDS TO KNOW

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**exclave** ④ Part of a country that is separated from the larger, main portion of the country by foreign territory.

### F

**Far East** ④ Traditionally, those countries that are a part of East Asia and the easternmost portion of Siberia. Often, the term includes the countries of Southeast Asia as well.

**fault** ④ (also called a fault line) A fracture in the Earth's crust where the rock formation splits, allowing the opposing sides to shift. Most commonly found along the boundaries between tectonic plates, the shifting sometimes causes earthquakes.

**fen** ④ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter and is fed by surrounding soils and groundwater. Fens are similar to bogs but have higher nutrient levels.

**fjord** ④ A relatively narrow arm of the sea that indents deeply into the land, with generally steep slopes or cliffs on each side.

**flood** ④ The flow of excessive quantities of water over land that is generally above water.

**flood plain** ④ An area of low-lying land bordering a stream of water where floods, and the resulting deposits of alluvium, occur frequently.

**Frigid Zone** ④ Either of the extreme north and south latitude zones of the Earth. The North Frigid Zone lies between the North Pole and the Arctic Circle. The South Frigid Zone lies between the South Pole and the Antarctic Circle. The climate of these regions is characterized by extreme cold throughout the year.

### G

**game reserve** ④ An area of land reserved for wild animals that are hunted for sport or for food.

**geopolitical** ④ Refers to the relationship between geographic, political (or governmental), and cultural aspects of a nation or region.

**geothermal energy** ④ Energy derived from the heat that constantly and naturally radiates out from the center of the Earth. Also used to describe the radiation itself.

**geyser** ④ A hot spring that periodically erupts through an opening in the surface of the Earth, spewing boiling water and steam.

**glacier** ④ A large body of ice that moves along the Earth's surface.

**gorge** ④ A deep, narrow passage with steep, rocky walls.

**grassland** ④ An area where the vegetation is mostly grasses and other grass-like plants, often providing a transition between forests and deserts.

**Greenwich Mean Time** ④ The time at Greenwich, England, in the United Kingdom. This time is used as a basis for calculating time throughout most of the world. It is also called universal time, and is abbreviated GMT.

**groundwater** ④ Water located below the earth's surface, providing a source for wells and springs.

**gulf** ④ A large inlet of a sea or ocean that is partially enclosed by land, such as by capes or peninsulas.

**Gulf Stream** ④ Warm ocean current flowing from roughly the Gulf of Mexico northeast along the coast of North America, then east toward Europe.

### H

**harbor** ④ A protected inlet along the shore of a sea or lake that is deep enough for ships to anchor.

**hardpan** ④ A layer of hardened clay soil, usually underlying a thin layer of topsoil.

**hardwoods** ④ Deciduous trees, such as cherry, oak, maple, and mahogany, that produce very hard, durable, and valuable lumber.

**harmattan** ④ An intensely dry, dusty wind felt along the coast of Africa between Cape Verde and Cape Lopez. It prevails at intervals during the months of December, January, and February.

**headland** ④ Slightly elevated land lying along or jutting into a body of water.

**headstream** ④ Stream that forms the source of a river.

**headwater** ④ Source of a stream or river.

**heath** ④ Uncultivated land with low shrubs.

**hemisphere** ④ Any half of the globe. The Northern and Southern Hemispheres are divided by the equator while the Eastern and Western Hemispheres are divided by the Prime Meridian and 180° longitude.

**hill** ④ A rounded area of elevation rising more or less prominently above the surrounding, flatter landscape. Hills are generally no more than 300 meters (1,000 feet) high.

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## WORDS TO KNOW

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**Humboldt Current** ☉ A cold ocean current that runs north from Antarctica along the west coast of South America, primarily from June to November.

**hurricane** ☉ A tropical storm originating in the Atlantic or Pacific Oceans, generally with winds over 74 miles per hour.

**hydropower** ☉ (also called hydroelectric power) Electricity generated by the flow of water through the turbines of river dams.

### I

**iceberg** ☉ A massive block of floating ice that has broken off of a glacier or an ice shelf through a process known as calving.

**ice caps** ☉ Ice sheets covering less than 50,000 square kilometers (19,000 square miles). They form primarily in polar and sub-polar regions, generally occupying high and relatively flat regions.

**ice shelves** ☉ Sheets of ice that extend from the edge of a continent over the surface of the ocean, with ocean water flowing beneath them. They typically range from approximately 200–1000 meters (500–3,500 feet) thick. The Arctic Ocean is partly covered by ice shelves and the continent of Antarctica is almost completely surrounded by them.

**indigenous** ☉ A native species; vegetation that originates from or occurs naturally within a particular region.

**Indochina** ☉ A subregion that includes the peninsular countries of southeast Asia that lie between India and China, including: Vietnam, Laos, Cambodia, Thailand, Myanmar (Burma), and the mainland territory of Malaysia. The term indicates that the culture in these countries has been influenced by both Indian and Chinese traditions.

**inlet** ☉ Any water filled indentation along a coast or shore, such as a bay or gulf; a narrow passage through which water from an ocean or other large body of water passes, usually into a bay or lagoon.

**International Date Line** ☉ An arbitrary, imaginary line at about 180° longitude that designates where one day begins and another ends.

**island** ☉ A land mass entirely surrounded by water.

**isthmus** ☉ A narrow strip of land that connects two larger bodies of land such as two continents, a continent and a peninsula, or two parts of

an island. An isthmus is bordered by water on two sides.

### K

**karst** ☉ An area of limestone characterized by caverns and rock formations that are caused by erosion and underground streams.

**key.** See *cay*.

### L

**Labrador Current** ☉ A North Atlantic current that flows southward from polar waters along the east coast of Canada.

**lagoon** ☉ A shallow body of water, often connected with or barely separated from a nearby ocean or sea by coral reefs or sandbars.

**lake** ☉ A large inland body of standing water.

**landlocked country** ☉ A country that does not have direct access to an ocean; a country that is completely surrounded by other countries.

**landslide** ☉ A flow of muddy soil or loose rock that is usually triggered by heavy rainfall in areas where the terrain is steep.

**Latin America** ☉ A geopolitical term that relates to the countries that are south of the United States in the Western Hemisphere, particularly countries where the Latin-based languages (or Romance languages) of Spanish, Portuguese, and French are spoken.

**latitude** ☉ (also called parallel) An imaginary line running around the Earth parallel to the equator. The equator is at 0° latitude and divides the Earth into two sets of lines of latitude, north and south. Each set covers 90°.

**lava** ☉ Molten rock (magma) that has been poured out on the Earth's surface, usually through a volcano.

**leeward** ☉ The direction identical to that of the prevailing wind.

**littoral** ☉ A coastal region or shore; or, the area between the high water and low water marks of a shore or coastal region.

**loam** ☉ Light soil consisting of clay, silt, and sand.

**loess** ☉ A windblown accumulation of fine yellow clay or silt.

**longitude** ☉ (also called meridian) An imaginary line that extends along the surface of the Earth directly from one pole to another. The Earth is divided into 360 degrees of longitude, with 0° being designated as the Prime Meridian.

## WORDS TO KNOW

### M

**Maghreb** ☉ Region in northwest Africa made up of Algeria, Morocco, and Tunisia.

**magma** ☉ Molten rock beneath the Earth's surface that has been melted by the heat of the Earth's interior. When magma breaches the Earth's surface it is known as lava.

**mangrove** ☉ A tree that abounds on tropical shores in both hemispheres. It is characterized by its numerous roots that arch out from its trunk and descend from its branches. Mangroves form thick, dense growths along the tidal mud, covering areas that are hundreds of miles long.

**marine life** ☉ The life that exists in or is formed by the seas and oceans.

**maritime climate** ☉ The climate and weather conditions typical of areas bordering large bodies of water. Generally, areas close to water have more even temperatures than areas with a continental climate.

**marsh** ☉ An area of soggy land, usually covered wholly or in part by shallow water and containing aquatic vegetation.

**massif** ☉ The central part of a mountain or the dominant part of a range of mountains.

**mean temperature** ☉ The air temperature unit measured by adding the maximum and minimum daily temperatures together and dividing the sum by two; an average temperature.

**Mediterranean** ☉ The region surrounding the Mediterranean Sea.

**Mediterranean climate** ☉ A wet-winter, dry-summer climate with a moderate annual temperature range, as is typically experienced by countries along the Mediterranean Sea.

**meridian.** *See* **longitude.**

**mesa** ☉ An isolated, elevated, flat-topped area of land, typically larger than a butte but smaller than a plateau.

**Mesopotamia** ☉ The name means, "between rivers," and refers to the territory between and around the Tigris and Euphrates rivers (currently a part of Iraq). This area has been nicknamed "The Cradle of Civilization" because it was home to the ancient empires of Babylon, Sumer, and Assyria, among others. The Tigris and Euphrates are also two of the four rivers mentioned in the Biblical story of Eden.

**Middle East** ☉ A geopolitical term that designates those countries of southwest Asia and northeast Africa that stretch from the Mediterranean Sea to the borders of Pakistan and Afghanistan, including the Arabian Peninsula. This area was considered to be the midpoint between Europe and East Asia, usually called the Far East. The term is sometimes used to include all the countries of that general region that are primarily Islamic.

**mistral** ☉ In southern France, a cold, dry, northerly wind.

**moist tropical climate** ☉ A weather pattern typical to the tropics, known for year-round high temperatures and large amounts of rainfall.

**monolith** ☉ A large, natural rock formation, usually one that is isolated from other areas of high elevations; a large, stone block, column, or figure.

**monsoon** ☉ Seasonal change in the wind direction of Southeastern Asia, leading to wet and dry seasons. A monsoon develops when there is a significant difference in air temperatures over the ocean and the land.

**moor** ☉ A poorly drained open area containing peat and heath.

**moraine** ☉ A deposit of rocky earth deposited by a glacier.

**mountain** ☉ A lofty elevation of land, generally higher than 300 meters (1,000 feet), but varying greatly depending on the surrounding terrain, with little surface area at its peak; commonly formed in a series of ridges or in a single ridge known as a mountain range.

### N

**nature preserve** ☉ An area (often a park) where one or more specific species of plants and/or animals are protected from harm, injury, or destruction.

**Northern Hemisphere** ☉ The northern half of the Earth's surface, as measured from the equator to the North Pole.

### O

**oasis** ☉ Originally, a fertile spot in the Libyan Desert where there is a natural spring or well and vegetation; now refers to any fertile tract in the midst of a wasteland.

**ocean** ☉ The entire body of saltwater that covers almost three-fourths of the Earth's surface; any of the five principal divisions of the ocean.

## WORDS TO KNOW

**Oceania** ④ Oceania is a term that refers to the islands in the region that covers the central and south Pacific and its adjacent seas; sometimes includes Australia, New Zealand, and the Malay Archipelago (an large group of islands off the southeast coast of Asia).

### P

**pampas** ④ Grass-covered plain of South America.

**panhandle** ④ A long narrow strip of land projecting like the handle of a frying pan.

**parallel.** *See* **latitude.**

**peneplain** ④ A flat land surface that has been subjected to severe erosion.

**peninsula** ④ A body of land surrounded by water on three sides.

**permafrost** ④ A frozen layer of soil that never thaws.

**petroglyph** ④ Ancient carvings or line drawings created on the surface of rocks by prehistoric peoples; often found in caves.

**plain** ④ An expansive area free of major elevations and depressions.

**plateau** ④ A relatively flat area of an elevated area of land.

**plate tectonics** ④ A set of theories about the Earth's structure used by many geologists to explain why land masses and oceans are arranged as they are and why seismic activity occurs. According to plate tectonics the Earth's surface, including the bottom of the oceans, rests on a number of large tectonic plates. These plates are slowly moving over the interior layers of the Earth. Where they grind against each other, earthquakes and other seismic activity occurs, and the shape of the land gradually changes.

**polar circle** ④ (also called the polar region) A circular region around the North and South Poles that separates the frigid polar zones from the temperate zones. The Earth has two polar circles, the Arctic Circle in the north and the Antarctic Circle in the south.

**polar climate** ④ A humid, severely cold climate controlled by arctic-like air masses, with no warm or summer season.

**polder** ④ A low land area reclaimed from a body of water and protected by dikes or embankments.

**pole (geographic pole)** ④ The extreme northern and southern points of the Earth's axis, where the axis intersects the spherical surface. The

geographic North Pole is located at 90°N latitude/0° longitude. The geographic South Pole is located at 90°S latitude/0° longitude.

**pole (magnetic pole)** ④ Either of two points on the Earth's surface, close to the geographic North Pole and South Pole, where the magnetic field is most intense. The North Magnetic Pole is located at 78°N latitude/104°W longitude in the Queen Elizabeth Islands of northern Canada. The South Magnetic Pole is located at 66°S latitude/139°E longitude on the Adélie Coast of Antarctica.

**pond** ④ A small body of still, shallow water.

**prairie** ④ An area of level grassland that occurs in temperate climate zones.

**Prime Meridian** ④ The meridian designated as 0° longitude that runs through Greenwich, England, site of the Royal Observatory. All other longitudes are measured from this point.

### R

**rainforest** ④ A dense forest of tall trees with a high, leafy canopy where the annual rainfall is at least 254 centimeters (100 inches) per year.

**rain shadow** ④ An area that receives very little precipitation due to natural barriers, such as mountains, which keep rain clouds from covering the region.

**Ramsar** ④ The Ramsar Convention on Wetlands of International Importance is an international organization concerned with the preservation and protection of major wetland environments throughout the world.

**ravine** ④ A steep, narrow valley or gorge, usually containing the channel for a stream.

**reef** ④ String of rocks or coral formations, usually on a sandy bottom, that are barely submerged.

**reforestation** ④ Systematically replacing forest trees that were lost due to fire or logging.

**reservoir** ④ A lake that was formed artificially by a dam.

**Ring of Fire** ④ The region of seismic activity roughly outlined by a string of volcanoes that encircles the Pacific Ocean.

**river** ④ A substantial stream of water following a clear channel as it flows over the land.

**riverine** ④ Related to a river or the banks of a river.

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## WORDS TO KNOW

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### S

**Sahel** ☉ Sahel is an Arabic word meaning “shore.” It refers to the 5,000 kilometer (3,125 mile) stretch of savanna that is the shore or edge of the Sahara desert. The Sahel spreads west to east from Mauritania and Senegal to Somalia.

**salinization** ☉ An accumulation of soluble salts in soil. This condition is common in irrigated areas with desert climates, where water evaporates quickly in poorly drained soil due to high temperatures. Severe salinization renders soil poisonous to most plants.

**salt pan** ☉ (also salt flat) An area of land in a sunny region that is periodically submerged in shallow water, usually due to tides or seasonal floods. The sun causes the shallow water to evaporate and leave the salt it contained behind on the ground.

**sand bar** ☉ A deposit of sedimentary material that lies in the shallow water of a river, lake, or sea.

**savanna** ☉ (also spelled savannah) A treeless or near treeless plain of a tropical or subtropical region dominated by drought-resistant grasses.

**Scandinavia** ☉ The region of northwestern Europe that lies on the peninsula bordered by the Atlantic Ocean, the Baltic Sea, and the Gulf of Bothnia. Even though Norway and Sweden are the only two countries that lie directly on this peninsula, the countries of Denmark, Iceland and Finland are usually considered to be Scandinavian countries in a cultural context.

**sea** ☉ A body of salt water that is connected to (and therefore a part of) the ocean; sometimes, a name given to a large lake.

**sea level** ☉ The level of the ocean’s surface, specifically the average between the levels at high tide and low tide. Sea level is often designated as 0 meters (0 feet) and is used as the baseline for measuring elevations and depressions on land and on the ocean floor.

**seasonal** ☉ Dependant on the season. The flow of rivers and volume of lakes often varies greatly between seasons, as can vegetation.

**seasons** ☉ Regular variations in weather patterns that occur at the same times every year.

**sedimentary rock** ☉ Rock, such as sandstone, shale, and limestone, formed from the hardening of material deposits.

**seismic activity** ☉ Relating to or connected with an earthquake or earthquakes in general.

**semiarid** ☉ A climate where water and rainfall is relatively scarce but not so rare as to prohibit the growth of modest vegetation. Semiarid areas are often found around arid deserts and semiarid land is sometimes called a desert itself.

**shoal** ☉ A shallow area in a stream, lake, or sea, especially a sand bank that lies above water at low tide or during dry periods.

**shore** ☉ Typically, the land that borders a lake or river; may also be used to designate the land bordering an ocean or sea.

**sierra** ☉ A rugged, jagged, irregular chain of hills or mountain.

**silt** ☉ Fine, gravel-like, inorganic material, usually sand and coarse clay particles, that is carried by the flow of a river and deposited along its banks. Silt is generally very fertile soil.

**skerry** ☉ A rocky island.

**slough** ☉ A marshy pond that occurs in a river inlet.

**softwoods** ☉ Coniferous trees with a wood density that is relatively softer than the wood of those trees referred to as hardwoods.

**sound** ☉ A wide expanse of water, usually separating a mainland from islands or connecting two large bodies of water; often lies parallel to the coastline.

**South Asia** ☉ A subregion of Asia that includes the countries of Afghanistan, Pakistan, India, Bangladesh, and Nepal.

**Southeast Asia** ☉ A subregion of Asia that lies between India on the west, China to the north, and the Pacific Ocean to the east. The region includes the Indochina Peninsula of the South China Sea, the Malay Peninsula, and the Indonesian and Philippine Archipelagos. The countries of Southeast Asia are: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

**Southern Hemisphere** ☉ The southern half of the Earth’s surface between the equator and the South Pole.

**Southwest Asia** ☉ A subregion of Asia that includes Turkey and extends southward through the Arabian Peninsula. Iran can also be included in the region.

**spring** ☉ Water flowing from the ground through a natural opening.

**stalactites** ☉ Deposits of calcium carbonate formed in a cavern or cave that hang down from the ceiling like icicles.

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## WORDS TO KNOW

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**stalagmites** ④ Deposits of calcium carbonate formed in a cavern or cave that rise up from the floor like cones or columns.

**steppe** ④ A flat, mostly treeless, semiarid grassland, marked by extreme seasonal and daily temperature variations. Although sometimes used to describe other areas, the term applies primarily to the plains of southeastern Europe and Central Asia.

**strait** ④ Narrow body of water connecting two larger bodies of water.

**stream** ④ Any flowing water that moves generally downhill from elevated areas towards sea level.

**subarctic climate** ④ A high latitude climate. The continental subarctic climate has very cold winters; short, cool summers; light precipitation; and moist air. The marine subarctic climate is a coastal and island climate with polar air masses causing high levels of precipitation and extreme cold.

**subcontinent** ④ A land mass of great size, but smaller than any of the continents; a large subdivision of a continent.

**subtropical climate** ④ A middle latitude climate dominated by humid, warm temperatures and heavy rainfall in summer, with cool winters and frequent cyclonic storms.

### T

**taiga** ④ An area of open forest made up of coniferous trees.

**tectonic** ④ Relating to the structure of the Earth's crust.

**tectonic plate** ④ According to the theory of plate tectonics, the outer layer of the Earth consists of a series of large plates of rock called tectonic plates. The largest plates have entire oceans or continents on their surface.

**Temperate Zone** ④ The parts of the Earth lying between the Tropics and the polar circles. The North Temperate Zone is the area between the Tropic of Cancer and the Arctic Circle. The South Temperate Zone is the area between the Tropic of Capricorn and the Antarctic Circle. Temperate zones are marked by the greatest seasonal variations in temperature; however, temperatures and rainfall tend to stay within a moderate range, without extremes.

**terraces** ④ Successive areas of flat lands.

**terrain** ④ General characteristics of the Earth's surface in a region, including its characteristic vegetation.

**tidal bore** ④ A distinctive type of wave that travels up a shallow river or estuary on the incoming tide. It is a dramatic phenomenon that occurs in few places in the world; the incoming tidal waters flow against the river's current.

**tidal wave.** *See* **tsunami.**

**tide** ④ The rise and fall of the surface of a body of water caused by the gravitational attraction of the sun and moon.

**timber line** ④ The point of high elevation on a mountain above which the climate is too severe to support trees.

**topography** ④ The surface features of a region; also, the study of such features.

**tornado** ④ A violent, whirling wind storm that forms a funnel-shaped cloud and moves in a path over the surface of the Earth.

**Torrid Zone** ④ The part of the Earth's surface that lies between the Tropic lines, so named for the warm, humid, character of its climate.

**trade winds** ④ Winds that consistently blow from the northeast and southeast toward the equator.

**trench** ④ A steep-sided depression in the ocean floor where the water is very deep.

**tributary** ④ Any stream that flows into another larger stream.

**tropical monsoon climate** ④ One of the tropical rainy climates; it is sufficiently warm and rainy to produce tropical rainforest vegetation, but also has a winter dry season.

**Tropic of Cancer** ④ A latitudinal line located 23°27' north of the equator, the highest point on the globe at which the sun can shine directly overhead.

**Tropic of Capricorn** ④ A latitudinal line located 23°27' south of the equator, the lowest point on the globe at which the sun can shine directly overhead.

**tsunami** ④ A powerful, massive, and destructive ocean wave caused by an undersea earthquake or volcanic eruption.

**tundra** ④ A nearly level, treeless area whose climate and vegetation are characteristically arctic due to its position near one of the poles; the subsoil is permanently frozen.

**typhoon** ④ Violent hurricane occurring in the region of the South China Sea, usually in the period from July through October.



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## WORDS TO KNOW

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### U

**UNESCO** ④ The United Nations Educational, Scientific, and Cultural Organization. An international organization promoting peace and security around the world through education, science, culture, and communication.

### V

**valley** ④ An elongated depression through which a stream of water usually flows, typically an area that lies between mountains, hills, and/or other uplands.

**vegetation** ④ Plants, including trees, shrubs, grasses, and other plants.

**volcano** ④ A hole or opening through which molten rock and superheated steam erupt from the interior of the Earth. Also, a mountain created by the accumulation of these ejected materials.

### W

**wadi** ④ Dry stream bed, usually in a desert region in southwest Asia or north Africa.

**waterfall** ④ A steep, natural descent of water flowing over a cliff or precipice to a lower level.

**watershed** ④ An area of shared water drainage, where all the rainfall drains into a common river or lake system.

**waves** ④ The alternate rise and fall of ridges of water, generally produced by the action between the wind and the surface of a body of water.

**weather** ④ Atmospheric conditions at a given place and time.

**Western Europe** ④ A geopolitical term that usually refers to those countries of Europe that are allies of the United States and Canada under the North Atlantic Treaty Organization (NATO, established 1949). The original European countries in NATO were Belgium, France, Great Britain, Italy, Luxembourg, the Netherlands, and Portugal. Today, Western European countries also include Germany, Spain, Ireland, and Austria. Though Denmark is geographically part of Europe, it is culturally considered as part of Scandinavia.

**Western Hemisphere** ④ The half of the Earth's surface that lies west of the Prime Meridian to 180° longitude.

**West Indies** ④ The islands lying between North America and South America made up of the Greater Antilles (Cuba, Haiti, Dominican Republic, Jamaica, and Puerto Rico), the Lesser Antilles (Virgin Islands, Trinidad and Tobago, Barbados), and the Bahamas.

**wildlife sanctuary** ④ An area of land set aside for the protection and preservation of animals and plants.

**windward** ④ Facing into the prevailing wind, or lying closest to the direction from which the wind is blowing.

Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

# Morocco

- **Official name:** Kingdom of Morocco
- **Area:** 446,550 square kilometers (172,414 square miles)
- **Highest point on mainland:** Mount Toubkal (4,165 meters/13,665 feet)
- **Lowest point on land:** Sebkhah Tah (55 meters/180 feet below sea level)
- **Hemispheres:** Northern and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 1,809 kilometers (1,124 miles) from northeast to southwest; 525 kilometers (326 miles) from southeast to northwest
- **Land boundaries:** 2,081 kilometers (1,254 miles) total boundary length; Algeria 1,559 kilometers (969 miles); Spain (Ceuta) 6.3 kilometers (3.9 miles); Spain (Melilla) 9.6 kilometers (6.0 miles); Western Sahara 443 kilometers (275 miles)
- **Coastline:** 1,140 miles (1,835 kilometers)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Morocco is located at the northwest corner of the African continent, bordering the North Atlantic Ocean and the Mediterranean Sea. It shares land borders with the two Spanish enclaves of Ceuta and Melilla, Algeria, and the Western Sahara. The Moroccan-controlled Western Sahara also borders on Mauritania. With an area of about 446,550 square kilometers (172,414 square miles), the country is slightly larger than the state of California. Morocco is divided into thirty-seven provinces and two wilayas (special districts).

## 2 🌐 TERRITORIES AND DEPENDENCIES

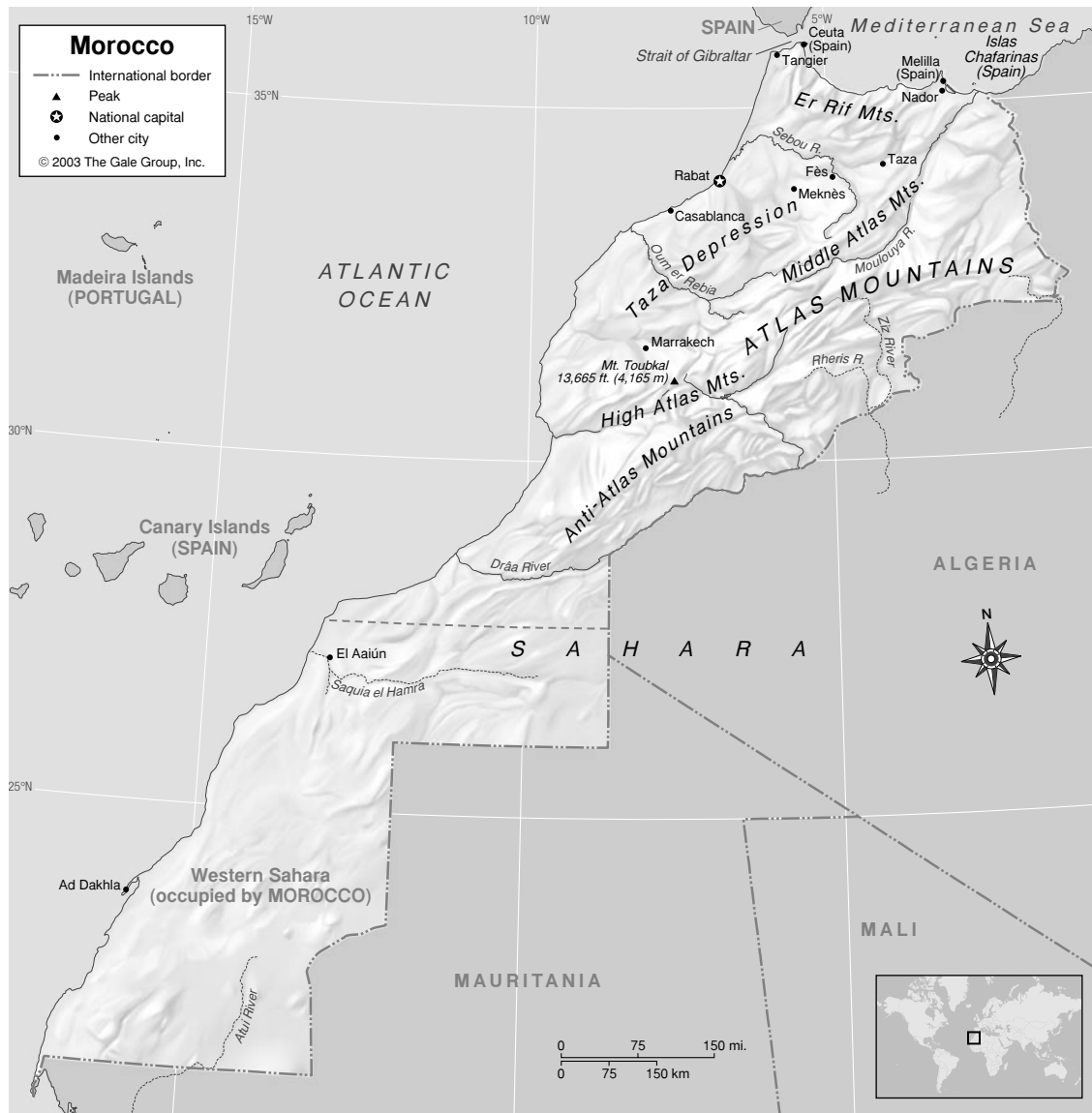
The Western Sahara is claimed and administered by the government of Morocco; surrounding countries challenge Morocco's claim, however. The Western Sahara covers an area of about 252,120 square kilometers (97,344 square miles).

## 3 🌐 CLIMATE

Morocco has two climatic zones: coastal and interior. Temperature variations are relatively small along the Atlantic coast, while the interior is characterized by extreme variations. The north and central areas have a Mediterranean climate, moderate and subtropical, cooled by the Mediterranean Sea and Atlantic Ocean. These areas characteristically have warm, wet winters and hot, dry summers. The average temperature hovers around 20°C (68°F). In the northern part of the interior, the climate is predominantly semiarid. Winters can be quite cold, and summers can be very hot. In the mountain ranges temperatures can drop as low as -18°C (0°F). Mountain peaks in both the Atlas and Er Rif mountain ranges are snow-capped throughout most of the year.

The western slopes of the Atlas Mountains receive a great deal of rain, but at the expense

# MOROCCO



of the interior, since the mountains block the central areas from the Atlantic or Mediterranean. The two rainy seasons are in April and May and in October and November. A maximum annual rainfall of 75 to 100 centimeters (30 to 40 inches) occurs in the northwest. Other parts of the country receive much less precipitation. Half of all of the arable land

receives no more than 35 centimeters (14 inches) of rain per year.

## 4 🌐 TOPOGRAPHIC REGIONS

Morocco has four distinct geographic regions. In the north, there is a fertile coastal plain along the Mediterranean. The Atlas Mountains, extending across the country from southwest to northeast and into Algeria,

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# MOROCCO

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ARAMCO/Brynn Bruijn

*Desert sands of Morocco.*

comprise another region. A third area is a wide arc of coastal plains lining the country's western seaboard, bounded by the Er Rif and Atlas mountain ranges. Finally, south of the Atlas Mountains are semiarid grasslands that merge with the Sahara Desert along the southeastern borders of the country.

Morocco provides habitats for dozens of bird species, from large raptors to woodpeckers, waterfowl, and songbirds.

## **5** 🌐 **OCEANS AND SEAS**

### **Seacoast and Undersea Features**

The Mediterranean Sea is north of Morocco. It is an almost completely landlocked body of water that lies between southern Europe, north Africa and southwest Asia. Morocco's western coast faces the Atlantic Ocean.

### **Sea Inlets and Straits**

The Strait of Gibraltar connects the Mediterranean Sea with the Atlantic Ocean and separates Morocco from Spain.

### **Coastal Features**

The Mediterranean coast between Tangier and Nador has a string of creeks, bays, sheltered beaches, and cliffs, all of which are ideal for recreational use. The Atlantic coast is often rocky, but it also has some long stretches of fine sand and calm bays, including the harbors at Rabat and Casablanca.

## **6** 🌐 **INLAND LAKES**

Lake Semara is in the Western Sahara. Lake Chiker, near Taza, is usually dry during the summer months. The Middle and High Atlas Mountains contain mountain lakes that reach impressive depths, including Tigalmamine

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# MOROCCO

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EPD/Saxifraga

*The Todra Gorge is in the Atlas Mountains of Morocco.*

(16 meters/53 feet); Sidi Ali (65 meters/213 feet); and Isti (95 meters/311 feet).

## **7** 🌐 **RIVERS AND WATERFALLS**

Morocco has the most extensive river system in North Africa. The principal rivers flowing south or westward into the Atlantic Ocean are the Rebia (555 kilometers/344 miles long), Sebou (Sebu; 500 kilometers/310 miles long), Bouregreg (250 kilometers/155 miles long), Tensift (270 kilometers/167 miles long), and Drâa (1,200 kilometers/744 miles long). The Drâa is Morocco's longest river, but it is seasonal. It marks part of the border with Algeria and is sometimes dry, since it runs through the desert.

The Ziz and Rheris both flow south out of the Atlas Mountains into the heart of the Sahara. The Moulouya (Muluya) flows 560

kilometers (347 miles) northeast from the Atlas to the Mediterranean, making it the longest river in the country that consistently reaches the sea.

## **8** 🌐 **DESERTS**

Morocco lies within the border of the Sahara Desert. The Sahara Desert, which covers an area of 9,065,000 square kilometers (3,500,000 square miles) is the largest desert in the world. It covers the entire region of North Africa, from the Atlantic coast in the west to the Red Sea in the east. It borders the Mediterranean Sea and the Atlas Mountains in the north and extends into a southern region known as the Sahel and the Sudan. Scientists believe that during the Ice Age (about fifty thousand to one hundred thousand years ago), the Sahara was

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# MOROCCO

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covered with shallow lakes that provided water for large areas of lush vegetation.

The Western Sahara, as part of the greater Sahara Desert, has a terrain that is composed mostly of sand, gravel, or small stones. It is relatively flat except for a region of rocky highlands in the east.

## 9 🌐 FLAT AND ROLLING TERRAIN

With the exception of the Er Rif, all of Morocco north of the Atlas Mountains is a fertile plain. This area is also known as the Taza Depression. There are also some semiarid grasslands in the south beyond the Atlas Mountains. These eventually give way to the Sahara Desert. Semiarid plains can also be found in northern Western Sahara.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Atlas Mountains are the largest and most important mountain range in North Africa, extending from Morocco to Tunisia for about 2,400 kilometers (1,488 miles) in a series of creased mountain chains. Morocco's portion of the Atlas Mountains includes the Middle Atlas, High Atlas, and Anti-Atlas.

The High Atlas (also called Western Atlas or Great Atlas) is the highest of the three, stretching for more than 644 kilometers (400 miles), with ten peaks of over 3,965 meters (13,000 feet). Mount Toubkal, south of Marrakech, reaches to 4,165 meters (13,665 feet)—the highest point in the country. The Middle Atlas stretches for 251 kilometers (156 miles) east of the High Atlas, extending into Algeria. Mount Bounaceur is the highest point in the Middle Atlas, at 3,326 meters (10,909 feet). West and south of the High Atlas is the Anti-Atlas range. Although not as tall as the High Atlas, the terrain in the Anti-Atlas is very rugged. It is about 403 kilometers (250 miles) long. South of the Atlas is the Sirwa, a volcanic outcropping and a ridge of black lava that connects the High At-

las and Anti-Atlas. The Sirwa reaches a maximum height of 2,822 meters (9,254 feet).

The Er Rif Mountains near the northern coast are not part of the Atlas ranges. They are made up of steep cliffs. The highest peak in the Er Rif is Tidghine (2,465 meters/8,085 feet), south of Ketama.

## 11 🌐 CANYONS AND CAVES

Toghobeit Cave is located in the Er Rif cliffs. At 722 meters (3,918 feet) deep it is one of the most fantastic open caverns in the world.

The Ziz River cuts through the Atlas Mountains to form the Ziz Gorge. At the southern end of the gorge, there are artificial lakes created by the Hassan Addakhil Dam. At the northern end is the Tunnel de Légionnaire, which creates a passageway from the Ziz Mountains to the Ziz Valley.

The Todra Gorge is also in the Atlas Mountains, near the town of Tinerhir. The gorge has steep rock faces that rise as much as 300 meters (984 feet) and has become a popular site for rock climbers.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no plateau regions in Morocco.

### DID YOU KNOW?

**K**asbah, or Casbah, is a term often heard in association with Morocco. Rather than being a specific place or region, it is a term that usually refers to the oldest section of a city. Often, this is the marketplace of the city. Sometimes the term refers to an ancient castle or palace.

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# MOROCCO

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## 13 MAN-MADE FEATURES

Morocco relies very heavily on its system of river dams and reservoirs for drinking water, irrigation, and electricity. Some of the main dams in the country are the Bin El Ouidane, Moulay Youssef, and Moulay Hassan I. The Al Wahda Dam, at 90 meters (295 feet) high, is the second-largest dam in Africa.

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# Mozambique

- **Official name:** Republic of Mozambique
- **Area:** 801,590 square kilometers (309,496 square miles)
- **Highest point on mainland:** Mount Binga (2,436 meters/7,992 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** 4,571 kilometers (2,840 miles) total boundary length; Malawi 1,569 kilometers (975 miles); South Africa 491 kilometers (305 miles); Swaziland 105 kilometers (65 miles); Tanzania 756 kilometers (470 miles); Zambia 419 kilometers (260 miles); Zimbabwe 1,231 kilometers (765 miles)
- **Coastline:** 2,470 kilometers (1,535 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Mozambique is located on the southeast coast of Africa between the countries of Tanzania and South Africa, with an eastern coastline on the Mozambique Channel. The country shares land borders with six nations. With a total area of about 801,590 square kilometers (309,496 square miles), the country is slightly less than twice the size of California. Mozambique is administratively divided into ten provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Mozambique has no outside territories or dependencies.

## 3 🌐 CLIMATE

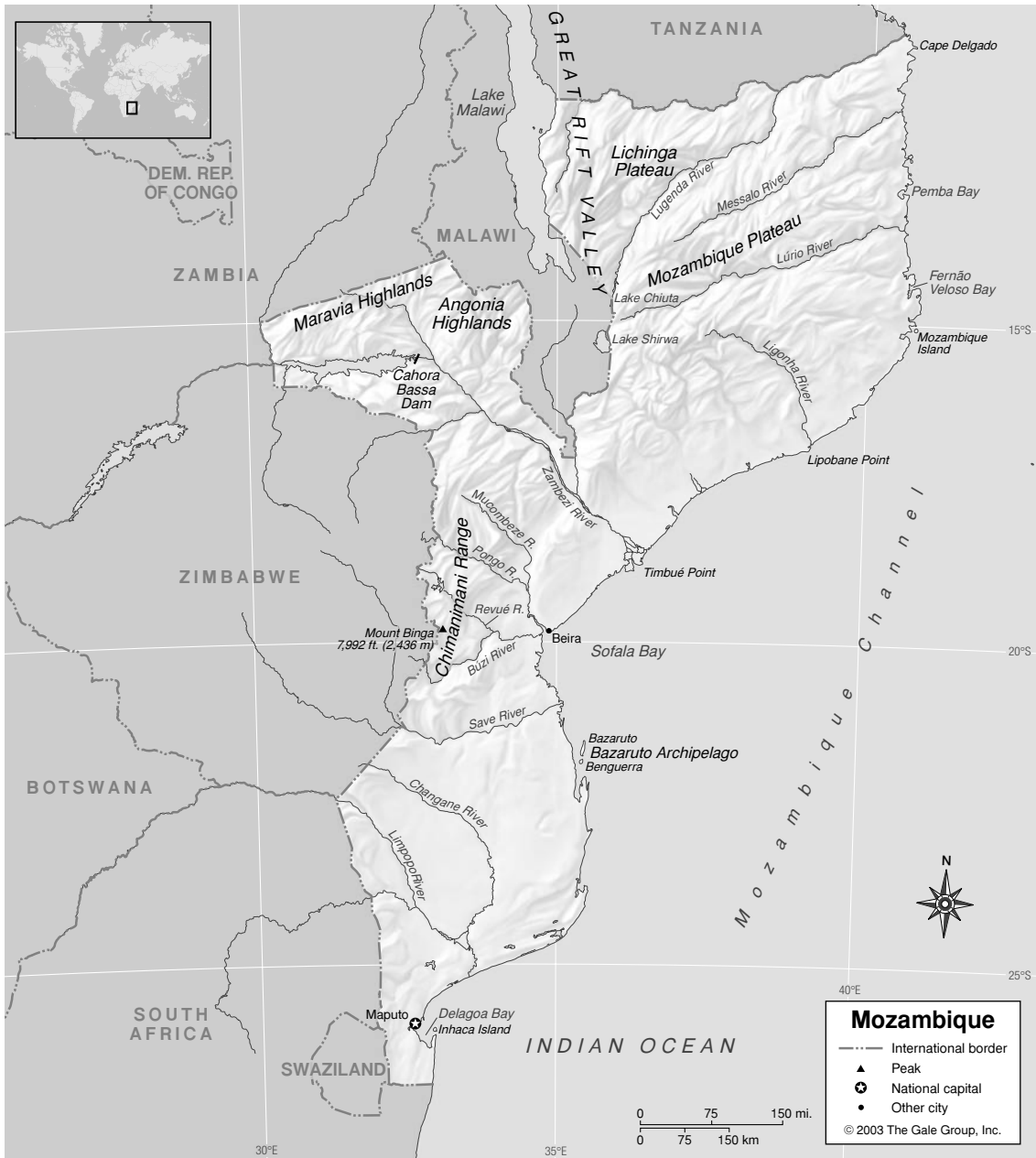
Between the months of November and March, temperatures are usually between 27°C and 29°C (81°F and 84°F) throughout most of the country, though temperatures are lower in the interior uplands. Between April and October, temperatures are cooler, averaging between 18°C and 20°C (64°F and 68°F).

The wet season runs from November through March, when 80 percent of all rainfall occurs. Rainfall is lowest in the southwest portion of the country, which receives an annual average of 30 centimeters (12 inches). It is highest near the western hills and the central areas near the Zambezi River, as well as along the central coast, where annual averages are between 135 and 150 centimeters (53 and 59 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Mozambique is a topographically diverse nation. The Zambezi River divides the country into distinct northern and southern halves. The north is known for its mountainous regions and plateaus, notably the Livingstone-Nyasa Highlands, the Shire (or Namuli) Highlands, and the Angonia Highlands in the northeast. The westernmost regions are particularly mountainous, giving way to plateaus and uplands as one travels eastward. South of the Zambezi are the more fertile plains, most notably in the area surrounding the river. In the center of the country are uplands,

# MOZAMBIQUE



marshes, and coastal lowlands. Inland areas are dry and thus do not support much vegetation. By area, the country is approximately 44 percent coastal lowlands, 26 percent higher

hills and plateaus, 17 percent lower plateaus and hills, and 13 percent mountains. Mozambique is located on the African Tectonic Plate and experiences little or no tectonic activity.

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# MOZAMBIQUE

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## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Bordering Mozambique to the east is the Mozambique Channel, which is a strait in the Indian Ocean that separates Africa from the island of Madagascar. The channel is approximately 1,600 kilometers (1,000 miles) long, and at its widest point, it stretches more than 950 kilometers (600 miles). This area is particularly susceptible to cyclones. Many coral reefs line the channel, attracting large numbers of divers from around the world. Coral islands also exist in the channel.

### Sea Inlets and Straits

Several bays dot the coastline, including (from south to north) Delagoa Bay, Sofala Bay, Fernão Veloso Bay, and Pemba Bay.

### Islands and Archipelagos

Mozambique has many small offshore islands along its coastline. Mozambique Island (Ilha de Moçambique), located 3 kilometers (2 miles) off the coast of the Nampula province, is a small but culturally significant island. Formerly a Portuguese colonial capital, this 2.5-kilometer- (1.5-mile-) long and 0.6-kilometer- (0.4-mile-) wide island is accessible via a mainland bridge. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) has designated the island a World Heritage Site.

Inhaca Island, located 30 kilometers (18.6 miles) from Maputo, is a 12.5-kilometer- (7.8-mile-) long and 7.5-kilometer- (4.7-mile-) wide island known for its sandy beaches and ideal diving and fishing locations.

The Bazaruto Archipelago, also known as the Paradise Islands, is located 10 kilometers (6 miles) off the country's coast and was formed from sands deposited by the Limpopo River thousands of years ago. Santa Carolina,

Bazaruto, Ibo, Benguerra, and Magaruque are the most popular islands in the archipelago, boasting clear blue waters, sandy beaches, palm trees, coral reefs, crocodiles, many species of tropical fish, and other tropical wildlife such as the samango monkey. The region was declared a national park in 1970.

### Coastal Features

The expansive coastlines of Mozambique are jagged, with numerous bays and beaches. The coastal areas are ideal for the cultivation of rice, maize, sugar cane, and cashews. The coastal waters are rich in prawns, one of the country's leading exports. Fishermen often frequent the coastlines, as small and large fish are abundant.

Located in the southeast of Mozambique, Tofo (sometimes Tofu) and Barra Beaches are known for their sand dunes, mangroves, and palm groves, as well as for their tropical wildlife, including parrots and monkeys. Wimbi Beach is particularly notable for its coral reefs, a favorite among snorkelers. Its white coral beaches, lined by palm trees, provide an ideal tropical setting. The beaches of Mozambique are well preserved, and wildlife thrives, including humpback whales, turtles, flamingoes, dolphins, and manta rays.

Some notable points along the coast are Timbué Point and Lipobane Point. Cape Delgado is located near the northernmost point of the coast.

## 6 INLAND LAKES

Three lakes in northern Mozambique form part of the border with Malawi: Lake Malawi, Lake Chiuta, and Lake Shirwa.

Navigable Lake Malawi (also known as Lake Nyasa) borders Mozambique and Tanzania. The lake has an incredible 29,600 kilometers (11,400 square miles) of surface

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# MOZAMBIQUE

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AP Photo/Cobus Bodenstein

*A woman works her field on the outskirts of Maputo, Mozambique.*

area, about one-third of which is situated within Mozambique's territory. Its deepest waters, which reach a maximum depth of 706 meters (2,316 feet), are found in this part of the lake.

## **7** 🌐 **RIVERS AND WATERFALLS**

Mozambique is rich in rivers, with twenty-five of them throughout the country. Many of these rivers flow out from the western highlands to the Indian Ocean or to the Mozambique Channel in the east. Water flow tends to fluctuate, owing to the rainy and dry seasons. The rivers overflow between January and March, while they slow to a trickle between June and August.

The longest and most important river is the Zambezi River, with a total length of 2,650 kilometers (1,650 miles). It flows southeast across the heart of Mozambique into the Indian Ocean; historically, this river has been the principal means of transport between inland central Africa and the coast. Its waters make the soil in the land surrounding it some of the most fertile land in the country. From the Maravia Highlands downstream, the valley is low-lying and has a very gentle slope, with an elevation of less than 152 meters (500 feet). Upstream, the river enters a narrow gorge; this constriction prompted the construction of the Cahora Bassa Dam.

The Limpopo River in the south flows through Botswana, Zimbabwe, Mozambique, and South Africa. It is fed mainly by the Changané River and drains the Limpopo Basin. It is susceptible to serious flooding, the effects of which are compounded when cyclones occur in the wet months. Also particularly notable is the Save (or Sabi) River in the center of the country, which, along with the Búzi and Revué Rivers, drains the southern Mozambique Plain. In the northeast draining the Mozambique Plateau are the Lugenda River, the Messalo River, the Lúrio River, and the Ligonha River.

Much of the area around the mouth of the Zambezi and south to the lower reaches of the Pongo River and its tributary, the Mucombeze, is marshy, hindering north-south communications and promoting the spread of disease. Mangrove swamps are common near the coast of the Sophala and Zambezia provinces. These wetlands provide excellent conditions for many marine species, most notably prawns.

## **8** 🌐 **DESERTS**

There are no desert regions in Mozambique.

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# MOZAMBIQUE

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## 9 FLAT AND ROLLING TERRAIN

Low-lying areas close to the major rivers in Mozambique are particularly fertile and support a variety of plants and trees, including lemon, orange, lychee, and mango.

Much of southern and central Mozambique that is inland from the coastline suffers from poor, sandy, infertile soil. Little vegetation other than dry scrubs can be supported on this land.

Approximately two-thirds of the land supports woodland vegetation. Most of Mozambique's forested areas are located along plateaus and contain the *miombo* forest type: dry, deciduous trees of varying heights. The northernmost regions, as well as those surrounding the mouth of the Zambezi River, are the richest in woodland. Tropical forests are also prevalent, with lush vegetation and African game species such as zebras, wildebeests, and even elephants; mangroves, however, are relatively rare and are found near coastal regions.

The area in northeastern Mozambique between the Lúrio and Ligonha Rivers contains some of the most magnificent vertical granite rock faces in all of Africa; consequently, it is a favorite rock-climbing destination. Rolling hills are commonly found east of areas with particularly mountainous terrain. Vegetation is sparse in these savannahs and this land does not support many crops.

## 10 MOUNTAINS AND VOLCANOES

Mountainous regions in Mozambique are found throughout the western end of the country. Most mountain peaks rise from plateau regions, although many mountains are isolated in the landscape. The Great Rift Valley, which starts in Jordan near Syria, terminates in Mozambique near Beira at

Sofala Bay. A wide variety of animal species, including lions, reside in this area.

The country shares with Zimbabwe the Chimanimani Mountain Range, which contains Mozambique's highest peak, Mount Binga (2,436 meters/7,992 feet). Alluvial gold has been extracted from these mountains.

### DID YOU KNOW?

Mozambique lies at the southern end of the Great Rift Valley, which is a massive fault system that stretches over 6,400 kilometers (4,000 miles) from the Jordan Valley in Israel to the middle of Mozambique at about Sofala Bay. In general, the Great Rift Valley ranges in elevation from 395 meters (1,300 feet) below sea level at the Dead Sea to 1,830 meters (6,000 feet) above sea level in south Kenya. The western branch contains the troughs and rivers that have become part of the African Great Lakes system. A large number of volcanoes lie along this rift, which was created by the violent underground collisions between the African Plate (Nubian) to the west and the Eurasian, Arabian, Indian, and Somalian Plates to the east. There are no active volcanoes located in Mozambique, however.

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# MOZAMBIQUE

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## 11 🌐 CANYONS AND CAVES

There are no major canyons or caves in Mozambique.

## 12 🌐 PLATEAUS AND MONOLITHS

There are many plateaus of varying elevations throughout the northwestern portion of Mozambique, which generally increase in elevation as one travels westward. These plateaus help support many farmers, providing land on which to grow cash crops as well as feed for livestock.

The province of Niassa, bordering Lake Malawi in northern Mozambique, is the largest and highest in the country. The Lichinga Plateau, which reaches elevations of up to 1,500 meters (4,920 feet), covers 25 percent of Niassa. The entire province has an average elevation of 700 meters (2,296 feet). The plateau is a heavily wooded savannah, with dry and open woodland areas covered with acacia trees. On the other side of the Lugenda River is the Mozambique Plateau. This plateau is similar to the Lichinga, though lower in elevation. It reaches from the center of the country all the way to the Indian Ocean.

The Angonia and Maravia Highlands, in northwest Mozambique on the Zambia border, are some of the most fertile lands in all of Mozambique. Crops such as peaches, apples, and potatoes are grown in this area.

## 13 🌐 MAN-MADE FEATURES

The Cahora Bassa Dam, the largest hydroelectric power dam in Africa, powers the capital city of Maputo and provides

electricity for parts of South Africa and Zimbabwe as well. The dam is built along the upper part of the Zambezi River and has formed a very large reservoir. During the wet seasons, heavy rains from Zambia and Zimbabwe cause significant water flow along the Zambezi River, so that often the reservoir of the Cahora Bassa begins to swell, threatening the structure of the dam. When this occurs, one or more of the gates of the dam are opened, releasing water downstream that then tends to flood areas along the river. During some particularly dry seasons, however, the water level in the Zambezi River drops so low that parts of the river become impassable.

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# Myanmar

- **Official name:** Union of Myanmar
- **Area:** 678,500 square kilometers (261,969 square miles)
- **Highest point on mainland:** Hkakabo Razi (5,881 meters/19,295 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 6:30 P.M. = noon GMT
- **Longest distances:** 1,931 kilometers (1,200 miles) from north to south; 925 kilometers (575 miles) from east to west
- **Land boundaries:** 5,876 kilometers (3,643 miles) total boundary length; Bangladesh 193 kilometers (120 miles); China 2,185 kilometers (1,355 miles); India 1,463 kilometers (907 miles); Laos 235 kilometers (146 miles); Thailand 1,800 kilometers (1,116 miles)
- **Coastline:** 1,930 kilometers (1,197 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Myanmar is located in Southeast Asia, bordered by India and Bangladesh in the northwest, China in the northeast, Laos in the east, Thailand in the east and southeast, and the Indian Ocean to the south and the west. It is slightly smaller than the state of Texas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Myanmar has no territories or dependencies.

## 3 🌐 CLIMATE

Myanmar has a tropical climate with three seasons: a cool winter from November to February, a hot season in March and April, and a rainy season from May through October, when the southwest monsoon arrives. The average annual temperature is 28°C (82°F). Temperatures can dip below 0°C (32°F) in mountainous areas, and soar as high as 45°C (113°F) on the central plains. Humidity ranges from 66 percent to 83 percent. Most of the country's rainfall occurs during the monsoon. Annual

average rainfall is 508 centimeters (200 inches) along the coast and 76 centimeters (30 inches) for central regions. Frost and snow occur in the high mountains of the north.

## 4 🌐 TOPOGRAPHIC REGIONS

Myanmar, the largest nation of mainland Southeast Asia, has an extraordinary variety of terrain, from glaciers in the north to coral reefs in the south. There are four major topographic areas: mountains in the north and west, the Shan Highlands in the east, the plains of central Myanmar, and the delta and valley regions in the south near the Irrawaddy and Sittang Rivers.

In the late 1980s, the military government changed the name of the country from Burma to Myanmar; the government also changed the names or spellings of many geographic features.

# MYANMAR



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Myanmar's western shores curve along the Bay of Bengal, coming to a point at Cape Negrais. The Irrawaddy delta and the southeastern region's coasts together frame the upper corner of the Andaman Sea, joining at the Gulf of Martaban. All of these bodies of water are parts of the Indian Ocean.

### Sea Inlets and Straits

There are no notable sea inlets or straits off Myanmar.

## Islands and Archipelagos

Offshore, there are many large islands and hundreds of smaller ones. The islands of Myanmar's western coast and delta have been formed by erosion of the shoreline. Just off the northwest coast, the large islands of Ramree (1,350 square kilometers/520 square miles) and Cheduba (523 square kilometers/202 square miles) are part of the Ramri Group. Bilugyun is a large island on the southwest coast. Also in the southwest is an undersea ridgeline that forms the Mergui Archipelago—some nine hundred islands ranging in size from Kadan Island (440 square kilometers/170 square miles) to small rocks.

## Coastal Features

In the northwest of Myanmar, the coast has rocky ridges with deep channels. After Cape Negrais, Myanmar's southern delta coast is formed by silt from the Irrawaddy and other rivers. From the mouth of the Sittang River, the coast stretches to the south, studded with inlets, rocky cliffs, and coral reefs.

## 6 INLAND LAKES

An earthquake likely formed Myanmar's largest lake: Indawgyi, with an area of 116 square kilometers (45 square miles). The second-largest inland lake is the shallow Inle Lake, which covers about 67 square kilometers (26 square miles) on the Shan Plateau. It is the residue of an inland sea that is still shrinking. The lower Chindwin River basin has several crater lakes. Most other lakes and ponds are situated in the courses of former rivers.

## 7 RIVERS AND WATERFALLS

The Irrawaddy (Ayeyarwady) River, which is 2,170 kilometers (1,350 miles) long, is Myanmar's primary drainage system. Rising in the far north of Myanmar, the Irrawaddy flows south across the entire country before entering the sea through a nine-channel delta. It is the



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# MYANMAR

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EPD/Cynthia Bassett

*An Irrawaddy River gorge.*

longest river found entirely within Myanmar. The Irrawaddy's most important tributary is the Chindwin River (960 kilometers/600 miles), which drains the northwest. The Sittang (Sittoung) River (483 kilometers/300 miles) rises just south of Mandalay and parallels the Irrawaddy on its eastern flank. The lower valleys of the Irrawaddy and Sittang Rivers form a vast, low-lying delta area of about 25,900 square kilometers (10,000 square miles) that continually expands into the sea due to silting.

Myanmar's other large river, the Salween (Thanlwin), rises in China and flows south across the Shan Plateau in eastern Myanmar. The Salween covers 1,325 kilometers (823 miles) within Myanmar, in a series of rapids and waterfalls that run through steep, narrow valleys.

In the eastern Shan State the mighty Mekong River (4,200 kilometers/2,600 miles) forms Myanmar's 235-kilometer (146-mile) border with Laos. In the southeast, many short streams run westward to the Andaman Sea, most notably the Tenasserim. There are also a number of small rivers in the southwest, flowing south out of the mountains into the Bay of Bengal.

## **8** 🌐 **DESERTS**

The "dry zone" of north-central Myanmar has seven rainless months each year, during which its rivers go dry and windstorms are frequent.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The vast deltas and flood plains of the Irrawaddy and Sittang Rivers form the heart of Myanmar and provide its most productive



EPD/Cynthia Bassett

*Mount Popa is the site of the annual Festival of the Spirits each spring.*

farmland. Bamboo grows extensively in many parts of the country.

Myanmar used to be rich in rainforests, monsoon forests, and mangrove forests. Now, most of these woodlands are gone due to deforestation. The country's remaining forest cover, now less than 30 percent, is found mostly in the relatively inaccessible mountain areas of the north and northeast. The loss of forest cover in Myanmar not only has threatened animal and plant populations, but also has caused landslides, flooding, and drought.

Steep, craggy limestone hills with many caves are found in the Shan Plateau and in the southeastern part of the country. Elsewhere in Myanmar there are foothill areas leading up to the mountain chains.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

There are many mountain ranges throughout the country. Myanmar's northern mountains, including the Patkai and Kumon ranges, are among the southernmost extensions of the Himalayas. These mountains are very high and rugged; they include Hkakabo Razi at the northernmost tip of the country. At 5,881 meters (19,295 feet), it is the highest peak in the nation.

The mountains run south along the western border with India and Bangladesh. This belt is composed of many ranges, including the Patkai, the Mangin, and the Chin Hills, which continue southward to the extreme southwestern corner of the country. The Arakan (Rakhine) Mountains extend southeastward along the coast. Notable peaks in the west

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# MYANMAR

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include Saramati (3,860 meters/12,663 feet) and Mount Victoria (3,053 meters/10,016 feet). To the southeast of Mount Victoria, almost 2500 kilometers (160 miles) south of Mandalay, lies Mount Popa, a spectacular extinct volcano that rises 1,518 meters (5,009 feet) from the surrounding plains.

The Pegu Yoma (Bago) Mountains are in central Myanmar. In the southeast, the Dawna and Bilaukaung ranges mark the border with Thailand on the Malay Peninsula.

## 11 🌐 CANYONS AND CAVES

The Shan Plateau features deep limestone river gorges. The most notable are the gorge of the Salween (Thanlwin) River and Gokteik Gorge, which is cut by the Namtu River.

## 12 🌐 PLATEAUS AND MONOLITHS

In northeast Myanmar, the Shan Plateau—149,743 square kilometers (57,816 square miles) in area—rises to an average elevation of about 914 meters (3,000 feet). Its western edge is clearly marked by a north-south cliff that often rises 610 meters (2,000 feet) in a single step.

## 13 🌐 MAN-MADE FEATURES

Several artificial lakes and dams can be found throughout the river regions. The largest of the dams is the Thaphanseik Dam in Kyunhla Township, which was completed in 2001.

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# Namibia

- **Official name:** Republic of Namibia
- **Area:** 825,418 square kilometers (318,696 square miles)
- **Highest point on mainland:** Konigstein (2,606 meters/8,550 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 1,498 kilometers (931 miles) from south-southeast to north-northwest; 880 kilometers (547 miles) from east-northeast to west-southwest (excluding the Caprivi Strip)
- **Land boundaries:** 3,824 kilometers (2,376 miles) total boundary length; Angola 1,376 kilometers (855 miles); Botswana 1,360 kilometers (845 miles); South Africa 855 kilometers (531 miles); Zambia 233 kilometers (145 miles)
- **Coastline:** 1,572 kilometers (977 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Namibia is located on the southwest Atlantic coast of Africa, bordering Angola and Zambia to the north, Botswana to the east, and South Africa to the southeast. With a total area of about 825,418 square kilometers (318,696 square miles), the country is slightly more than half the size of Alaska. Namibia is administratively divided into thirteen regions.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Namibia has no outside territories or dependencies.

## 3 🌐 CLIMATE

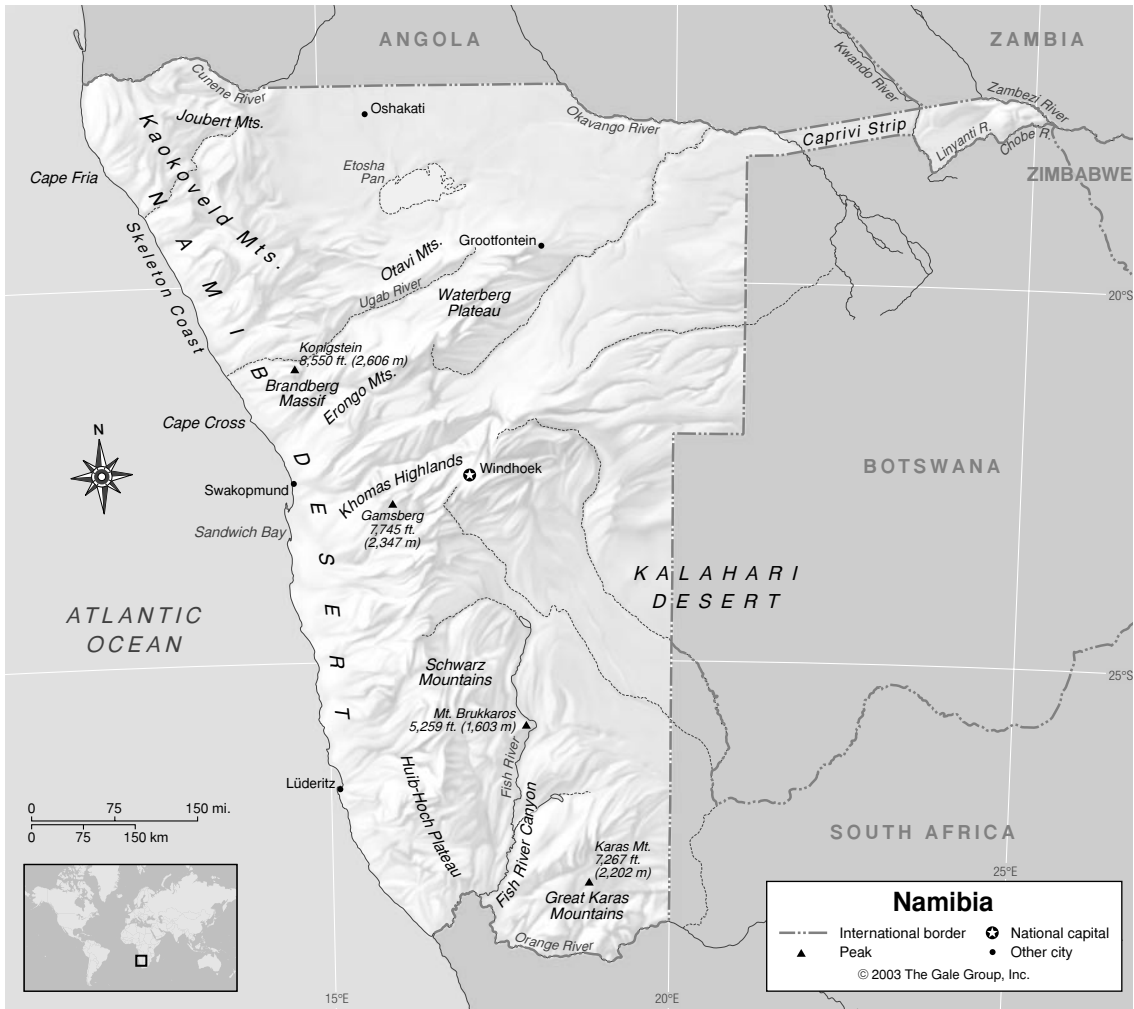
Along the coast, the average temperature ranges from 23°C (73°F) in summer to 13°C (55°F) in winter. Inland, the temperatures may be somewhat higher, except at the higher elevations, where temperatures are lower.

There is little rainfall in Namibia. The rainy season is from November to March, with most of the rainfall occurring from January to March. Rain typically occurs during widely scattered, brief thunderstorms. Average annual rainfall along the Atlantic Coast is less than 5 centimeters (2 inches). About 35 centimeters (14 inches) of rain fall in the central highlands, while 70 centimeters (28 inches) of rain is the yearly average in the northeast. Because of the erratic rainfall, droughts are frequent; some areas of the country may go years without receiving any rain. The country's highest rainfall occurs in the northeast, where there is woodland savannah featuring dense vegetation covering the plains.

## 4 🌐 TOPOGRAPHIC REGIONS

Namibia is primarily a large desert and semi-desert plateau with an average elevation of 1,080 meters (3,543 feet). There are four distinct topographical regions in Namibia: the

# NAMIBIA



coastal Namib Desert, the central plateau, the southeastern Kalahari Desert, and the north-eastern woodland savannah. Extending from the northeast corner of the country is the Caprivi Strip, a narrow panhandle extending between Angola and Zambia on the north and Botswana on the south. Namibia lies on the African Tectonic Plate.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Namibia has a western coastline on the Atlantic Ocean. The cold Benguela ocean current, which

flows from Antarctica north along the west coast of Africa, contributes to the overall climate of Namibia and causes the dense fog that almost always hangs over much of the coast, especially in the north.

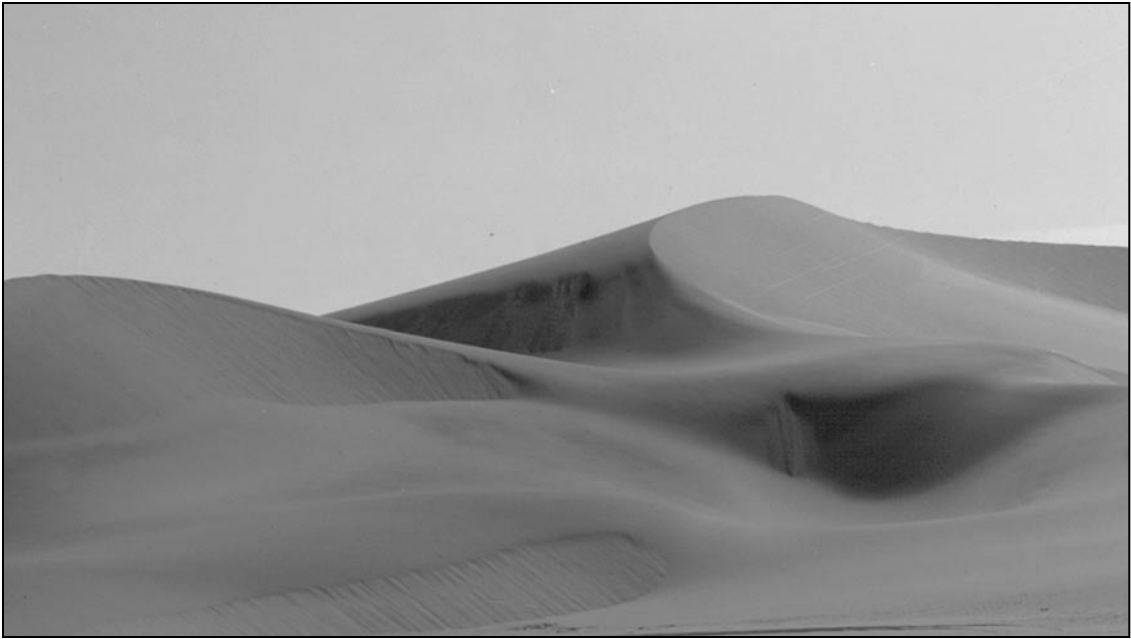
### Sea Inlets and Straits

Sandwich Harbor, the coastal area around Sandwich Bay, is a wetland fed both by salt water flowing with the tides and by fresh water seeping up from aquifers. It attracts a wide variety of wading birds and serves as a breeding ground for marine life.

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# NAMIBIA

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EPD/Cynthia Bassett

*Namibia's Namib Desert has some of the highest sand dunes in the world.*

## Islands and Archipelagos

Namibia has only twelve small, rocky islands off of its coast. The islands are uninhabited except for colonies of penguins and the scientists who are researching them.

## Coastal Features

The 500-kilometer (300-mile) stretch of Atlantic Coast, from roughly the Cunene River on the Angola border to the Ugab River, is known as the Skeleton Coast. Dramatic sand dunes, deep canyons, and mountains line this remote, foggy shore. It marks the extreme western edge of the Namib Desert. The Skeleton Coast got its name from the many shipwrecks that occurred there. A park covering about 16,000 square kilometers (6,200 square miles) is maintained in the area south of Cape Fria.

Just north of the city of Swakopmund is Cape Cross, home to Africa's largest colony of cape fur seals, numbering between one hun-

dred thousand and two hundred thousand. In 1486, the Portuguese explorer Diogo Cao became the first European to visit Namibia; he erected a cross to honor the Portuguese king, and that is how the cape got its name.

Access to the coast south of Lüderitz to the South African border is restricted, since it is an area rich in diamonds.

## 6 🌐 INLAND LAKES

The Etosha Pan in northwestern Namibia is known both as the "Great White Place," because of the appearance of its dry, saline, clay soil, and also as the "Land of Dry Water," because it is a dry lake for much of the year. It has been protected as a nature preserve since 1907. The intermittent Ekuma and Oshigambo Rivers feed the Etosha Pan, periodically creating a large, shallow lake where flamingoes congregate. There are no other major lakes in Namibia.

# NAMIBIA

## DID YOU KNOW?

The elephant herds that roam northwest Namibia dwell in the desert. They seem to have adapted to the dry, sandy conditions by having larger feet and smaller bodies than other elephants. There are only two countries in the world where elephants live in desert conditions: Namibia and Mali. Most elephants inhabit savannah (grassland) or forest regions.

## 7 🌐 RIVERS AND WATERFALLS

The only permanent rivers lie on or near the country's borders. The Cunene River forms the northwestern border with Angola, and the Okavango River forms the northeastern border. The Zambezi River, though one of the longest rivers in Africa with a total length of 2,650 kilometers (1,650 miles), touches Namibia only where it forms the far eastern border of the Caprivi Strip with Zambia. The system of the Kwando, Linyanti, and Chobe Rivers forms the easternmost border between the Caprivi Strip and Botswana. The Orange River forms the southern border with South Africa.

Along the northern border with Angola, the Cunene River courses to the Atlantic Ocean. Two dramatic waterfalls lie on the Cunene. Epupa Falls is actually a series of cascades created by the river dropping almost 60 meters (200 feet) over the short distance of just 1.5 kilometers (1 mile). At full flood stage, the Ruacana Falls swell to 120 meters (400 feet) high and 700 meters (2,300 feet) wide.

During the rainy season (generally from November to March), the intermittent rivers may be filled with water and may even pose flash-flood hazards, while at other times they are dry riverbeds, sometimes dotted with pools filled with fish. Intermittent rivers that flow west to the Atlantic Ocean include the Kuiseb, Swakop, Omaruru, Hoarusib, Hoanib, Ugab, and Khumib. The Nossob, a tributary of the Orange River, flows along the Kalahari Desert into Botswana. Another Orange River tributary, the Fish, flows throughout south-central Namibia. Intermittent rivers that flow north include the Marienfluss, the Omatako, and the Cuvelai, which flows from its source in Angola to the Etosha Pan.

## 8 🌐 DESERTS

The Namib Desert follows the full length of the Atlantic coastline and varies in width from 50 to 140 kilometers (30 to 88 miles). The terrain features dramatic stretches of dunes, dry riverbeds, and deep canyons, sometimes lined with majestic rock formations. From Swakopmund to Lüderitz, some of the highest sand dunes found anywhere in the world extend inland about 70 kilometers (44 miles). Remains of shipwrecks also dot the beach.

The Kalahari Desert lies in the east-central portion of the country and straddles the border with Botswana. The Kalahari features relatively flat expanses of red sand covered in some areas with sparse vegetation.

## 9 🌐 FLAT AND ROLLING TERRAIN

African savannah (grassland) dotted by solitary shrubs and trees are common in vast areas of the country, except for the desert on the western coast.

## 10 🌐 MOUNTAINS AND VOLCANOES

Konigstein, the highest mountain in Namibia, reaches 2,606 meters (8,550 feet). It belongs to a range known as the Brandberg Massif.

In 1917, the White Lady rock painting was discovered in a ravine called Maack's Shelter, which is at the base of the Konigstein. West of the Brandberg rise the Gobobose Mountains, which contain an extinct volcano, the Messum Crater. Just south of the Brandberg Massif, in the region northeast of Swakopmund, are the sharp peaks of Groot Spitzkoppe (1,728 meters/5,702 feet) and Klein Spitzkoppe (1,584 meters/5,227 feet). The Kaokoveld Mountains are located about 60 kilometers (40 miles) north of the Brandberg. They run along the Namib Desert parallel to the coast. At their northern extent they run into the Joubert Mountains. Twyfelfontein is a west-facing mountain slope located in the Kaokoveld Mountains that is covered with more than two thousand rock engravings (where the designs have been chipped into the rock). Some of the carvings date from about 3,300 B.C.

The Khomas Highlands run east to west from Windhoek toward the sea and include the flat-topped Gamsberg (2,347 meters/7,745 feet). In the north-central region there are two mountain ranges: the Erongo Mountains, which are about 150 kilometers (94 miles) from the Brandberg with maximum elevations of about 2,319 meters (7,653 feet), and the Otavi Mountains, which are even further north. Northeast of Windhoek are the Eros Mountains, which reach a maximum elevation of 1,900 meters (6,270 feet).

In the south, there are two main mountain ranges. The Schwarz Mountains run north to south along the western bank of the Fish River. The highest peak of the Schwarz is Mount Brukkaros at 1,603 meters (5,259 feet). The Great Karas Mountains run southwest to northeast across the southeastern corner of the country, beginning to the east of Fish River Canyon. The highest point in this range is Karas Mountain, which reaches an altitude of 2,202 meters (7,267 feet). The country's

## DID YOU KNOW?

Namibia is the first country in the world to include protection of the environment and sustainable utilization of wildlife in its government's constitution. About 15.5 percent of the country's land has been set aside as national parks.

second-highest peak, Von Moltkeblick (2,480 meters/8,184 feet), rises among the Auas Mountains in southeastern Namibia.

### 11 CANYONS AND CAVES

Fish River Canyon lies in the dry, stone-covered plain in south-central Namibia. With an estimated length of 160 kilometers (100 miles), a maximum width of 27 kilometers (17 miles), and a depth of 550 meters (1,815 feet), it is the second-largest natural gorge in Africa.

### 12 PLATEAUS AND MONOLITHS

The central plateau has elevations between 1,000 and 2,000 meters (3,300 and 6,600 feet). The terrain features mountain peaks, rock formations, and broad sweeping plains or savannah. In the northwest, the plateau runs into the Kaokoveld, a remote and desolate area of high elevation, home to many rare species of African animals. Further east toward the center of the country, just south of Grootfontein in an area known as the Kaukouveld, the red sandstone Waterberg Plateau rises about 200 meters (660 feet) above the savannah and extends for more than 50 kilometers (30 miles). It is the centerpiece of a large area that was designated as parkland in 1972 to protect the habitat of rare and endangered species. The southwestern corner of the country sits on the Huib-Hoch Plateau.



# NAMIBIA

North of the Ugab River are two interesting geological features: Burnt Mountain, a hill displaying outcroppings of purple, black, and gray rock; and a dramatic mass of perpendicular volcanic rock called the Organ Pipes.

## 13 MAN-MADE FEATURES

There are at least ten dams built along Namibia's rivers for the sole purpose of containing river and rainwater for drinking and irrigation. These include the Von Boch and Swakopport Dams on the Swakop River, the Hardop Dam on the Fish River, and the Frienenau Dam on the Kuiseb River. Unfortunately, these catchment areas do not always provide an adequate amount of water for the surrounding areas, since the rivers are occasionally dry and much of the rainfall waters can evaporate soon after a rain. Boreholes (a type of well) have been dug in many areas to access underground water sources. Water is then distributed to villages and settlements by pumps. Nearly 73 percent of the country's water supply comes from these boreholes. This water is not always filtered or completely suitable for drinking, however, and lack of rainfall can make even these sources run dry. During drought seasons, village water supplies may be damaged or destroyed by elephants and other animals in search of fresh water.

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## DID YOU KNOW?

Namibia is one of the world's leading producers of gem-quality diamonds. The most significant diamond mine areas are in the southwest and belong jointly to the De Beers Consolidated Diamond Mines and the Namibian government. Under the name Namdeb, they mine about half of the world's diamonds. In the Oranjemund Mine, located on the southern coast of the country, diamond deposits are found under the beachfront soils and under the coastal sea floor.

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# Nauru

- **Official name:** Republic of Nauru
- **Area:** 21 square kilometers (8.1 square miles)
- **Highest point on mainland:** Unnamed central plateau (61 meters/202 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 11:30 P.M. = noon GMT
- **Longest distances:** 5.6 kilometers (3.5 miles) from north-northeast to south-southwest; 4 kilometers (2.5 miles) from west-northwest to east-southeast
- **Land boundaries:** None
- **Coastline:** 30 kilometers (18.6 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Nauru is an oval-shaped island in the western Pacific Ocean, 42 kilometers (26 miles) south of the equator. The closest neighboring land is the island of Banaba, which is part of the country of Kiribati. With a total area of 21 square kilometers (8.1 square miles), Nauru is the smallest nation in Asia, roughly one-tenth the size of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Nauru has no territories or dependencies.

## 3 🌐 CLIMATE

Nauru has a tropical climate that is tempered by sea breezes. The westerly monsoon season occurs from November to February. Temperatures range from 23°C to 32°C (75°F to 91°F). Nauru experiences widely variable rainfall, ranging from 31 centimeters (12 inches) to as much as 457 centimeters (180 inches). Rainfall provides most of the nation's water supply.

## 4 🌐 TOPOGRAPHIC REGIONS

A coastal plain at the perimeter of the island gradually rises to a fertile section no wider

than 275 meters (902 feet). A coral cliff rises from this belt to a central plateau.

## 5 🌐 OCEANS AND SEAS

Nauru is located in the west-central Pacific Ocean.

## Seacoast and Undersea Features

The island is surrounded by a coral reef, which is exposed at low tide and dotted with pinnacles. The reef is bounded seaward by deep water.

## Sea Inlets and Straits

Nauru has a smooth coastline without significant indentations.

## Coastal Features

Beaches line the coral reef that encircles Nauru.

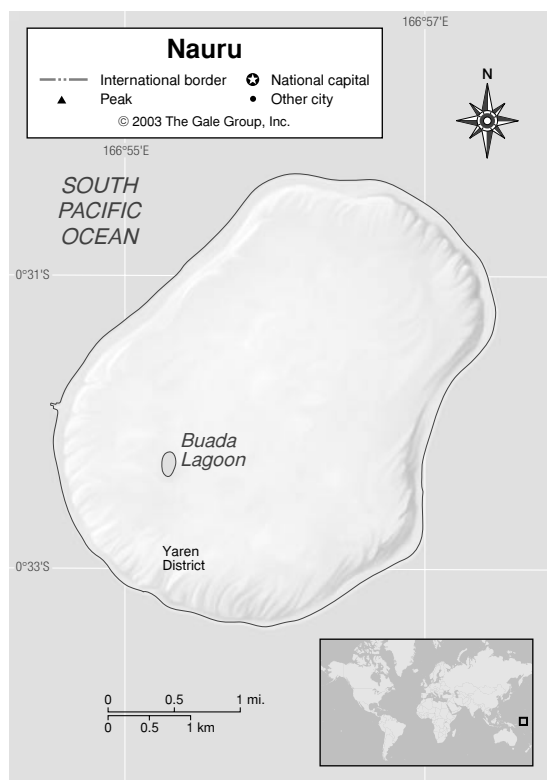
## 6 🌐 INLAND LAKES

The permanent, often brackish Buada Lagoon (Lake Buada) is the only lake of significance on the island.

## 7 🌐 RIVERS AND WATERFALLS

Nauru has no rivers.

# NAURU



## DID YOU KNOW?

**N**auru and the other fifteen low-lying countries of the Pacific Islands Forum face the environmental crisis of rising sea levels due to global warming. The consequences of climate change include destruction of freshwater sources, more intense storms, loss of crops to seawater, and coastal erosion.

### 8 🌐 DESERTS

There are no deserts on Nauru.

### 9 🌐 FLAT AND ROLLING TERRAIN

Nauru's coastal strip consists of sandy beaches fringed by palm trees.

### 10 🌐 MOUNTAINS AND VOLCANOES

There are no mountains on Nauru.

### 11 🌐 CANYONS AND CAVES

Nauru's coral reefs include a large underwater grotto known as the Cave. A popular spot for divers, the Cave is some 30 meters (98 feet) below sea level.

### 12 🌐 PLATEAUS AND MONOLITHS

A central plateau of phosphate-bearing rock comprises four-fifths of Nauru's landmass,

making the nation one of the largest phosphate-rock islands in the Pacific.

### 13 🌐 MAN-MADE FEATURES

The landscape does not include any prominent man-made features.

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# Nepal

- **Official name:** Kingdom of Nepal
- **Area:** 140,800 square kilometers (54,363 square miles)
- **Highest point on mainland:** Mount Everest (8,850 meters/29,035 feet)
- **Lowest point on land:** Kanchan Kalan (70 meters/230 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 5:45 P.M. = noon GMT
- **Longest distances:** 885 kilometers (550 miles) from southeast to northwest; 201 kilometers (125 miles) from northeast to southwest
- **Land boundaries:** 2,926 kilometers (1,818 miles) total boundary length; China 1,236 kilometers (768 miles); India 1,690 kilometers (1,050 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Nepal is a mountainous, landlocked South Asian country situated on the southern slopes of the Himalayas between China's Tibet region to the north and India to the south. Nepal has a total area of 140,800 square kilometers (54,363 square miles), or slightly more than the state of Arkansas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Nepal has no territories or dependencies.

## 3 🌐 CLIMATE

Nepal has four seasons: Winter from December through February is cold and clear, with some snow; spring from March through May is warm, with some rain showers; summer from June through August is the season of the monsoon rains; and autumn from September through November is cool and clear. Nepal's climate also varies by elevation. Above 4,877 meters (16,000 feet), the temperature stays below freezing, and there is permanent snow and ice. The average January temperature in the Kathmandu Valley ranges from 2°C to 18°C (36° to 64°F); in July, it warms to 20°C

to 29°C (68°F to 84°F). In the Tarai the annual temperatures range from 7°C to 40°C (44°F to 104°F). Roughly 80 percent of Nepal's precipitation happens during the summer monsoon season. Annual rainfall in the Kathmandu Valley averages 130 centimeters (51 inches), from as little as 25 centimeters (10 inches) to as much as 600 centimeters (236 inches).

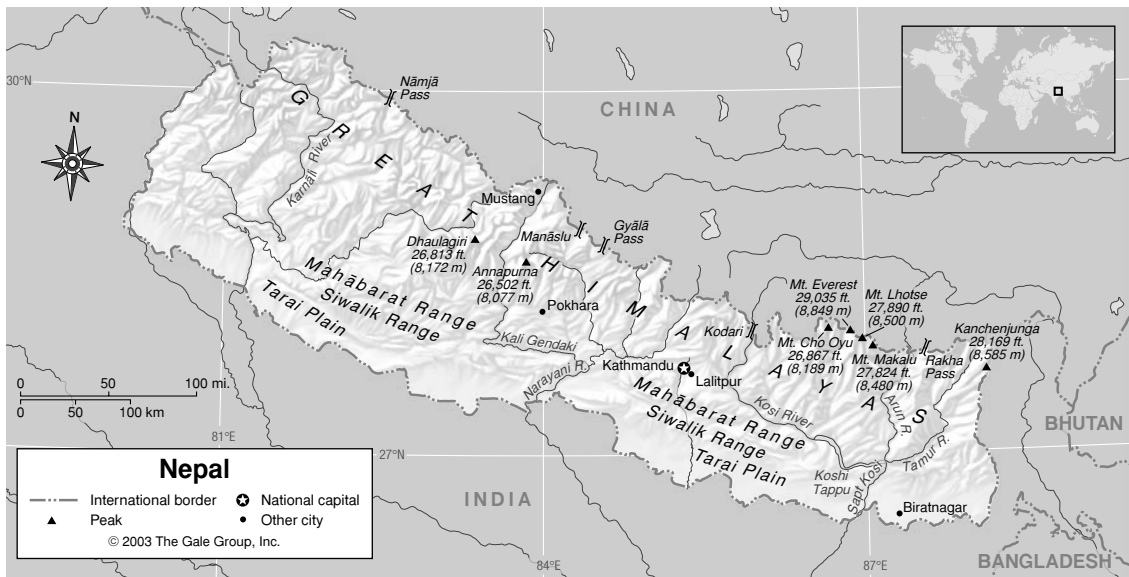
## 4 🌐 TOPOGRAPHIC REGIONS

Nepal can be divided into three distinct geographic regions, each of which forms an east-west horizontal band across the rectangle-shaped country: the Mountain Region, which constitutes almost three-fourths of the total area; the central hill area, which includes the Kathmandu Valley; and the Tarai, a narrow, flat belt that extends along the boundary with India in the northern part of the Gangetic Plain.

## 5 🌐 OCEANS AND SEAS

Nepal is a landlocked country. The nearest sea access is 644 kilometers (400 miles) to the southeast on the Indian Ocean's Bay of Bengal.

# NEPAL



## 6 🌐 INLAND LAKES

Rara Lake is Nepal's largest body of water, with an area of approximately 11 square kilometers (4 square miles). It is located at an elevation of 2,990 meters (9,600 feet) in the remote northwest of the country. The world's highest lake, Tilicho, is located in eastern Nepal, at an elevation of 4,919 meters (16,140 feet). A 1999 survey found 2,323 glacial lakes in Nepal.

## 7 🌐 RIVERS AND WATERFALLS

Numerous streams and rivers flow generally southward out of Nepal's northern mountains, then meander across the Tarai Plain and finally join the Ganges in northern India. Three separate river systems, each having its headwaters on the Tibetan plateau, drain almost all of Nepal. The Kosi River drains the Eastern Mountains; the Narayani, the Western Mountains; and the Karnali, the Far Western Mountains. The Narayani's Kali Gandaki tributary flows between the region's highest peaks, Dhaulagiri and Annapurna. The Kosi River has seven major tributaries; the principal one, the Arun, rises almost 160

kilometers (100 miles) inside the Tibetan plateau. The Karnali River is noted for its deep gorges and rapid current.

## 8 🌐 DESERTS

There are no deserts in Nepal.

## 9 🌐 FLAT AND ROLLING TERRAIN

The Tarai region, with a total area of 23,220 square kilometers (8,969 square miles), consists mainly of an alluvial plain along the boundary with India. A northern extension of the Gangetic Plain, the Tarai varies between 46 and 183 meters (150 and 600 feet) in altitude and between 8 and 88 kilometers (5 and 55 miles) in width.

Nepal's central hill region is north of the Tarai, and south of the Great Himalayas; its hills are called the Pahar complex. At 600 to 4,000 meters (1,968 to 13,123 feet), these two ranges of hills, the Siwalik and the Mahabharat, exceed the heights of mountains in many other countries. Siwalik range (sometimes called the Churia Hills or Churia range), on the northern edge of the Tarai, rises

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# NEPAL

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EPD/Cynthia Bassett

*The world's highest mountain peak, Mount Everest, lies on the border between Nepal and China.*

to nearly 1,524 meters (5,000 feet). The narrow Mahabharat range parallels the Siwalik some 32 kilometers (20 miles) to the north; summits in the Mahabharat reach elevations above 3,048 meters (10,000 feet). The hill region also includes the populous Kathmandu Valley, just south of the junction between the Eastern and Western Mountains. This circular basin of only 565 square kilometers (218 square miles) contains some of Nepal's largest cities, including the nation's capital, Kathmandu.

Wetlands are estimated to cover about 5 percent of Nepal. Nepal has four wetlands of particular importance. Koshi Tappu, covering 175 square kilometers (68 square miles) of the Tarai, is a nature reserve on the flood plain of the Sapta Kosi River. A mixture of marshes, mud flats, and reed beds, it provides a habitat for water birds as well as

the last wild herds of water buffalo in Nepal. Three other wetlands designated as significant by Nepal's government are Ghodaghodi Tal, Beeshazar Tal, and the Jagdishpur Reservoir. All three are biodiverse habitats for birds, fish, and reptiles.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The complex mountain mass within Nepal's borders contains seven of the world's ten highest peaks. Six of them are more than 7,924 meters (26,000 feet) above sea level. Nepal's Mountain Region is part of the Himalayas, formed by the collision of the Indian subcontinent with the Asian landmass around twenty-five million years ago. The Great Himalayas are in the north. In northeastern Nepal, the Great Himalayas generally define the country's boundary with Tibet; in the northwest, they lie just to the south of the boundary. South of

## DID YOU KNOW?

The wild yak, still found in the mountains of Nepal, can survive at higher altitudes than any other mammal. Thanks to their large lung capacity, they can exist at altitudes of up to 6,096 meters (20,000 feet); however, this endangered species has difficulty surviving below 3,048 meters (10,000 feet).

the Great Himalayas are the Lesser Himalayas, which in Nepal form the Mahabharat range. South of this system is the Siwalik range, part of the Outer Himalayas. Much lower than the Great Himalayas, the Mahabharat and the Siwalik belong to Nepal's Hill Region, although in most other countries they would be considered mountains.

Nepal's Mountain Region may be subdivided into three areas by two lines, one running generally northward from Kathmandu and the other about 241 kilometers (150 miles) to the west, extending northward from the foothills near the boundary with India. From east to west, these subdivisions are designated the Eastern Mountains, the Western Mountains and the Far Western Mountains. The whole Mountain Region is marked by a series of parallel north-south ridges flanking deep, narrow, southward-sloping valleys.

The Eastern Mountains contain five of the seven highest peaks in the world. The most famous of these is the world's highest summit, Mount Everest (Sagarmatha in Nepalese), at 8,850 meters (29,035 feet). It is located on the border with China. The world's third-tallest mountain, Kanchenjunga

(8,585 meters/28,169 feet), towers along Nepal's eastern border with India. Among the tallest remaining peaks are Mount Lhotse (8,500 meters/27,890 feet); Mount Makalu (8,480 meters/27,824 feet); and Mount Cho Oyu (8,189 meters/26,867 feet).

The Western Mountains hold a jumble of ridges and deep valleys projecting at various angles from the main Himalayan range. Two mountains dominate the area: Dhaulagiri (8,172 meters/26,813 feet) and Annapurna at (8,077 meters/26,502 feet). The Far Western Mountain area is the driest and most sparsely inhabited section of the Mountain Region. Its scattered settlements are generally confined to its river valleys. Three passes in this area lead into Tibet.

## 11 CANYONS AND CAVES

Nepal has numerous deep canyons and river gorges. The world's deepest river gorge is said to be Kali Gandak (6,967 meters/22,860 feet deep), situated between the peaks of Dhaulagiri and Annapurna in north-central Nepal. The high-altitude valley of Mustang, north of the Himalayas, contains many dry, eroded canyons. Nepal's rivers carve mazes of canyons into the terrain, especially along the courses of the Bhote Koshi and the Karnali.

## 12 PLATEAUS AND MONOLITHS

Dolpo is a 5,439-square-kilometer (2,100-square-mile) plateau bordering Tibet in Nepal's northwest. It includes Shey-Phoksumdo National Park, which is a habitat for the rare snow leopard. In the far west, the Khaptad Plateau, which rises to 3,000 meters (9,842 feet), is a national park with grasslands and forests.

## 13 MAN-MADE FEATURES

Several large hydropower dams, intended to provide energy to India as well as to Nepal, have been built on Nepal's rivers and even more have been proposed, causing environ-

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## NEPAL

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mental controversies. The Karnali-Chisapani Bridge, which links western Nepal with a major east-west highway, is considered one of the most sophisticated engineering projects completed on the Asian continent.

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# The Netherlands

- **Official name:** Kingdom of the Netherlands
- **Area:** 41,526 square kilometers (16,033 square miles)
- **Highest point on mainland:** Vaalsberg (321 meters/1,053 feet)
- **Lowest point on land:** Prins Alexanderpolder (7 meters/23 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 312 kilometers (194 miles) from north to south; 264 kilometers (164 miles) from east to west
- **Land boundaries:** 1,027 kilometers (638 miles) total boundary length; Germany 577 kilometers (359 miles); Belgium 450 kilometers (280 miles)
- **Coastline:** 451 kilometers (280 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The Netherlands (formerly also known as Holland) is located in Western Europe between Belgium and Germany, bordering the North Sea. With an area of about 41,526 square kilometers (16,033 square miles), the country is slightly less than twice the size of the state of New Jersey. The Netherlands is divided into twelve provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The two island groups of the Netherlands Antilles and the island of Aruba are dependencies of the Netherlands. All of these islands are located in the Caribbean Sea. Aruba and the Antilles islands of Curaçao and Bonaire are located just north of Venezuela. The other group of Antilles islands—Saba, Sint, Eustatius, and Sint Maarten (the Dutch portion of Saint Martin)—are located farther north, east of the Virgin Islands.

## 3 🌐 CLIMATE

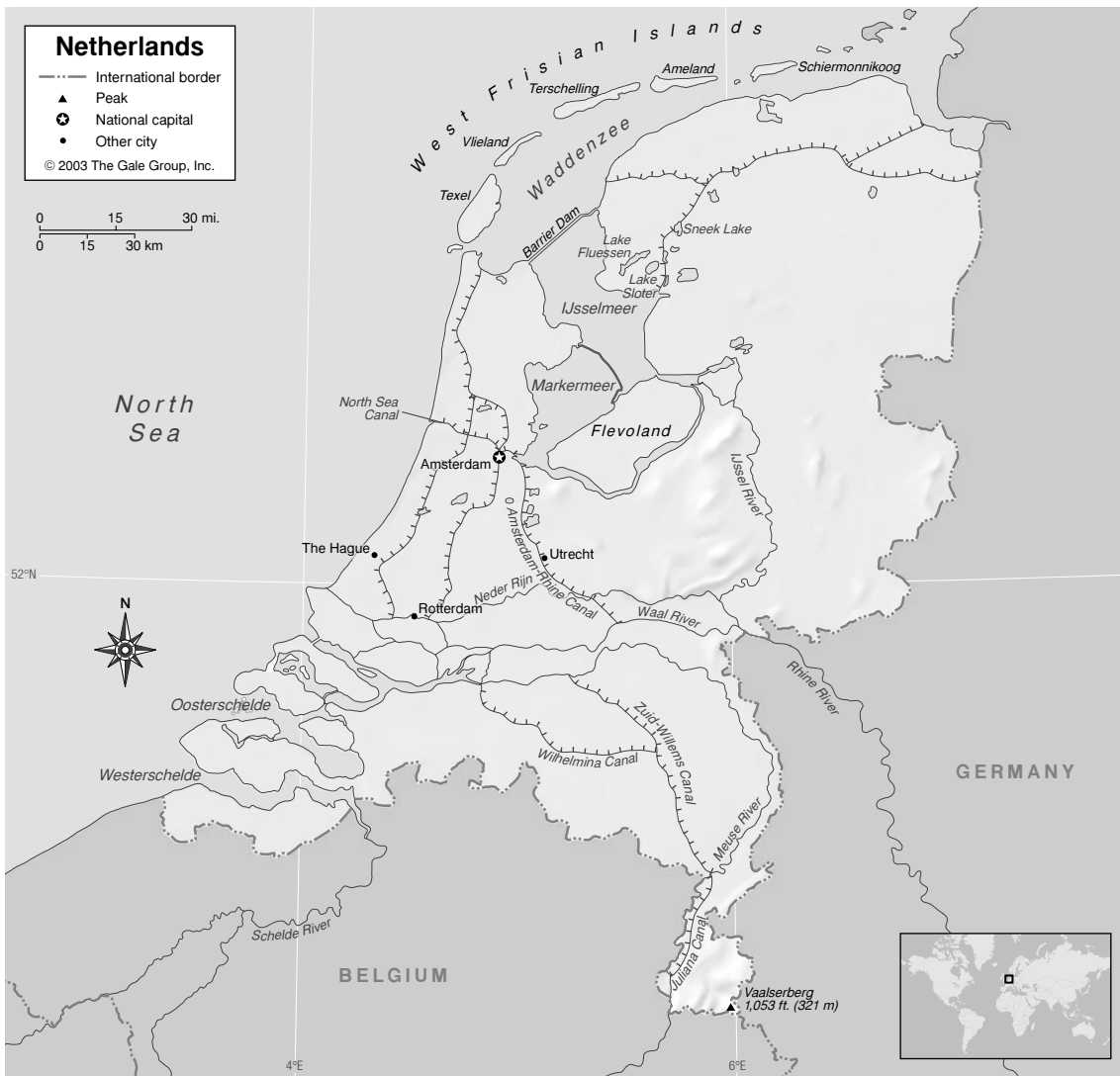
The Netherlands shares the temperate maritime climate common in much of northern

and western Europe. The average temperature ranges from 1°C to 5°C (34°F to 41°F) in January and from 13°C to 22°C (55°F to 72°F) in July. Because the Netherlands has few natural barriers, such as high mountains, the climate varies little from region to region. Annual precipitation averages 76 centimeters (30 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

The Netherlands may be divided into two main regions, one comprising areas below sea level, called the Low Netherlands, and the other including land above sea level, called the High Netherlands. These classifications are based not only on differences in elevation, but also on differences in geological formation. The High Netherlands was formed mainly in the Pleistocene Age (which began about two million years ago and ended about ten thousand years ago) and is composed chiefly of sand and gravel. The Low Netherlands is relatively younger, having been formed in the Holocene Age (fewer than ten thousand years ago), and consists mainly of clay and peat. There are other differences as well. The High Netherlands is

# THE NETHERLANDS



undulating and even hilly in places, with farms alternating with woodland and heath. The Low Netherlands is predominantly flat, and is intersected by natural and artificial waterways. Dunes and dikes protect the Low Netherlands against flooding. The western and northern regions of the country consist of about five thousand *polders* (plots of land reclaimed from the sea), which cover over 2,500 square kilometers (950 square miles).

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Netherlands has a western border on the North Sea, which is an arm of the Atlantic Ocean that separates Great Britain from northwest Europe.

### Sea Inlets and Straits

The Waddenzee is a shallow body of water that stretches along the northern coast of the

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# THE NETHERLANDS

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Susan D. Rock

*The Zaans Museum, a recreated traditional Netherlands village, features windmills.*

country. It is separated from the North Sea by the West Frisian Islands and is protected as a popular nesting area for birds.

In the delta region at the southern coast, there are two major inlets: the Westerschelde and Oosterschelde.

## Islands and Archipelagos

The West Frisian Islands were formed when the North Sea broke through a series of dunes along the Netherlands' ancient northern coastline. The area behind the dunes became the Waddenzee, while the tallest of the dunes remained intact, becoming the islands. From west to east, the largest of these islands are Texel, Vlieland, Terschelling, Ameland, and Schiermonnikoog. Vlieland Island is the site of a national park.

## Coastal Features

The North Sea coastline of the Netherlands consists mostly of dunes. The low-lying sandy dunes of the northwestern coastline were created by the action of wind and water. In some areas, they are nearly 30 meters (100 feet) high.

Further south, the major rivers flow into the North Sea and form the delta region. This area is characterized by islands connected by dikes or dams, and waterways connected by canals.

## 6 🌐 INLAND LAKES

There are many small lakes located in the northern and western portions of the Netherlands. In the northeast, more than thirty lakes are interconnected by canals. Some of the largest of these are Lake Fluessen, Lake Sloter, and Sneek Lake. Southwest

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## THE NETHERLANDS

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### DID YOU KNOW?

The Netherlands was once famous for its windmills. Though these structures once covered the countryside, now there are many fewer operational windmills than before the invention of steam engines and other, more powerful, sources of energy.

of these is the nation's largest lake, IJsselmeer, a freshwater lake that was formed by the construction of the Afsluitdijk Barrier (completed in 1932). Prior to construction of the dam, this body of water was a shallow, salty arm of the North Sea known as the Zuider Zee. It now covers an area of about 1,210 square kilometers (467 square miles). South of the IJsselmeer is Marker Lake (Markermeer), another freshwater lake enclosed by a dam.

### 7 🌐 RIVERS AND WATERFALLS

The Rhine (Rheine) River and the Meuse (Maas) River dominate the western and central part of the country. The Rhine is considered to be the nation's longest river. With a total length of 1,319 kilometers (820 miles), the river is formed by the confluence of two tributaries in eastern Switzerland; it then flows north and northwest through Germany before reaching the Netherlands. Inside the Netherlands, it branches out into two major arms: the Neder Rijn (called Lek in its lower course) and the Waal. They flow west, roughly parallel to each other and never farther apart than about 30 kilometers (19 miles). Both branches have many tributaries entering and leaving them before they reach the North Sea.

The Meuse River is the largest tributary of the Rhine in the Netherlands. It enters the country in the far southeast and flows north

to the middle of the country before curving to the west. In this part of its course it is only a few miles south of the Waal; eventually, the two rivers meet and flow into the North Sea.

The IJssel River is a major branch of the Neder Rijn. It branches off from the Neder Rijn shortly after that river's beginning. The IJssel flows north, receives a number of small tributaries, and then empties into Lake IJsselmeer.

The Schelde (Scheldt or Escaut) River enters the Netherlands from Belgium in the southwest. It almost immediately widens into a broad estuary and flows into the North Sea.

### 8 🌐 DESERTS

There are no desert regions in the Netherlands.

### 9 🌐 FLAT AND ROLLING TERRAIN

The western and northern regions of the country consist of polders (land reclaimed from the sea), where the water level is mechanically controlled to stay about 1 meter (3 feet) below ground level, thus permitting cultivation. There are also polders that were reclaimed by earthen dikes in the late nineteenth century. The soil of these polders is marshy and too wet to be used for cultivation, but it may be used for grazing livestock. Polders do not necessarily lie below sea level, although most of them do. For example, the IJsselmeer polders are 3.5 meters (11.5 feet) below sea level, polders created by draining lakes can lie as much as 6.7 meters (22 feet) below sea level. In areas of young marine clay and along the rivers, many polders lie above the average sea level; consequently, it is not always necessary to pump the water out. Almost half of the land area of the Netherlands is made up of polders.

The highest point is Vaalserberg (321 meters/1,053 feet) in the hills of the South Limburg Plateau on the German border. Low hills created as the result of ancient glacial activity can be found in the eastern part of the

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# THE NETHERLANDS

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country. These reach elevations of only about 100 meters (328 feet).

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no significant mountain ranges in the Netherlands.

## 11 🌐 CANYONS AND CAVES

Near the city of Maastricht, the Caves of Mount St. Pieter were created by the excavation of marl, a stone used for building. The caves are connected through a labyrinth of over twenty thousand passageways. During World War I (1914–18) and World War II (1939–45), military personnel and civilians used the caves as emergency shelters and escape routes.

There are nearly 180 inactive limestone quarry mines scattered throughout the southern Limburg province. In the past, the fine-grained limestone has been used as a main ingredient in mortar, white paint, and chalk.

## 12 🌐 PLATEAUS AND MONOLITHS

The South Limburg Plateau is the only part of the country not classified as lowland. The hills, some of which rise to over 300 meters (1,000 feet), comprise the foothills of the Central European Plateau. This is also virtually the only area of the country where rocks can be found at or near surface levels.

## 13 🌐 MAN-MADE FEATURES

The Netherlands is famous for its vast system of dams and dikes, some of which date back many centuries. They were constructed to reclaim large swaths of land from the sea and stabilize the coastlines. Two of the most impressive are the Afsluitdijk and the Oosterschelde.

The Afsluitdijk is the largest and most famous dike in the Netherlands. It is a closure dike that connects the province of North Holland with Friesland. Construction of the 32-kilometer-long (20-mile-long) system

separated the Waddenzee from the newly created lake of IJsselmeer.

The Oosterschelde Dam serves as a barrier that crosses the Oosterschelde inlet on the southern coast. The dam is 3 kilometers (2 miles) long and contains sixty-five pillars supporting sixty-two iron floodgates.

The Netherlands has an extensive system of canals that run throughout almost the entire country. The North Sea Canal connects Amsterdam and Marker Lake to the North Sea. The Amsterdam-Rhine River Canal is just one of several waterways that connect the city and that river. A network of canals—including the Wilhelmina, Zuid-Willems, and Juliana Canals—connects the southern part of the country to the Rhine River and to other canals in Belgium. In addition, many of the Netherlands's natural rivers, including all of its largest rivers, have had their shores reinforced (canalized) to prevent them from flooding or from shifting their courses.

## 14 🌐 FURTHER READING

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# New Zealand

- **Official name:** New Zealand
- **Area:** 268,680 square kilometers (103,737 square miles)
- **Highest point on mainland:** Mount Cook (3,764 meters/12,349 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 12 midnight = noon GMT
- **Longest distances:** 1,600 kilometers (994 miles) from north-northeast to south-southwest; 450 kilometers (280 miles) from east-southeast to west-northwest
- **Land boundaries:** None
- **Coastline:** 15,134 kilometers (9,404 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

New Zealand lies in the southwestern Pacific Ocean and consists of two main islands and a number of smaller ones. The main North and South Islands, separated by the Cook Strait, lie on an axis running from northeast to southwest, except for the low-lying Northland Peninsula on the North Island. With a total area of 268,680 square kilometers (103,737 square miles), New Zealand is roughly the size of the state of Colorado.

## 2 🌐 TERRITORIES AND DEPENDENCIES

New Zealand has three island dependencies in the Pacific Ocean.

The Cook Islands are located roughly halfway between New Zealand and Hawaii, in the middle of the South Pacific. The islands have local self-government but voluntarily rely on New Zealand to represent their interests in foreign affairs and defense. The Cook Islands consist of two island chains: seven low-lying coral atolls in the north, and eight larger and more elevated volcanic islands in the south.

Niue Island, which extends over more than 263 square kilometers (102 square miles), is one of the world's largest coral islands. Located east of the Cook Islands, Niue also governs itself in local affairs but depends on New Zealand in international matters.

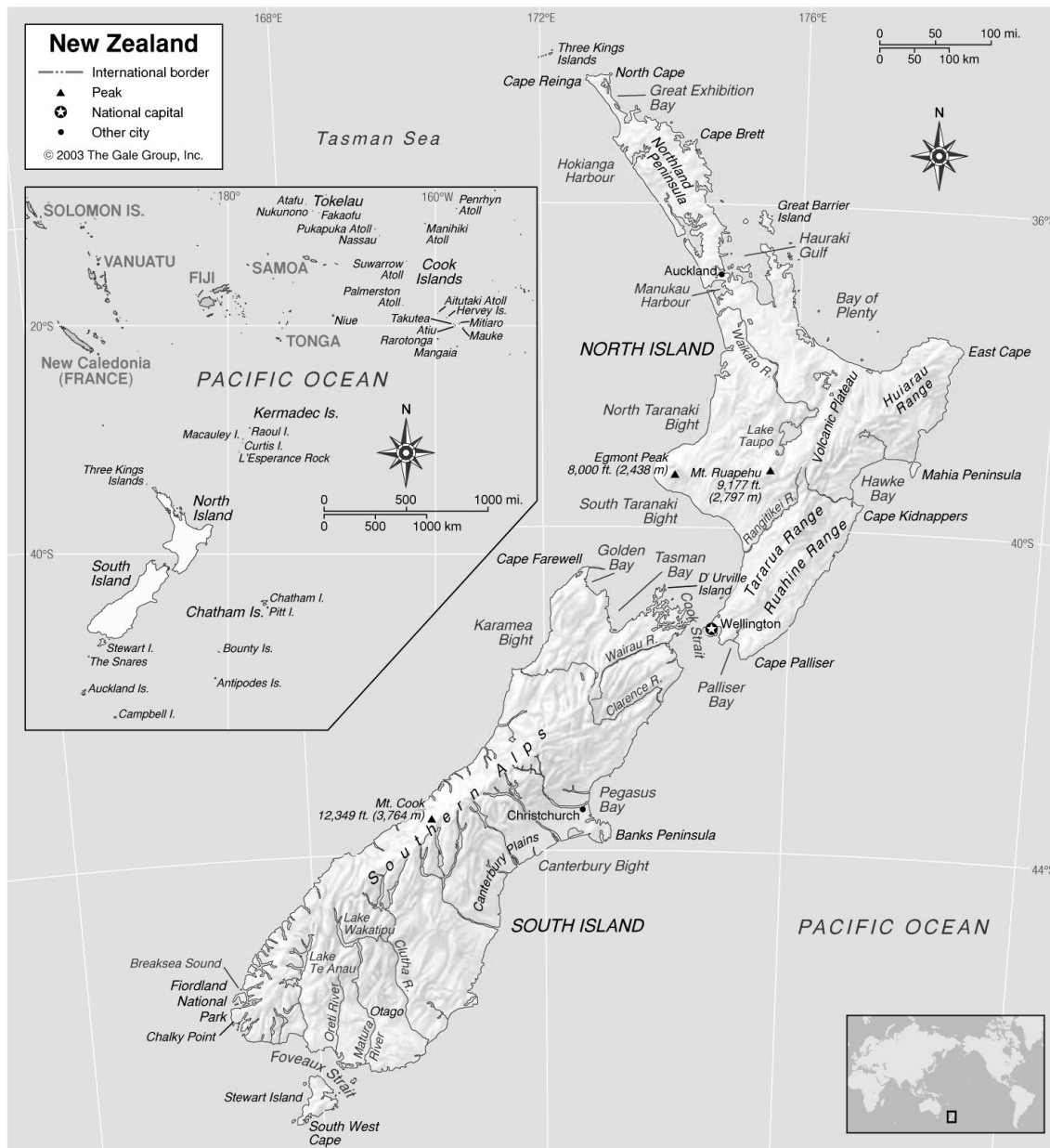
Tokelau, another territory of New Zealand, is an island chain in the middle of the South Pacific northwest of the Cook Islands. It consists of three small coral atolls and surrounding islets.

Besides these three Pacific island groups, New Zealand also claims land in Antarctica in and near the Ross Sea.

## 3 🌐 CLIMATE

New Zealand has a mild oceanic climate with little seasonal variation. Mean annual temperatures range from about 11°C (52°F) in the southern part of South Island to 15°C (59°F) in Northland, the northernmost part of the North Island. Daytime high temperatures in summer generally vary from 21°C to 27°C (70° to 81°F); winter highs are usually at least 10°C (50°F). Temperatures rarely extend beyond the extremes of -10°C (14°F) and 35°C

# NEW ZEALAND



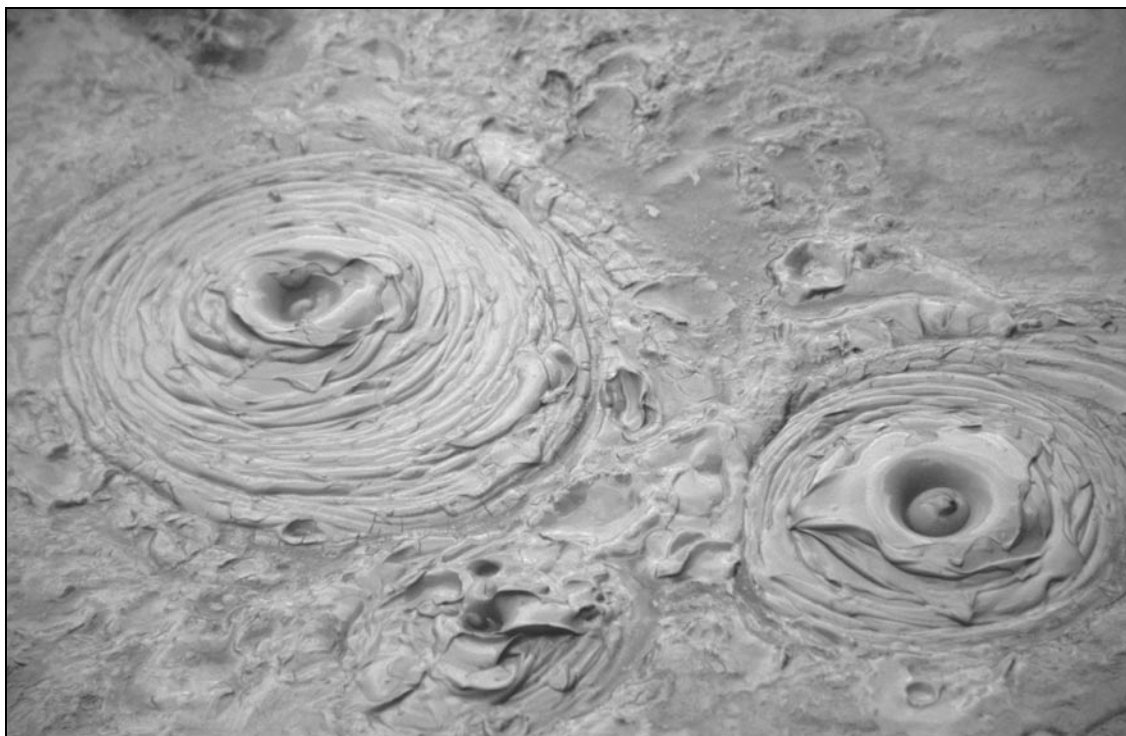
(95°F). Due to prevailing westerly and north-westerly winds, the western mountain slopes of both islands receive the heaviest rainfall. Average annual rainfall for the country as a whole ranges from 64 to 152 centimeters (25 to 60 inches). Precipitation amounts vary widely,

however; on South Island, for example, central Otago Harbour receives as little as 30 centimeters (12 inches) per year, while southwestern Fiordland can get as much as 800 centimeters (315 inches).

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# NEW ZEALAND

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EPD/Wilko Gijbertsen

*New Zealand's Volcanic Plateau has hot springs and bubbling mud pools.*

## 4 🌐 TOPOGRAPHIC REGIONS

New Zealand is very mountainous; more than 75 percent of its land exceeds an altitude of 200 meters (656 feet). The South Island covers an area of 149,883 square kilometers (57,870 square miles). Its major regions are the Canterbury Plains to the east; the central mountain highlands, which cover much of the island; and a narrow western coast. The North Island, which spans an area of 114,669 square kilometers (44,274 square miles), is characterized by hill country. The mountain highland here is narrow and lies to the east. North and west of the Kaimanawa Mountains is a volcanic plateau. There is little coastal lowland; even in Taranaki, where it is widest, Mount Egmont (also called Mount Taranaki) rises well over 2,438 meters (8,000 feet). The narrow northern peninsular section of the North Island is

mostly low-lying, though its surface is broken and irregular in many places.

## 5 🌐 OCEANS AND SEAS

New Zealand lies in the South Pacific Ocean to the southeast of Australia, across the Tasman Sea. At the Tamaki Isthmus on the North Island, these two bodies of water are separated by only 2 to 3 kilometers (1 to 2 miles) of land.

### Sea Inlets and Straits

The North and South Islands are separated by the Cook Strait, which is 26 to 145 kilometers (16 to 90 miles) wide. The Foveaux Strait lies between the South Island and Stewart Island to the southeast. The North Island's bays include North and South Taranaki Bights to the west, Palliser Bay to the south, the wide Hawke Bay to the east, and the even wider Bay of Plenty to the northeast. The



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# NEW ZEALAND

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## DID YOU KNOW?

New Zealand has several species of flightless birds, of which the most famous is the kiwi, the national emblem. These birds were able to evolve and survive on the islands because the environment lacked predators.

South Island's major bays include Golden Bay and Tasman Bay in the north, Karamea Bight at the northern end of the west coast, and Canterbury Bight and Pegasus Bay to the east.

### Islands and Archipelagos

New Zealand's largest island, aside from its two primary landmasses, is Stewart Island to the southeast, which covers an area of 1,746 square kilometers (674 square miles). Other islands include the Chatham Islands (963 square kilometers/372 square miles) to the east and several other mostly uninhabited outlying islands, including the Auckland Islands (567 square kilometers/219 square miles).

### Coastal Features

North Island has a more heavily indented coastline than South Island. The long arm of land that juts out to the northwest has so deep an indentation at its midsection that the land mass narrows to a width of only 2 or 3 kilometers (1 or 2 miles) at Auckland. The east coast and northern tip of Northland have multiple bays and harbors, while the west coast is almost completely smooth. The northern and southern ends of the South Island have numerous indentations, while the long eastern and western coastlines are smoother. In the east, the Banks Peninsula juts out somewhat less than halfway

down the coast. The coast of Fiordland to the southeast is broken up into numerous sounds and inlets. The northernmost part of North Island has many sand dunes.

### 6 INLAND LAKES

New Zealand has many lakes. Those in the South Island are particularly noted for their magnificent scenery. The country's largest natural lake is Lake Taupo on the North Island, followed by Lakes Te Anau and Wakatipu on the South Island.

### 7 RIVERS AND WATERFALLS

The rivers are shallow and swift, and only a few are navigable. The longest river is the Waikato (425 kilometers/264 miles), which flows north-westward across the North Island and empties into the Tasman Sea, as do the Wanganui and Rangitikei. Rivers that flow into the Pacific from the South Island include the Clutha, the Taieri, and the Clarence; the Mataura, Wairau, and Oreti flow from the South Island into the Foveaux Strait. The Clutha is the South Island's longest river, and its volume is the greatest of any river in the country.

### 8 DESERTS

There are no deserts in New Zealand.

### 9 FLAT AND ROLLING TERRAIN

Much of the land surrounding the mountain ranges and the Volcanic Plateau on North Island is hilly. North of Hawke Bay in the east, deeply corrugated embankments flank the mountain ranges. On the South Island, broken mounds dot the central section of the narrow coastal strip.

The Canterbury Plains on the east coast of South Island are New Zealand's largest plains area, stretching 320 kilometers (200 miles) in length and reaching widths of 64 kilometers (40 miles). The North Island has coastal plains bordering the Bay of Plenty and Hawke



EPD/Wilko Gijbsbertsen

*Fox Glacier is one of several glaciers covering parts of New Zealand's South Island.*

Bay in the Taranaki region to the west, the Manawatu-Wanganui area south of the Volcanic Plateau, and the Waikato, Auckland, and Northland regions to the north.

The terrain of Northland, the northernmost part of the North Island, includes peat bogs and swamplands.

### **10** **MOUNTAINS AND VOLCANOES**

Three-fourths of New Zealand is mountainous. Of the two main islands, South Island is by far the most rugged. A massive mountain chain called the Southern Alps runs the entire length of the island—some 483 kilometers (300 miles)—and outlying ranges extend to the north and the southwest. This range includes New Zealand's highest peak, Mount Cook (3,764 meters/12,349 feet), as well as about 350 glaciers, the largest of which is the Tasman Glacier (29 kilometers/18

miles long). There are at least 223 named peaks that are higher than 2,300 meters (7,546 feet) on the South Island. In contrast, the highest peak on the North Island, Ruapehu, reaches an elevation of only 2,797 meters (9,177 feet). The southernmost section of the South Island mountain system is Fiordland, at the island's southwestern edge. It is named for its deep, canyon-like valleys that are watered at the coast by saltwater fjords and inland by freshwater lakes.

The mountains of the North Island are a continuation of the South Island system. The Tararua, Ruahine, Kaimanawa, and Huiarau ranges extend across the island on the same southwest-to-northeast axis as the higher mountains to the south. The landscape to the west is dominated by the extinct volcano of Mount Taranaki (Mount Egmont), at an elevation of 2,518 meters (8,260 feet).

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# NEW ZEALAND

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## 11 🌐 CANYONS AND CAVES

At 40,600 meters (133,209 feet) long, the Bulmer Caverns in Mount Owen on South Island are among the longest in the world. Their average depth is 749 meters (2,457 feet).

## 12 🌐 PLATEAUS AND MONOLITHS

The wide Volcanic Plateau, with its terrain of lava, pumice stone, and volcanic ash, lies north and west of the Kaimanawa range on the North Island. Hill country with short but steep slopes occupies most of its rim. The elevation of the plateau decreases and its slopes become gentler toward the western coast.

## 13 🌐 MAN-MADE FEATURES

Lake Benmore is New Zealand's largest artificial lake. The 8,879-meter (29,132-foot) Kaimai Tunnel at Apata is New Zealand's longest railroad tunnel, as well as the longest in the Southern Hemisphere.

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# Nicaragua

- **Official name:** Republic of Nicaragua
- **Area:** 129,494 square kilometers (49,998 square miles)
- **Highest point on mainland:** Mogotón Peak (2,438 meters/7,999 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 6 A.M. = noon GMT
- **Longest distances:** 472 kilometers (293 miles) from north to south; 478 kilometers (297 miles) from east to west
- **Land boundaries:** 1,231 kilometers (765 miles) total boundary length; Costa Rica 309 kilometers (192 miles); Honduras 922 kilometers (573 miles)
- **Coastline:** 910 kilometers (565 miles)
- **Territorial sea limits:** 370 kilometers (200 nautical miles)

## 1 🌐 LOCATION AND SIZE

Nicaragua is the largest country in Central America. It is located north of Costa Rica and south of Honduras, between the Pacific Ocean and the Caribbean Sea. With a total area of about 129,494 square kilometers (49,998 square miles), the country is slightly smaller than the state of New York. Nicaragua is administratively divided into fifteen departments and two autonomous regions.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Nicaragua has no outside territories or dependencies.

## 3 🌐 CLIMATE

In Nicaragua, temperature is affected more by elevation than by season. On the flat lands (in the east and west), daytime temperatures average 29°C (85°F) and night temperatures drop below 21°C (70°F). In the central highlands temperatures are lower, about 21°C (70°F) in the daytime and about 15°C (60°F) at night. In

the very high mountains, temperatures can approach freezing after dark.

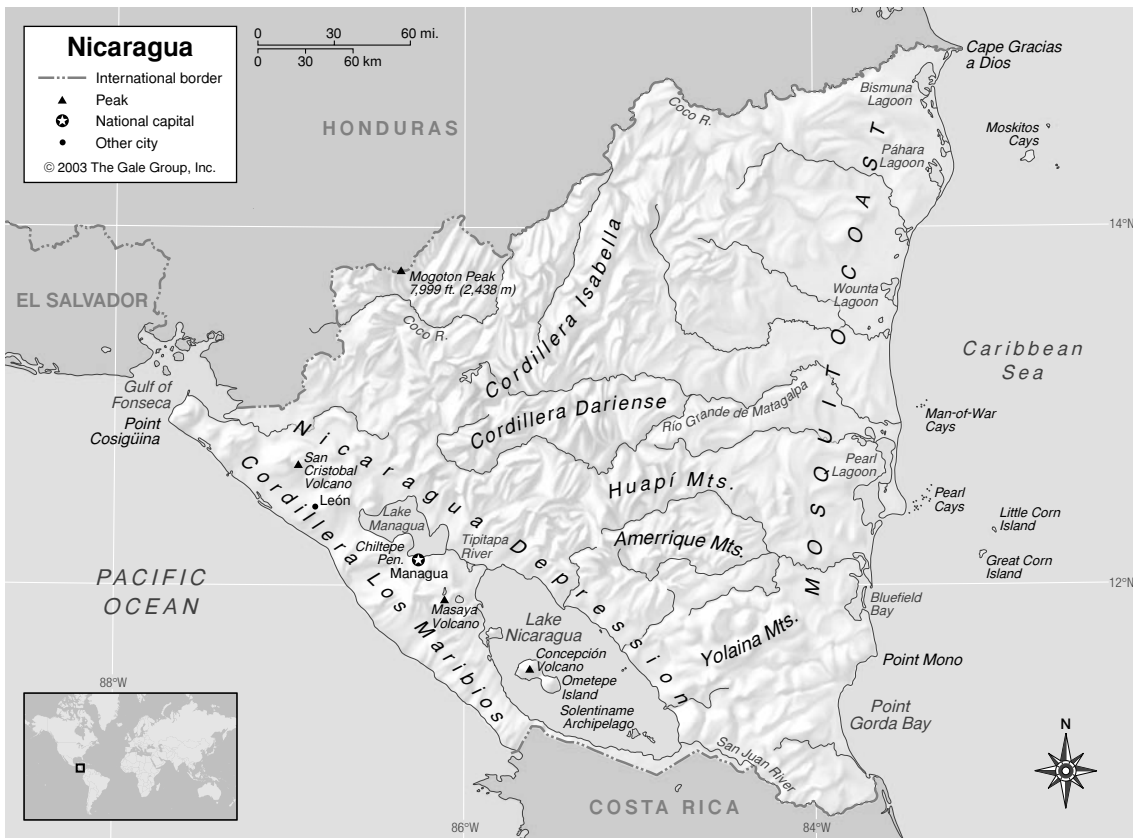
The rainy season (winter, or *invierno*) is from May through November and the dry season (summer, or *verano*) is from June through October. The Mosquito Coast gets the greatest amount of yearly rainfall, from 230 to 508 centimeters (90 to 200 inches). Less rain, about 76 to 229 centimeters (30 to 90 inches) per year, falls on the Central Highlands; precipitation here occurs over a longer period of the year. On the Pacific Coast, annual rainfall ranges from 102 to 152 centimeters (40 to 60 inches).

Periodically, hurricanes have caused severe damage on Nicaragua. The most devastating storms in recent years were Hurricane Mitch (October 1998) and Hurricane Joan (November 1988).

## 4 🌐 TOPOGRAPHIC REGIONS

The country is shaped like an equilateral triangle with its southwest/northeast side along the Honduran border, the north/south side along

# NICARAGUA



the Caribbean, and the southeast/northwest side along the Costa Rican border and Pacific Ocean.

The land naturally divides into three topographic zones: the Pacific Lowlands, the Central Highlands, and the Atlantic Lowlands. The Pacific Lowlands is a band about 75 kilometers (47 miles) wide along the Pacific Ocean between Honduras and Costa Rica. The plain is punctuated by clusters of volcanoes, immediately to the east of which is a long, narrow depression passing along the isthmus from the Gulf of Fonseca in the north to the San Juan River at the bottom of the country. This depression is sometimes called the Nicaraguan Depression. To the northeast are the Central Highlands; this region has the highest

mountains and the coolest temperatures. The sparsely populated Atlantic Lowlands comprise more than half the area of Nicaragua. These lowlands and the Mosquito Coast are the traditional home of the Miskito peoples (after whom the coastal region was named). Tropical rainforest and savannahs dominate this region, crossed by scores of rivers flowing to the Caribbean.

Nicaragua is situated on the Caribbean Tectonic Plate, but just off the country's Pacific coast is the Cocos Tectonic Plate. Frequent earthquakes and volcanic eruptions result from action of the Caribbean and Cocos plates. Nicaragua has hundreds of minor earthquakes and shocks each year and occasionally experiences a serious quake. In 1931 and again in

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# NICARAGUA

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1972, earthquakes virtually destroyed the capital city of Managua. As of early 2003, central Managua had yet to be rebuilt.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Nicaragua has coasts on the Pacific Ocean and on the Caribbean Sea (an extension of the Atlantic Ocean). There are coral reef systems off the eastern coast, including the largest hard-carbonate bank in the Caribbean; however, most of the reefs are not situated near the mainland due to sediment runoff from the many rivers. Closer to the shore, reef systems form four groups of islands: the Moskitos Cays, Man-of-War (Guerrero) Cays, Pearl Cays, and the Corn Islands. The last three of these island groups are inhabited.

### Sea Inlets and Straits

The relatively remote and sparsely populated Atlantic Lowlands and Mosquito Coast are periodically interrupted by lagoons and estuaries where major rivers end. From north to south, the largest are Bismuna, Páhara, Karatá, Wounta, and Pearl Lagoons. The Bluefield Bay lies at an inlet just north of Point Mono, while the Point Gorda Bay lies in the curved inlet to the south of Point Mono. There are no significant lagoons along the Pacific Ocean side; the Gulf of Fonseca, however, is located at the northernmost point where the coast turns inland at Point Cosigüina.

### Islands and Archipelagos

Scores of large islands dot the huge Lake Nicaragua. Two volcanoes, one at each end, formed the dumbbell-shaped Ometepe Island. Its total area is 276 square kilometers (106 square miles), including the Isthmus of Istián that connects the two sections of the island. At the south end of Lake Nicaragua are thirty-six small islands collectively named the Solentin-

ame Archipelago. Some of the larger islands in this group are Venada, San Fernando, Mancarroncito, and Mancarrón.

Besides islands in the freshwater lakes, there also are a few islands off the Caribbean shore, but none exist on the Pacific side. The two Corn Islands are 70 kilometers (43 miles) off the southern coast; they are just 8 kilometers (5 miles) apart. Great Corn Island is about 8 square kilometers (3 square miles) in area; Little Corn Island is about half that size.

The Moskitos Cays is an offshore island group with associated coral reefs situated 12 kilometers (7.5 miles) from the north shore. The area is home to several endangered species including the Hawksbill turtle, Caribbean manatee, Tucuxi freshwater dolphin, and caiman crocodile.

The two other coralline island groups, the Pearl Cays and the Man-of-War Cays, also sit not far from the mainland. They are sparsely populated with fishing villages.

### Coastal Features

The most hospitable, populated coast is the Pacific Ocean side. This coastline is relatively straight with few inlets or peninsulas. Cape Gracias a Dios marks the northern end of the Atlantic coastline; near the south, Point Mono juts out into the sea.

## 6 INLAND LAKES

Lake Nicaragua (Lago de Nicaragua) is the largest freshwater lake in Central and South America; in fact, it is one of the most spectacular bodies of water in all of the Americas. It fills the southern portion of the Nicaragua Depression, which runs parallel to the Pacific Ocean. The lake is 160 kilometers (99 miles) long, 65 kilometers (40 miles) at its widest point, and 32 meters (105 feet) above sea level. It is relatively shallow, however, with an average depth

# NICARAGUA

## DID YOU KNOW?

**T**ourists frequent the fumaroles (steam vents), hot springs, and boiling mudpots of the Swarms of San Jacinto (Hervideros de San Jacinto), southeast of Telica. Scientists are studying the geothermal activity causing these phenomena to see whether it could provide a possible source of energy for the region.

of 20 meters (66 feet), and a maximum depth of 60 meters (197 feet). With a total surface area of 8,000 square kilometers (3,089 square miles), the lake is sprinkled with many islands, including the large Ometepe Island.

Lake Managua connects to Lake Nicaragua by the Tipitapa River. The lake is 52 kilometers (32 miles) long and up to 25 kilometers (16 miles) wide, covering an area of 1,025 square kilometers (396 square miles). It is only 30 meters (98 feet) at its deepest point, however. On the lake's southwest side, the Chiltepe peninsula holds two small crater lakes: Xiloá and Apoyeque.

## 7 RIVERS AND WATERFALLS

Nicaragua has nearly one hundred principal rivers, most of which drain the Central Highlands through the Atlantic Lowlands and empty along the Mosquito Coast. The majority of them are relatively short rivers with a few longer ones, such as Río Grande de Matagalpa. A few rivers feed the Managua and Nicaragua Lakes. Coco River, Nicaragua's longest river, flows 680 kilometers (423 miles) from the northwest highlands to the Caribbean Sea, forming Nicaragua's border with Honduras.

The river that carries the largest volume of water is the San Juan River, which is only 180 kilometers (110 miles) long. It flows from the southeast corner of Lake Nicaragua east to the Caribbean Sea. This deep, navigable river forms the boundary between Nicaragua and Costa Rica.

With many rivers, Nicaragua also has many wetlands. Besides the entire Caribbean coast, which is mostly swampy and marshy land, there are three other areas of particular note. Deltas del Estero Real (816 square kilometers/315 square miles) in the Gulf of Fonseca is a natural reserve that is part of the large mangrove systems of the gulf, shared with El Salvador and Honduras. Humedales de San Miguelito is situated near the point at which the San Juan exits Lake Nicaragua. It is home to a diverse species of birds, fish, reptiles, and mammals. Finally, Tisma Lagoon is a small area of lake, marsh, and river ecosystems on the northwest shores of Lake Nicaragua.

## 8 DESERTS

There are no desert regions in Nicaragua.

## 9 FLAT AND ROLLING TERRAIN

Nicaragua has numerous rainforests, some of which are protected as reserves. Ecologically, two exceptional reserves are Reserva Natural Miraflor and Reserva Biológico Indo-Maiz. Miraflor (206 square kilometers/80 square miles) is remarkably pristine and has tropical savannah at lower altitude, pine forest higher up, and cloud forest at its highest elevations. Miraflor also contains a tiny lake at an altitude of 1,380 meters (4,528 feet), as well as a 60-meter (196-foot) waterfall.

Biológico Indo-Maiz covers 3,626 square kilometers (1,400 square miles). In only a few square kilometers within the preserve, a habitat exists for a greater number of species of birds, trees, and insects than are found on

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# NICARAGUA

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AP Photo/Anita Baca

*A toddler takes a nap while her mother washes laundry in Lake Managua.*

the entire continent of Europe. Indo-Maiz protects the largest contiguous extent of primary rainforest in Central America, a 7,300-square-kilometer (2,820-square-mile) area that is called the Bosawás Biosphere Reserve.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Nicaragua has three inland mountain ranges and a chain of volcanoes. Cordillera Isabella runs southwest to northeast, toward the Honduran border. Cordillera Dariense runs nearly west to east, defining the southern edge of the triangular Central Highlands. The rugged mountain terrain in between is composed of ridges from 900 to 1,800 meters (1,968 to 5,905 feet) high. River valleys drain mostly to the Caribbean. Cordillera Los Maribios is the chain of volcanoes, which originates in the northwest. Three smaller mountain ranges cut across the Atlantic Lowlands in the south-

east. From north to south, they are the Huapí Mountains, the Amerrique Mountains, and the Yolaina Mountains. The highest peak in Nicaragua, Mogotón Peak, sits on the Honduran border, about 161 kilometers (100 miles) inland from the Pacific Ocean. The peak rises to a height of 2,438 meters (7,999 feet).

A chain of seventeen volcanoes runs along the Pacific Coast. Six of them have erupted in the last hundred years. The most significant active volcanoes in this chain are Concepción, San Cristóbal, Telica, and Masaya. Concepción Volcano, Nicaragua's second-highest volcano is situated on the north end of Ometepe Island in the middle of Lake Nicaragua. This symmetrical volcano erupted frequently during the twentieth century; in December 2000, it spewed ash over the countryside.



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A complex of five volcanoes northwest of Managua is named for its oldest volcano, San Cristóbal (El Viejo), which also is the highest peak of the Maribios Range. Casita, immediately east of San Cristóbal, was the site of a catastrophic landslide in 1998.

Telica, located northwest of the city of León, has erupted frequently since the 1800s. Telica's steep cone is topped by a double crater which is 700 meters (2,300 feet) wide.

Masaya, near Managua, is one of only four volcanoes on earth with a constant pool of lava that neither increases nor recedes. It is the primary tourist attraction within one of Nicaragua's oldest national parks.

## 11 CANYONS AND CAVES

Nicaragua has more than ninety principal rivers running through canyons of various depths. In comparison to mountain ranges in North and South America, and even compared to adjacent Honduras, Nicaragua's highest mountains are modest, so few of its canyons are notably deep.

There are no major caves in Nicaragua.

## 12 PLATEAUS AND MONOLITHS

There are no significant plateau regions in Nicaragua.

## 13 MAN-MADE FEATURES

Several areas in Nicaragua rely on river dams as a source of hydroelectric power. Two of the largest dams are the Mancotal and El Salto Dams. Though both of these structures were damaged during 1998's Hurricane Mitch, reconstruction has taken place with the help of the U.S. Army Corps of Engineers and the

## DID YOU KNOW?

Central America contains the seven nations of Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama. The land area containing these states is often called the Central American Isthmus. An isthmus is a narrow section of land connecting two larger land masses; in this case, the isthmus joins North America (at Mexico) to South America (at Colombia).

U.S. Agency for International Development (USAID).

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# Niger

- **Official name:** Republic of Niger
- **Area:** 1,267,000 square kilometers (489,191 square miles)
- **Highest point on mainland:** Mount Gréboun (1,944 meters/6,378 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,845 kilometers (1,146 miles) from east-northeast to west-southwest; 1,025 kilometers (637 miles) from north-northwest to south-southeast
- **Land boundaries:** 5,697 kilometers (3,540 miles) total boundary length; Algeria 956 kilometers (594 miles); Benin 266 kilometers (165 miles); Burkina Faso 628 kilometers (390 miles); Chad 1,175 kilometers (730 miles); Libya 354 kilometers (220 miles); Mali 821 kilometers (510 miles); Nigeria 1,497 kilometers (930 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Landlocked Niger is the second-largest country in West Africa (surpassed only by Algeria) and the tenth largest on the continent. With a total area of 1,267,000 square kilometers (489,191 square miles), it is nearly twice the size of the state of Texas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Niger has no territories or dependencies.

## 3 🌐 CLIMATE

Niger's climate is one of the hottest on Earth. Between February and July, high temperatures on the plateaus in the northeast can hit 50°C (122°F). In January, readings can drop to a low of 8°C (46°F) in the desert regions, which experience both the hottest temperatures and the greatest contrast between highs and lows. The *harmattan* wind blows across the eastern desert for much of the year. Rainfall varies markedly between Niger's Saharan and Sahel

regions. Most of Niger receives less than 36 centimeters (14 inches) of rain annually; in fact, almost half the country receives less than 10 centimeters (4 inches). South of the Sahel, however, in the Niger River Valley, the capital city of Niamey receives much more precipitation; yearly rainfall averages about 56 centimeters (22 inches).

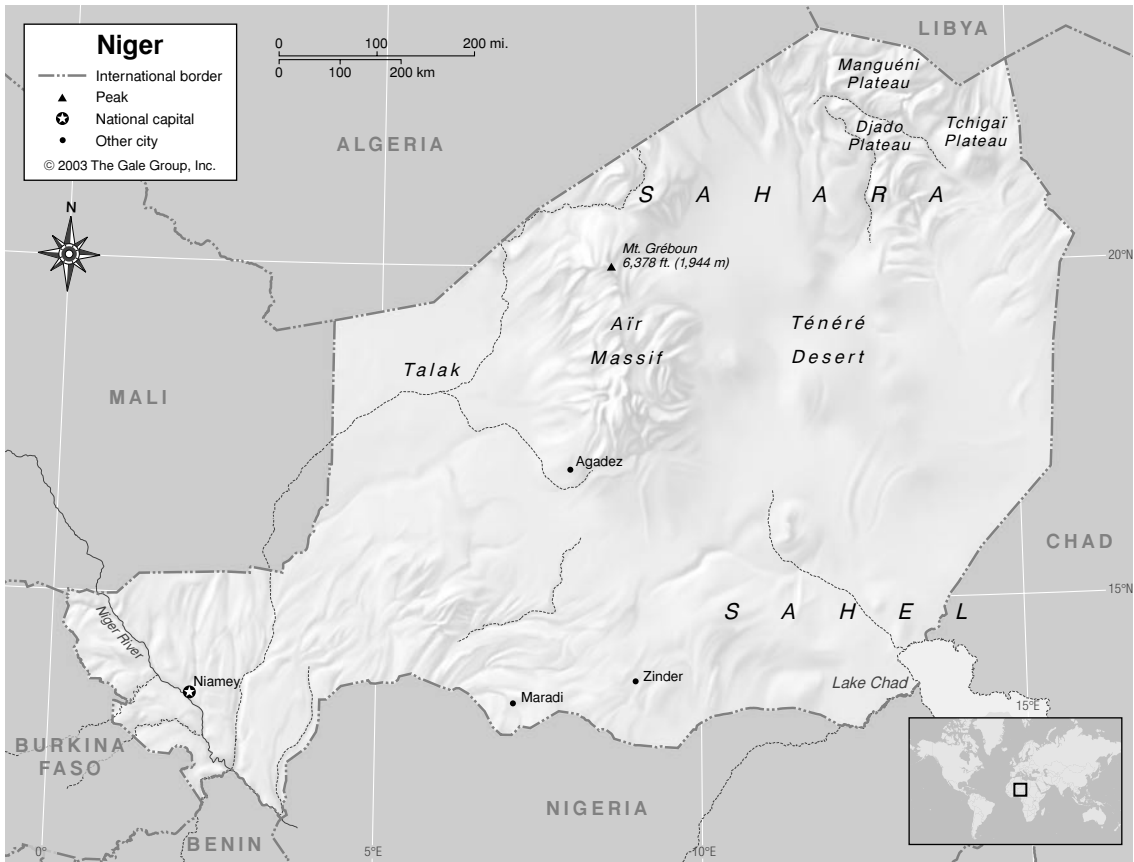
## 4 🌐 TOPOGRAPHIC REGIONS

Niger is a dry country. Although four-fifths of its land is covered by desert, its remaining topography is diverse, including plains, plateau regions, and mountains. The country can be divided into three major regions: the arid, inhospitable deserts to the north and northeast, a transitional Sahelian region in the center, and a small fertile area in the south, between the Niger River basin in the southwest and the Lake Chad basin in the southeast.

## 5 🌐 OCEANS AND SEAS

Niger is landlocked (no access to the sea).

# NIGER



## 6 🌐 INLAND LAKES

About 2,590 square kilometers (1,000 square miles) of Lake Chad lies within the southeastern tip of Niger. The size of the lake, which Niger shares with Chad and Nigeria, varies greatly from season to season, shrinking to nearly one-third of its maximum size in the dry season. In October, its surface area can exceed 9,950 square miles (28,457 square kilometers); by May, however, it usually has been reduced to roughly 3,000 square miles (8,580 square kilometers).

## 7 🌐 RIVERS AND WATERFALLS

The lifeline of the country is the Niger River, which flows year-round across the southwestern corner of the country for about 563

kilometers (350 miles) from northwest to southeast, while its tributaries flow only during the rainy season. In the southeast, the Kamadougou Yobé River drains into Lake Chad, forming part of Niger's border with Nigeria.

## 8 🌐 DESERTS

The Ténéré Desert that lies to the east of the mountains and the Talak to the west have vast expanses of shifting sand dunes (called *ergs*) where no vegetation grows, as well as other dunes that are anchored by sparse, scrubby vegetation.

## 9 🌐 FLAT AND ROLLING TERRAIN

The southwest region drained by the Niger River is a savannah with low bushes and trees

# NIGER

such as the baobab, kapok, bastard mahogany, and tamarind.

## 10 🌐 MOUNTAINS AND VOLCANOES

In the north-central region are the mountains of the volcanic Aïr Massif, which belong to the same system as Algeria's Ahaggar Mountains and extend southward more than 400 kilometers (248 miles) from Niger's border with Algeria. The mountains cover an area of approximately 80,000 square kilometers (30,880 square miles), and their average elevation is between 600 to 900 meters (2,000 and 3,000 feet). Their highest summit is Mount Gréboun in north-central Niger, at 1,944 meters (6,378 feet).

## 11 🌐 CANYONS AND CAVES

Crystalline rocks have been found in large caves in western Niger.

## 12 🌐 PLATEAUS AND MONOLITHS

The Manguéni, Djado, and Tchigai Plateaus are clustered together in the northeastern corner of the country near the border with Libya. Their average elevation is about 800 meters (2,600 feet). The mountains of the Manguéni Plateau are a continuation of Chad's Tibesti Mountains.

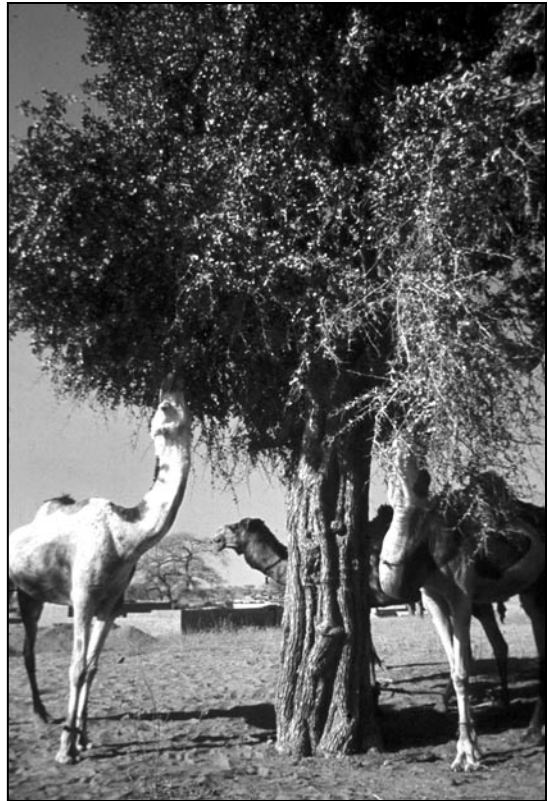
## 13 🌐 MAN-MADE FEATURES

The Kennedy Bridge, named after U.S. president John F. Kennedy, is the only bridge that crosses the Niger River at the capital city of Niamey. It is 710 meters (2,330 feet) long and is part of a larger network of roads that connects Niger to Togo, Benin, and Burkina Faso.

## 14 🌐 FURTHER READING

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UNESCO/Pierre Donnaint

*Camels are native to desert regions of Niger.*

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# Nigeria

- **Official name:** Federal Republic of Nigeria
- **Area:** 923,768 square kilometers (356,669 square miles)
- **Highest point on mainland:** Chappal Waddi (2,419 meters/7,936 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,127 kilometers (700 miles) from east to west; 1,046 kilometers (650 miles) from north to south
- **Land boundaries:** 4,047 kilometers (2,514 miles) total boundary length; Chad 87 kilometers (54 miles); Cameroon 1,690 kilometers (1,050 miles); Benin 773 kilometers (480 miles); Niger 1,497 kilometers (930 miles)
- **Coastline:** 853 kilometers (530 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Nigeria is located in western Africa, bordering the Gulf of Guinea. The country also shares borders with Chad, Cameroon, Benin, and Niger. With an area of about 923,768 square kilometers (356,669 square miles), the country is slightly more than twice the size of California. Nigeria is divided into thirty-six states and one federal territory.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Nigeria has no outside territories or dependencies.

## 3 🌐 CLIMATE

The climate in Nigeria varies from equatorial in the south, to tropical in the center, and arid in the north. Inland, the midday temperatures may surpass 38°C (100°F), but the nights are relatively cool, dropping as low as 12°C (54°F). On the Jos Plateau, temperatures are more moderate. Near the coast, temperatures rarely exceed 32°C (90°F), but humidity is high and nights are hot.

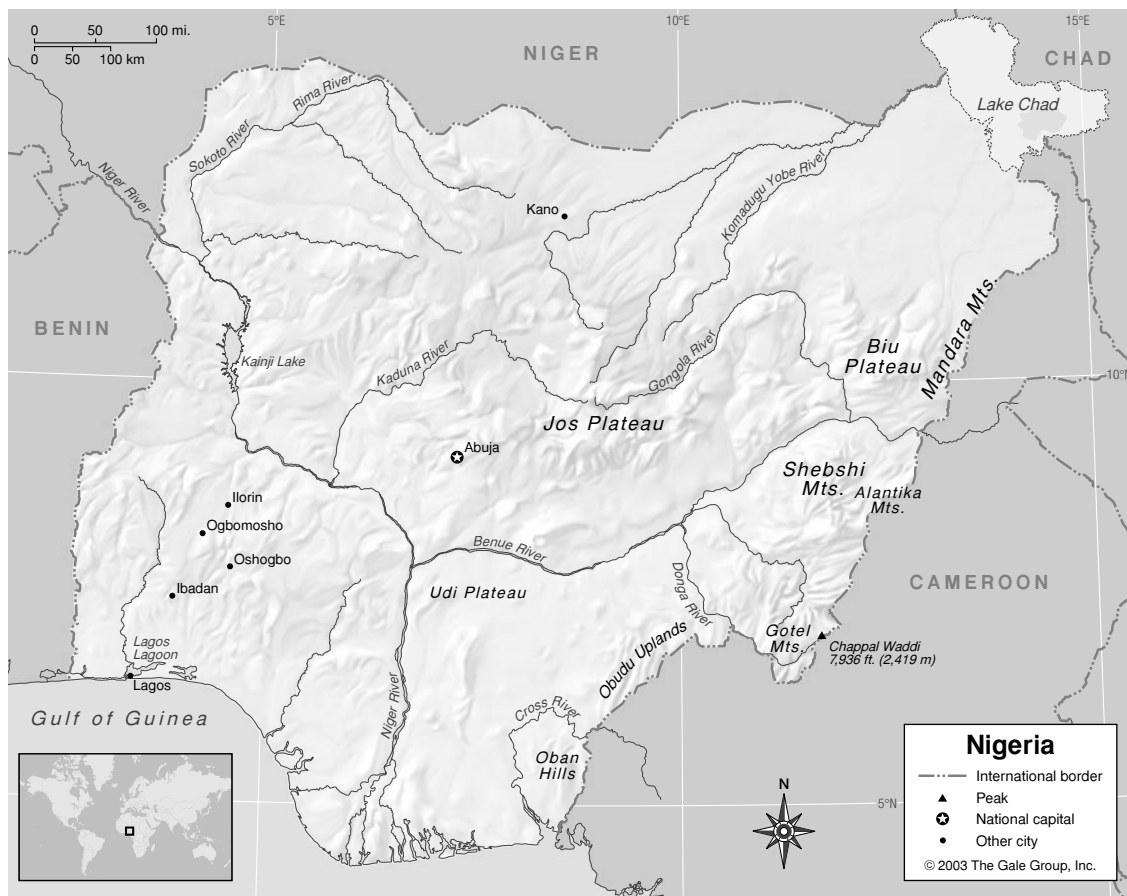
Inland, there are two distinct seasons: a wet season from April through October, with generally lower temperatures, and a dry season from November through March, with hotter temperatures. Along the coast, annual rainfall varies from about 180 centimeters (70 inches) in the west to about 420 centimeters (170 inches) in certain parts of the east. Inland, it decreases to around 130 centimeters (50 inches) over most of central Nigeria and only 50 centimeters (20 inches) in the extreme north.

## 4 🌐 TOPOGRAPHIC REGIONS

Nigeria sits on the center of the African Tectonic Plate and lies entirely in the tropics, with its southern edge being only a few degrees above the equator and its northern border well below the Tropic of Cancer.

The outstanding geographic feature of the country is the basin of the Niger and Benue Rivers, running east and west through the center of the country. South of the basin, the elevation generally is less than 304 meters

# NIGERIA



(1,000 feet), except for a few plateau surfaces. To the north of the basin, a broad plateau occupies the country to its northern border with elevations from 304 meters to 1,219 meters (1,000 to 4,000 feet). In the east, the country contains mountainous regions, in which the highest point is located.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Nigeria faces the Gulf of Guinea, which is a part of the Atlantic Ocean.

### Sea Inlets and Straits

The Bight of Benin is to the west and the Bight of Biafra to the southeast; both of these are in-

lets of the Gulf of Guinea. There are a number of lagoons along the westerly coastal areas.

### Islands and Archipelagos

Islands of solid ground within the Niger Delta are inhabited. The city of Lagos is located on a group of islands at the western end of Lagos Lagoon.

### Coastal Features

Low swampy land, which varies in width up to 32 kilometers (20 miles) or more, is part of the coastal belt extending along the entire Gulf of Guinea coast of West Africa. The outer edge of the coastal area consists of sand spits; it changes to mud as the coast nears the Niger

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# NIGERIA

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Delta. Behind the outer spits and lagoons, creeks of varying size parallel the coast and form a continuous waterway from the border with Benin on the west to the tributaries of the Niger Delta in the east.

One of the major features of the West African coastline is the Niger Delta, which projects into the Gulf of Guinea from the southern coast of Nigeria. This great bulge of sedimentary material, deposited by the Niger River, stretches some 120 to 128 kilometers (75 to 80 miles) from its apex below the town of Aba to the sea. It covers an area of about 25,900 square kilometers (10,000 square miles). The water of the Niger flows through this delta in a series of radial tributaries. For navigational purposes, the two most important rivers are the Forcados and the Nun.

The outer edge of the delta is fringed by sand spits and ridges, varying in width from less than one kilometer to more than 16 kilometers (more than 10 miles). Behind these ridges are mangrove swamps covering about 10,360 square kilometers (4,000 square miles); farther inland is an extensive area of freshwater swamps. The delta contains large natural gas and oil deposits.

Mangroves dominate the coast, while freshwater swamp forests with palms, abura, and mahogany predominate throughout the adjacent inland area.

## **6** 🌐 **INLAND LAKES**

The largest lake in Nigeria is Lake Chad, which is shared by the neighboring countries of Chad and Niger. The size of the lake varies from season to season depending on rainfall—from 10,360 to 25,900 square kilometers (4,000 to 10,000 square miles)—as it alternately advances and recedes over considerable distances in the flat plains area on the Nigerian side. Between December and January, at the

height of the rainy season, the lake may cover up to 25,900 square kilometers (10,000 square miles). During the ensuing months, however, it may diminish to less than half that size, with depths of only 1.2 to 5 meters (4 to 16 feet). At times, the waters recede so much that the entire portion located within Nigeria dries up. Little water is supplied to the lake from rivers in Nigeria. Its principal source is the Chari River in the Republic of Chad. The lake has no outlets. Lake Chad is the largest inland body of water on the Sahel.

In the far western part of the country is Kainji Lake, formed in 1968 by the damming of the Niger River. The lake extends for about 137 kilometers (85 miles) in a section of the Niger River valley from Kainji to a point beyond Yelwa. At maximum level, it covers an area of about 1,243 square kilometers (480 square miles) and has a width of 14 to 24 kilometers (9 to 15 miles)

## **7** 🌐 **RIVERS AND WATERFALLS**

The valleys of the Niger and Benue Rivers, which account for most of the country's drainage, form a great east-west arc across the middle of the country. The Niger River valley extends from the border with Benin on the west and the Benue River valley extends from the eastern border with Cameroon. Near Lokoja, in the center of the country, the two rivers join and change course to flow southward to the Gulf of Guinea.

The Niger is the longest river in Nigeria, with a total length of about 4,100 kilometers (2,460 miles). It rises in the Fouta Djallon of Guinea and travels in a wide arc through Mali, Niger, and Benin before crossing the border into Nigeria. Inside Nigeria, the river travels approximately 1,175 kilometers (730 miles) before it empties into the Gulf of Guinea.

# NIGERIA



UNESCO

*The landscape around the Sukur cultural site features villages in the valleys with terraced fields and ruins of iron mining.*

The Benue, which rises in Cameroon, flows about 796 kilometers (495 miles) inside Nigeria to its confluence with the Niger River.

The most important river outside this system is the Cross River in the southeast. The Cross originates in southern Cameroon and enters the country through the Eastern Highlands. It was a major transportation route for the slave trade in the eighteenth and nineteenth centuries.

South of the Western High Plains, several rivers flow directly into the Gulf of Guinea or its fringe lagoons. In the north from the Jos Plateau radiate rivers that flow toward Lake Chad or into the Niger-Benue system, including the Sokoto, Kaduna, Rima, Komadugu, Yobe, and Gongola rivers.

## 8 🌐 DESERTS

Though there are no true desert regions in Nigeria, the northern part of Nigeria lies within the region known as the Sahel. Sahel is an Arabic word that means “shore.” It refers to the 5,000-kilometer (3,125-mile) stretch of savannah that forms the shore or edge of the Sahara Desert. The Sahel spreads west to east from Mauritania and Senegal to Somalia.

## 9 🌐 FLAT AND ROLLING TERRAIN

Many of the low-lying plains are covered in wetlands. Most of these wetlands are found along the Niger Delta, the Niger River flood plains, and in the Lake Chad basin. On the northern edges of the coastal lagoons, many smaller rivers lose themselves in freshwater swamps. Open flood plains extend between



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# NIGERIA

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Yelwa and Jebba in the Niger River valley. Eastward from Jebba, to the confluence of the Niger and Benue Rivers, extensive swampy plains spread up to 80 kilometers (50 miles) wide. Extremely low gradients in the Lake Chad basin impede river flow so that during much of the year, the flood plains are swampy.

Beyond the tropical belt to the north grow tall grasses and deciduous trees of small stature, characteristic of the savannah. The Western High Plains are covered largely with savannah parkland and grass.

The uppermost levels of the Obudu Uplands and the Oban Hills, westward extensions of the Bamenda Highlands, are covered grasslands.

Tropical rain forests form a belt roughly 130 kilometers (80 miles) wide across the southern zone, with trees such as African mahogany, irokol, African walnut, and obeche reaching heights of 60 meters (200 feet). These forests are found in the Obudu Uplands and the Oban Hills in the east as well as in the plains in Western State. The central and western sections of Mid-Western State, with gentle slopes and elevations mostly less than 122 meters (400 feet), contain extensive and luxuriant forest areas in protected reserves.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Nigeria's boundary with Cameroon contains about 804 kilometers (500 miles) of mountainous country. The northern part of the highlands consists of several hill groups, with peaks around 1,097 meters (3,600 feet). To the south of these are the Mandara Mountains, a dissected plateau with a general elevation of about 1,219 meters (4,000 feet) encompassing an area of some 482 kilometers (300 miles) in length with an average width of about 32 kilometers (20 miles).

The central part of the border region consists of the Adamawa Highlands, a discontinuous series of mountain ranges and high plateau surfaces situated between the Benue River valley and the Donga River valley. They include the Alantika Mountains along the border and the Shebshi Mountains. The Shebshi Mountains, generally at an elevation of 1,066 meters (3,500 feet), are a dissected plateau with highly eroded lower slopes. The highest surveyed point in the country, Chappal Waddi, at a height of 2,419 meters (7,936 feet), is located in these hills. To the southwest of the Adamawa Highlands lies the Nigerian section of the Bamenda Highlands at 1,219 meters (4,000 feet) in elevation. The Gotel Mountains rise up along the southeastern border with Cameroon.

## **11** 🌐 **CANYONS AND CAVES**

There are no significant caves or canyons in Nigeria.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

With the exception of the coastal plains and the Niger-Benue valley, Nigeria consists mostly of high plains and plateaus. Directly to the east of the Lower Niger Valley are the Udi and Igalala Plateaus and the Akwa-Orlu Uplands. The general elevation of these plateaus is about 304 meters (1,000 feet), with escarpments rising considerably higher. Between the low western coastal plains and the Niger-Benue River valley lie the Western High Plains, or Plateau of Yorubaland, part of the belt of high plains that extends through West Africa. Plateau surfaces here vary in elevation from about 228 meters to 372 meters (750 feet to 1,200 feet), with some dome-shaped hills attaining a height of 609 meters (2,000 feet).

North of the Niger-Benue valley lies a broad plateau, the Northern High Plains or the High Plains of Hausaland. The central section of the plateau extends for about 482 kilometers (300

miles) from east to west, with stepped plains ranging from about 183 meters (600 feet) at the outer edge to roughly 914 meters (3,000 feet) in the area surrounding the Jos Plateau. The Jos Plateau covers an area of about 7,770 square kilometers (3,000 square miles), separated from the surrounding area by pronounced escarpments. The area's general elevation is above 1,219 meters (4,000 feet), and some hills in its eastern section attain heights of over 1,767 meters (5,800 feet). The Jos Plateau contains tin and other metals that have made the region economically important.

The Biu Plateau to the east of the Gongola River basin covers about 5,180 square kilometers (2,000 square miles). The upper level of the plateau, from 609 to 914 meters (2,000 to 3,000 feet), is separated from the Northern High Plains by a pronounced escarpment. Inactive volcanic cones are found in the northern part of this area.

### 13 MAN-MADE FEATURES

Kainji Lake was developed as a combined hydroelectric power and river navigation project. A dam built on the Niger River created the lake.

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### DID YOU KNOW?

The Tropics is the name given to the region of the world that lies between the Tropic of Cancer and the Tropic of Capricorn. The Tropic of Cancer is the parallel of latitude located at 23°30' north of the equator. The Tropic of Capricorn is located at the parallel of latitude that is 23°30' south of the equator. These imaginary lines mark the boundaries of an area in which the Sun will appear to be directly overhead, or at a 90° angle from Earth, at noon. North or south of these lines, the angle of the Sun at noon appears to be less than 90°. The lines were named for the constellations that the Sun crosses during the solstices (Capricorn on December 21 or 22 and Cancer on June 21 or 22).

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# Norway

- **Official name:** Kingdom of Norway
- **Area:** 324,220 square kilometers (125,182 square miles)
- **Highest point on mainland:** Galdhøpiggen (2,469 meters/8,100 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,752 kilometers (1,089 miles) from north-northeast to south-southwest, 430 kilometers (267 miles) from east-southeast to west-northwest
- **Land boundaries:** 2,515 kilometers (1,562 miles) total boundary length; Finland 729 kilometers (453 miles); Sweden 1,619 (1,006 miles kilometers); Russia 167 kilometers (104 miles)
- **Coastline:** 21,925 kilometers (13,594 miles)
- **Territorial sea limits:** 7 kilometers (4 nautical miles)

## 1 🌐 LOCATION AND SIZE

Norway is located on the Scandinavian peninsula in northern Europe, west of Sweden and east of the North Sea and the Norwegian Sea. The country also shares borders with Russia and Finland. Almost one-third of the country sits north of the Arctic Circle. With a total area of about 324,220 square kilometers (125,182 square miles), the country is slightly larger than the state of New Mexico. Norway is divided into nineteen counties.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Norway has claimed four island dependencies. Bouvet Island is located in the South Atlantic Ocean between Africa and Antarctica. Peter I Island is also located off the Antarctic coast. Jan Mayen Island is located in the Arctic Ocean northeast of Iceland. All three of these islands are uninhabited.

The Svalbard Archipelago, located north of Norway in the Arctic Ocean, is at the center

of a maritime border dispute between Norway and Russia.

In addition to the four islands, Norway also has a territorial claim in Antarctica.

## 3 🌐 CLIMATE

The warm waters of the Gulf Stream and prevailing westerly winds keep the climate of Norway mild, even though the country is so far north. Along the west and southwest coast, high temperatures average 3°C (38°F) in January and 19°C (66°F) in July. The climate is more extreme and temperature ranges are broader in Norway's interior. The arctic north is much colder than the south, but even here the Gulf Stream keeps temperatures relatively warm and the coast ice-free. Oslo, in the southern interior, has an average high temperature of 28°C (82°F) in July and 5°C (41°F) in January.

The coastal areas of the west receive almost year-round rainfall. Some areas average 330

# NORWAY



centimeters (130 inches). Precipitation is not as great in the interior. Oslo, in the southern interior, averages 76 centimeters (30 inches) of precipitation a year.

## 4 🌐 TOPOGRAPHIC REGIONS

Norway consists of five geographic regions. The West Country (Vestlandet) is an area carved by glaciers and features majestic fjords

and the abrupt slope of the western Scandinavian Mountains toward the North Sea. Connected to the West Country by numerous valleys, the East Country (Ostlandet) contains rolling hills and valleys that contain some of the country's richest agricultural soil. The Trondheim (Trøndelag) Depression forms a natural boundary between the northern and southern halves of the country. It is a region of hills, valleys, and fjords north of the high mountain ranges. Farther to the north is North Norway (Nord Norge), which is marked by fjords, mountains, vast snowfields, and some of Europe's largest glaciers. In the far south is an area of agricultural lowlands known as South Country (Sorlandet).

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Most of the western coast of Norway lies on the Norwegian Sea. Part of the southwest coastline borders the North Sea. Both seas are extensions of the Atlantic Ocean. The northernmost coast of the country borders the Barents Sea, an extension of the Arctic Ocean.

### Sea Inlets and Straits

On the southernmost coast of Norway, the Skagerrak Strait separates the country from Denmark.

Most of the Norwegian coastline is cut with countless fjords, for which the country is most famous. High plateaus often surround these fjords, forming breathtaking natural harbors.

### Islands and Archipelagos

Except in the southwest and the far north, the Norwegian coast has a stretch of islands called the Skjaergard. Containing roughly fifty thousand islands, this island zone reaches its broadest width of over 60 kilometers (37 miles) at the southern approaches to the Trondheim Fjord. The outer islands, protruding from relatively

## DID YOU KNOW?

Scandinavia is the region of northwestern Europe that lies on the peninsula bordered by the Atlantic Ocean (in the form of the Norwegian Sea and the North Sea), the Baltic Sea, and the Gulf of Bothnia. Even though Norway and Sweden are the only two countries that lie directly on this peninsula, the countries of Denmark, Iceland, and Finland also are usually considered to be Scandinavian countries in a cultural context.

shallow waters, rarely exceed 30 meters (100 feet) in height, while the inner islands may rise to 305 meters (1,000 feet). These islands are characterized by a series of rock terraces known as strandflats.

The Lofoten and Vesterålen Islands off the northwestern coast are the country's most extensive island chains. They are formed from glaciers that covered the tops of partially submerged ancient volcanic ranges. The larger islands of Hinnøya, Kvaløy, Senja, and Ringvassøy also lie off the northwest coast.

The Svalbard archipelago, a dependency that includes the Spitzbergen archipelago, North-East Island, Edge Island, and Barents Island, is located north of Norway in the Arctic Ocean. The island group covers an area of 62,700 square kilometers (24,208 square miles). Although ice sheets and permafrost blanket most of the islands, they are the sites of the northernmost permanent settlements in Europe.

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EPD Photos/©2002 Peter Wolff

*A road stretches across the West Country of Norway.*

Bouvet Island was claimed for Norway in 1927. It is located in the South Atlantic Ocean between Africa and Antarctica. It is uninhabited and is almost completely covered by ice. Additionally, Norway has claimed Peter I Island, off the Antarctic coast.

## Coastal Features

Except in the southernmost part of the country, Norway's coastline is extremely irregular. Deep fjords extend far into the interior of the country in many places. Glaciers carved these troughs into the interior plateau. The longest and deepest fjord is Sogne Fjord (Sognafjorden). It is approximately 204 kilometers (127 miles) long, with walls rising sharply from the coast to elevations of 1,500 meters (5,000 feet)

in some places. Other major fjords in the south include Oslo Fjord, Hardanger Fjord, Bokn Fjord, and Romsdals Fjord. In the middle of the country, the Trondheim Fjord extends 126 kilometers (78 miles) into the interior. Arctic fjords such as Tana, Porsangen, and Varanger tend to be broader and somewhat shorter.

In the far north of Norway, on Magerøya Island, is North Cape (Nordkap). This is the northernmost point in all of Europe.

## 6 🌐 INLAND LAKES

Glacial lakes abound in Norway. Nearly one-twelfth of the country is under fresh water. Lake Mjøsa, at 363 square kilometers (140 square miles) in area and 452 meters (1,982 feet) in depth, is by far the largest lake. Most of the other larger lakes are 122 meters (400 feet) above the sea; these elevated lakes perhaps were once heads of fjords that have since been sealed off from the ocean.

## 7 🌐 RIVERS AND WATERFALLS

Norway has numerous glacier-fed rivers. Most are swift and turbulent, rushing through steep valleys and rocky gorges. The only navigable rivers are the Glåma and the Dramselva. The Glåma is the longest river in Scandinavia, at 563 kilometers (350 miles) long. It rises more than 610 meters (2,000 feet) above sea level at Aursunden Lake and flows south into the Skagerrak. Many lakes widen the stream, and the river is famous for its waterfalls. The Dramselva River rises in the central part of the country and also flows south, entering Oslo Fjord at Drammen. Other major rivers in the south are the Otra, Sira, and the two Lågen Rivers. The Reisa and the Tana Rivers are situated in the extreme north.

## 8 🌐 DESERTS

There are no desert regions in Norway.

# NORWAY

## 9 🌐 FLAT AND ROLLING TERRAIN

The East Country contains rolling hills and valleys that support most of the agriculture of the country. Only 3 percent of Norway's land is considered arable, however, and there are no regions of permanent pasture. The Trondheim Depression forms a natural boundary between the northern and southern halves of the country.

## 10 🌐 MOUNTAINS AND VOLCANOES

Norwegian mountain ranges are roughly divided into three groups. In the north, the Kjølén range forms a natural barrier between Norway and Sweden and extends northward toward the border with Finland. Further south is the Dovrefjell chain, which abuts the Trondheim Depression in the south; together, the mountains and valleysplit the country into its northern and southern areas.

Norway's highest mountain range, the Langfjell, lies south of the Trondheim Depression and the Dovrefjell. This range, comprised of sharp peaks called *fjells* and high plateaus called *vidder*, runs southwest to northeast and divides the West and East countries. The Rondane Mountains and the Jotunheimen are part of this range. Galdhøpiggen, Scandinavia's highest mountain at 2,469 meters (8,100 feet), belongs to the Jotunheimen.

The Beerenberg volcano (2,277 meters/7,470 feet), the world's northernmost active volcano, created the uninhabited dependency of Jan Mayen Island in the Arctic Ocean northeast of Iceland. Jan Mayen has an area of 373 square kilometers (144 square miles). Beerenberg erupted most recently in 1970.

## 11 🌐 CANYONS AND CAVES

The movements of glaciers created most of the cave areas in Norway. Svarthammertrotta has the largest chamber of any cave in Norway. "Glacier Hall," as the chamber is called, has

## DID YOU KNOW?

Known as the "land of the midnight sun," the far northern region of Norway has 24-hour daylight from May through July. Oslo and the rest of the southern region have summer daylight from about 4 A.M. to 11 P.M. Conversely, from November to the end of January, the sun never rises above the horizon in the north.

a width of 30 to 50 meters (98 to 164 feet), a height of 5 to 10 meters (16 to 33 feet), and a length of 200 meters (656 feet). Ice samples taken from the cave have been dated to approximately 1,200 A.D.

## 12 🌐 PLATEAUS AND MONOLITHS

Glaciers of the Ice Age carved countless plateaus into the Norwegian landscape, some of them very large. The Norwegian Plateau includes the western and eastern vidders in the high mountains of the central region. Other major plateaus are the Finnmark Plateau in the far north and the Hardangervidda in the south. The Hardangervidda has an elevation of 1,830 meters (6,004 feet) and an area of 6,474 square kilometers (2,500 square miles), with steep sides scarred and grooved by waterfalls and valleys.

Most of the northern end of the Norwegian Plateau in the country's central region is covered by icecaps. The Jostedalsglacier is found in this area. It is the largest glacier in Europe at 1,502 square kilometers (580 square miles) in area and possibly 457 meters (1,500 feet) thick. The Folgefonn glacier is also found here. The top of this glacier is over 1,524 meters (5,000 feet) above sea level.

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## NORWAY

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Norway's northern extremes, including the Finnmark Plateau, are also heavily glaciated. Other large snowfields include Hallingskarvet in the Hardangervidda, Snohetta in the Dovrefjell, Seiland near Hammerfest, and Oksfjordjokel near Kvanangen.

### 13 MAN-MADE FEATURES

There are no significant man-made structures affecting the geography of Norway.

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# Oman

- **Official name:** Sultanate of Oman
- **Area:** 212,460 square kilometers (82,031 square miles)
- **Highest point on mainland:** Jabal Sham (3,035 meters/9,957 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 4 P.M. = noon GMT
- **Longest distances:** 972 kilometers (604 miles) from northeast to southwest; 513 kilometers (319 miles) from southeast to northwest
- **Land boundaries:** 1,374 kilometers (854 miles) total boundary length; Yemen 288 kilometers (179 miles); Saudi Arabia 676 kilometers (420 miles); United Arab Emirates 410 kilometers (255 miles)
- **Coastline:** 2,092 kilometers (1,300 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The sultanate of Oman is located in the extreme southeastern corner of the Arabian Peninsula and is the second-largest country on the peninsula. It includes a small enclave at the tip of the Musandam Peninsula, on the Strait of Hormuz, that is separated from the rest of Oman by the United Arab Emirates. With an area of 212,460 square kilometers (82,031 square miles), Oman is nearly as large as the state of Kansas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Oman has no territories or dependencies.

## 3 🌐 CLIMATE

Oman's climate is arid subtropical. The climate differs somewhat from one region to another, however. The interior is generally very hot, with temperatures reaching 54°C (129°F) in the hot season from May to October. The coastal areas are hot and humid from April to October. The prevailing summer wind, the

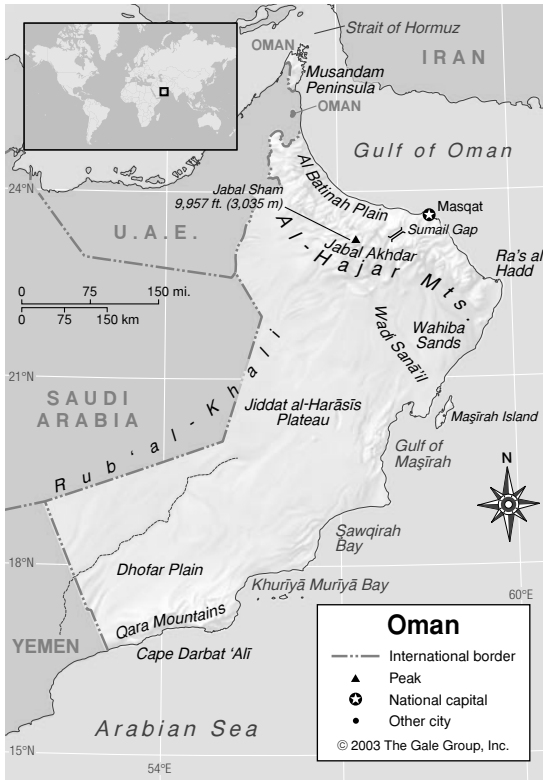
*Gharbi*, makes the heat more oppressive. In the south, the Dhofar (Zufar) region has a more moderate climate.

Average annual precipitation is 5 to 10 centimeters (2 to 4 inches), depending on the region and the prevailing summer wind. While the mountain areas receive more plentiful rainfall, some parts of the coast, particularly those areas near the island of Maşīrah, sometimes receive no rain at all. Yearly rainfall totals of up to 64 centimeters (25 inches) have been recorded in the rainy season from late June to October. An unusual feature of Oman's weather is that part of the eastern coast regularly has dense fog.

## 4 🌐 TOPOGRAPHIC REGIONS

Oman has a diverse topography with a number of different regions and subregions. The major regions are the narrow Al Bātinah coastal plain to the north, bordering the Gulf of Oman; the Al Hajar mountain range that stretches south-

# OMAN



eastward paralleling the northern coast; an interior plateau that stretches southwestward toward the desert; the Rub' al Khālī desert, which Oman shares with Saudi Arabia and Yemen; the barren plain of Jalaan, which borders the Arabian Sea on the east; and the southern Dhofar region, which includes both mountainous highlands and a fertile coastal strip that constitutes the southernmost part of Oman. In addition, Oman encompasses an isolated strip of land at the tip of the Musandem Peninsula.

## 5 OCEANS AND SEAS

Oman borders the Arabian Sea and the Gulf of Oman, the latter of which separates the Arabian Peninsula from the rest of the Middle East.

## Sea Inlets and Straits

Inlets (*khors*) in the Al Bātinah plain often have stands of mangroves. An extremely rug-

ged area exists where two inlets, the Elphinstone and Malcom, cut into the coastline south of the Strait of Hormuz.

## Islands and Archipelagos

Along the Arabian Sea coastline and separated from it by about 16 kilometers (10 miles) is the barren and virtually uninhabited island of Maşīrah,

## Coastal Features

The northern coastline is smooth, while the shore along the Arabian Sea is more jagged and indented, forming several bays and capes (including the Ra's al Hadd, which separates the Gulf of Oman from the Arabian Sea) and the Gulf of Maşīrah near Maşīrah Island.

## 6 INLAND LAKES

There are no lakes in Oman, but the country has two large areas of salt flats, one in the west-central region and another opposite Maşīrah Island, off the eastern coast.

## 7 RIVERS AND WATERFALLS

There are no perennial rivers in Oman. A small number of *wadis* (shallow watercourses) are found in the Al Hajar Mountains and their foothills, however.

## 8 DESERTS

Situated mainly in Saudi Arabia but occupying a portion of western Oman, the Rub' al Khālī, or Empty Quarter, is one of the largest sand deserts in the world and one of the driest places on earth. The Wahiba Sands, in Oman's interior, are the largest areas of lithified (changed into solid rock) sand dunes in the world. Its surface dunes can reach heights of 100 meters (328 feet).

## 9 FLAT AND ROLLING TERRAIN

The Al Bātinah coastal plain to the north, scored along its length by *wadis*, is cultivated



ARAMCO/Tor Eigeland

*Mountains of Musandam in northern Oman.*

with the aid of irrigation. The sandy plain of Jalaan to the east is barren and inhospitable, while the narrow coastal strip of the Dhofar region in the south is lush and fertile. The valleys and foothills immediately south of the Al Hajar Mountains are considered the country's heartland.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Al Hajar (the Rock) Mountains—the highest in the eastern part of the Arabian peninsula—form two ranges: the Hajar al-Gharbi, or Western Hajar, and the Hajar al-Shargi, or Eastern Hajar. They are divided by the Wadi Sanā'il, a valley that forms the traditional route between Masqat and the interior. The general elevation is about 4,000 feet (1,219 meters). In the southern Dhofar region, a semicircular band of mountains rises to around 1,500 meters (5,000 feet).

## **11** 🌐 **CANYONS AND CAVES**

There are many caverns in Oman. One of the largest in the world, Teyq Cave, is 250 meters (820 feet) deep and 300 cubic meters (10,595 cubic feet) in volume.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The foothills of the Al Hajar Mountains in the north give way to a plateau with an average height of about 300 meters (1,000 feet). It is mostly stony and waterless, arable only at oases, extending to the sands of the Rub'al Khālī Desert. In the central part of Oman, in the Al-Wusta region, this plateau narrows to the Jiddat al-Harāsīs, bordered by the Rub'al Khālī desert to the west and the plain of Jalaan to the east.

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# OMAN

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ARAMCO/Tor Eigeland

*Wave-like dunes are found in Oman's Rub'al Khālī Desert.*

## **13** 🌐 **MAN-MADE FEATURES**

There are three forts in Muscat that have remained essentially unchanged since the 1580s.

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# Pakistan

- **Official name:** Islamic Republic of Pakistan
- **Area:** 803,940 square kilometers (310,403 square miles)
- **Highest point on mainland:** K2 (Mount Godwin-Austen) (8,611 meters/28,251 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 5 P.M. = noon GMT
- **Longest distances:** 1,875 kilometers (1,165 miles) from northeast to southwest; 1,006 kilometers (625 miles) from southeast to northwest
- **Land boundaries:** 6,774 kilometers (4,209 miles) total boundary length; China 523 kilometers (325 miles); India 2,912 kilometers (1,809 miles); Iran 909 kilometers (565 miles); Afghanistan 2,430 kilometers (1,510 miles)
- **Coastline:** 1,046 kilometers (650 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Pakistan is located in South Asia between the Himalaya Mountains and the Arabian Sea—west of India, east of Iran and Afghanistan, and south of China. The nation is almost two times the size of California, and is divided up into four provinces and one territory.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Since their creation as independent countries in 1947, India and Pakistan have disputed ownership of the northern region of Jammu and Kashmir. The simmering tension has erupted into fighting between the neighbors in 1948, 1965, and 1971; the dispute continues to be a source of sporadic conflict in the early 2000s.

## 3 🌐 CLIMATE

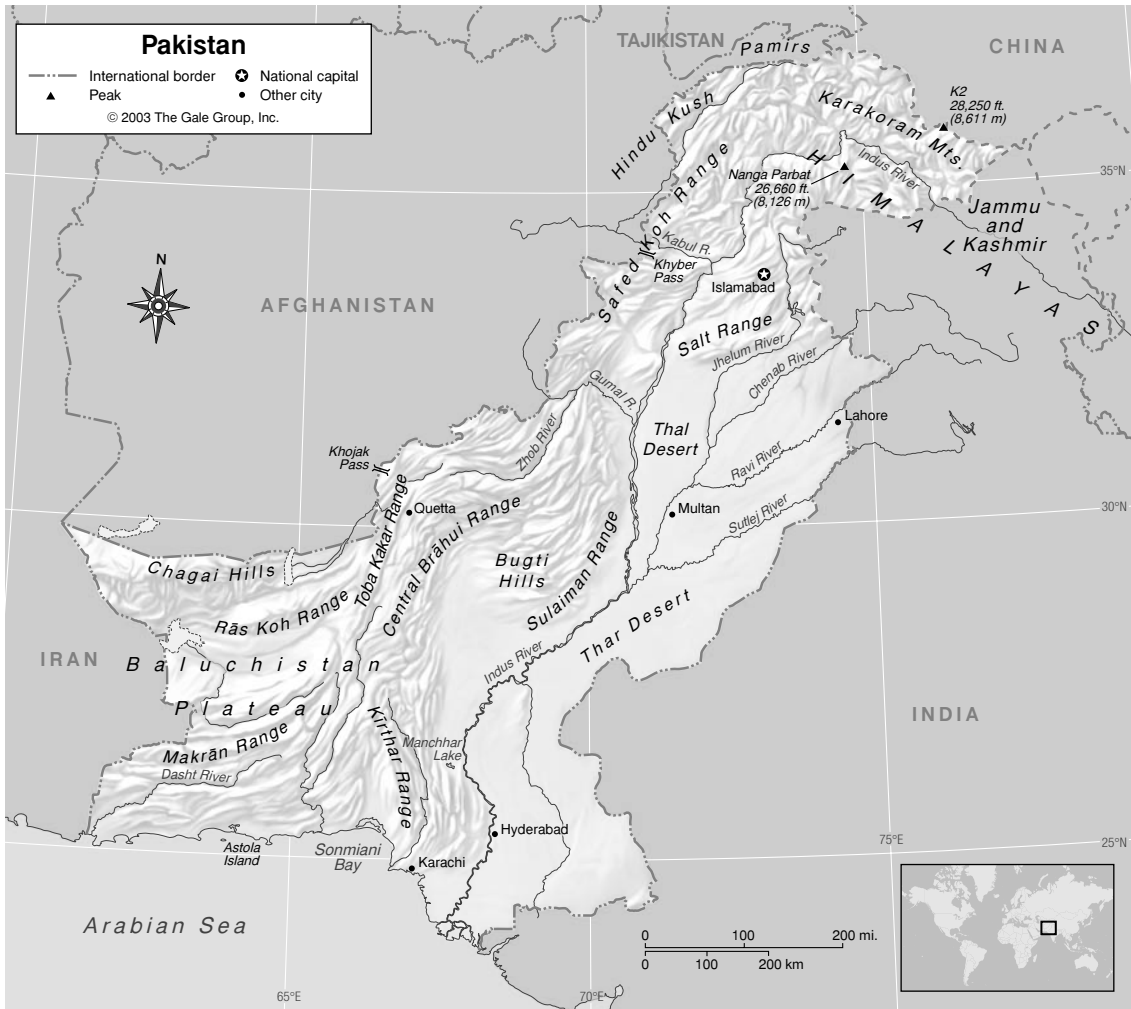
Pakistan is in the temperate zone and varies greatly in weather conditions—from the humid coast to the dry, hot desert interior

to the icy mountains in the north. Four seasons are experienced in the country: winter from December through February; a hot, dry spring from March through May; the arrival of the southwest monsoon from June through September; and the northeast monsoon from October through November. In the north and west, the rainy season occurs during the winter

The northern capital, Islamabad, has average temperatures ranging from a low of 2°C (35°F) in January to a high of 40°C (104°F) in June. The southern port of Karachi has average temperatures varying from a low of 13°C (55°F) in winter to a high of 34°C (93°F) in summer.

Arid conditions prevail in most of Pakistan, which misses the full force of the monsoons. Punjab has had major fluctuations in monsoon rainfall, with droughts in some years and floods in others. On Pakistan's plains, the

# PAKISTAN



average annual rainfall is a mere 13 centimeters (5 inches), while in the highlands it is 89 centimeters (35 inches). Hailstorms are common, and snow falls in the north in winter. The lofty mountains of the north are permanently cloaked in snow and ice.

## 4 TOPOGRAPHIC REGIONS

Pakistan can be divided into three major geographic areas: the northern highlands, the Indus River plain, and the Baluchistan Plateau. About one-third of the Pakistan-India border is also the cease-fire line in the Jammu and

Kashmir region, disputed between the two countries since their independence.

Pakistan lies at the border of three tectonic plates: the Arabian, Indian, and Eurasian. The Arabian Plate meets with the Eurasian Plate at the coastline in southeastern Pakistan. On Pakistan's eastern and northeastern border, the Eurasian Plate collides with the Indian Plate; as a result, seismic activity is high along this border. The region surrounding Quetta is also prone to frequent and devastating earthquakes.

# PAKISTAN



Randy Olson/National Geographic Image Collection

*Mohanis fishermen catch herons in the Indus River. They sneak up on unsuspecting birds by wearing headgear made from dead herons as a decoy. Birds are caught for food, as well as for sale and to be trained.*

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The coastline of Pakistan meets the Arabian Sea of the northern Indian Ocean.

### Sea Inlets and Straits

There are no notable sea inlets or straits in Pakistan.

### Islands and Archipelagos

Pakistan's only major offshore island is Astola (Haft Talar), about 25 kilometers (15 miles) south of Baluchistan in the Arabian Sea, with an area of 50 square kilometers (19 square miles). Astola is a turtle-nesting area and a bird and reptile habitat.

## Coastal Features

Baluchistan's Ormara Turtle Beaches, about 10 kilometers (6 miles) along the western coast, are a habitat for endangered sea turtles; mud volcanoes also sputter along this shore. The central coast is indented by Sonmiani Bay. The coast has few settlements, except for Pakistan's largest city, the port of Karachi. The city's beaches are badly polluted by oil spills, sewage, and industrial toxic waste, all of which pours directly into the ocean.

## 6 INLAND LAKES

In Pakistan's southeast is Manchhar Lake, once a large body of fresh water (roughly 259 square kilometers/100 square miles) and a major habitat for birds and fish. Pollution and water

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# PAKISTAN

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diversion have shrunk the lake dramatically, however, and made its waters increasingly saline. Other lakes in the lower Indus region face extinction, including Kerjhar Lake and Hammal Lake. Kinjhar (Kalri) Lake, Haleji Lake, and Drigh Lake are wildlife sanctuaries in this region. Further north are the Khabbaki, Uchali and Jahlar Lakes. The far-northern basin known as Snow Lake is a massive snowbed, comprising the Sim Gang Glacier and a frozen glacial lake with ice more than 15 kilometers (9 miles) thick.

## 7 🌐 RIVERS AND WATERFALLS

The Indus River is an irrigation lifeline for much of the country. The Indus rises in the Tibetan Himalayas. After crossing the Indian-administered portion of Jammu and Kashmir, it enters Pakistan and flows southwest for 1,609 kilometers (1,000 miles) to the Arabian Sea. At Attock, the Indus receives the waters of the Kabul River from the west. After being joined by the Gumal River, the Indus continues south to Mithanhot, where it is joined by its major tributary, the Panjnad. The short Panjnad River, about 121 kilometers (75 miles) long, is actually the combined input of the “five rivers of the Punjab”: the Jhelum, Chenab, Ravi, Beas, and Sutlej. The principal river of Baluchistan is the Zhob, running along the southern slopes of the Toba Kakar Range and north into the Gumal River. In southern Baluchistan, several minor rivers flow into the Arabian Sea; these include the Dasht, Mashkai, Nal, and Porali.

## 8 🌐 DESERTS

Pakistan’s Thal Desert is south of the Salt Range, between the Indus and Jhelum Rivers. The Thar Desert (Cholistan Desert) lies south of the Sutlej River along the Pakistan-India border. Both these Pakistani desert regions are extensions of India’s Thar Desert.

The Baluchistan Plateau is largely a desert area with erosion, sand dunes, and sandstorms. There is also a dry region in the northern Chilas-Gilgit area. In addition to existing deserts, the environmental change called desertification is occurring across Pakistan, with more than one-third of the country considered at risk. Deforestation, depletion of soil, and water shortages are causing desertification as vegetation is cut and stripped away.

## 9 🌐 FLAT AND ROLLING TERRAIN

The upper Indus River plain, in Punjab, varies from about 152 to 304 meters (500 to 1,000 feet) in elevation. The lower Indus Plain, generally corresponding to the province of Sind, is lower in altitude. On the Indus plain, grasslands called *doabs* provide grazing on the strips of land between rivers.

Coniferous and deciduous forests, scrub woods, mangrove forests, and tree plantations grow in Pakistan. Some 40 percent of the forests are conifer or scrub woods, found mainly in mountain watershed areas. Pakistan’s forest cover has been reduced to less than four percent of the land area. Deforestation in northern Pakistan has caused severe erosion.

The Margalla Hills, 610 to 914 meters (2,000 to 3,000 feet) high, are foothills of the northern mountains that overlook Islamabad, the capital. The Swat and Chitral Hills in the northwest have heights of 1,524 to 1,829 meters (5,000 to 6,000 feet).

## 10 🌐 MOUNTAINS AND VOLCANOES

The northern highlands are a convergence of some of the most rugged mountains in the world. The Himalayas stretch from northeast India to the northeast corner of Pakistan, where they merge into the Karakoram and Pamirs mountain ranges. West of the Pamirs are the heights and steep valleys of the Hindu Kush.



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# PAKISTAN

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In the northern mountains, virtually all elevations are higher than 2,438 meters (8,000 ft) above sea level. More than fifty peaks are above 6,705 meters (22,000 feet). The soaring summits of K2 (Mount Godwin Austen) in the Karakoram Range, the world's second-highest mountain (8,611 meters/28,251 feet), and Nanga Parbat (8,126 meters/26,660 feet) in the Himalayan range, have posed often-deadly challenges to climbing expeditions. Enormous glaciers sprawl across this region, including Baltoro and Pasu, each of which is longer than 50 kilometers (31 miles).

The Safed Koh range south of the northern highlands and west of the Indus River plain reaches 4,761 meters (15,620 feet) in its extension to the Afghanistan border. This area includes the strategic Khyber Pass, which connects the Peshawar Valley to Afghanistan. South of the Safed Koh and near the border are the mountains of Waziristan. Beyond them, the Toba Kakar range, with an average elevation of about 2,743 meters (9,000 feet), extends from northern Baluchistan to the Khojak Pass. The Rās Koh range, west of the city of Quetta, and the Chagai Hills extending further west complete the western highlands.

## 11 🌐 CANYONS AND CAVES

Northern Pakistan has many narrow, twisting canyons, particularly in Hunza. The Indus River rushes through the steep Attock Gorge near the Khyber Pass.

## 12 🌐 PLATEAUS AND MONOLITHS

The Baluchistan Plateau, at an elevation of 914 to 1,219 meters (3,000 to 4,000 feet), is an arid tableland of approximately 350,945 square kilometers (135,000 square miles). The Potwar

Plateau, at the foot of the mountains south of Islamabad, is a dry, eroded area where most of Pakistan's oil is located.

## 13 🌐 MAN-MADE FEATURES

Pakistan has two major river dams. In northern Punjab, near Kashmir, the Mangla Dam sits on the Jhelum River. The Tarbela Dam is situated on the Indus near Taxila. Dams on the Indus River, built for hydropower or agricultural water diversion, have been extremely controversial. The provincial governments of Sind and Baluchistan believe that Punjab Province is diverting too much water from the Indus. Intensive irrigation has led to a crisis of water-logging and salinity throughout the farmlands of the Indus Basin. In this geological syndrome, salty water seeps from canals into surrounding soil, which the salt renders useless for farming as the water evaporates.

## 14 🌐 FURTHER READING

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# Palau

- **Official name:** Republic of Palau
- **Area:** 458 square kilometers (177 square miles)
- **Highest point on mainland:** Mount Ngerchelchauus (242 meters/794 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 8 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** None
- **Coastline:** 1,519 kilometers (944 miles)
- **Territorial sea limits:** 6 kilometers (3 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Palau is the westernmost archipelago of the Caroline Island chain in the portion of the North Pacific Ocean that is often called Oceania. The country lies southeast of the Philippines and consists of six island groups totaling more than two hundred islands that are oriented roughly north to south. With a total area of about 458 square kilometers (177 square miles), the country is slightly more than two-and-one-half times the size of Washington, D.C. Palau is divided into eighteen states.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Palau has no outside territories or dependencies.

## 3 🌐 CLIMATE

Located near the equator, Palau has a maritime tropical climate, characterized by very little seasonal or diurnal (day/night) variation. The yearly mean temperature is 28°C (82°F) in the coolest months.

Palau experiences relatively high humidity of 82 percent, with heavy rainfall from May to November. Short, torrential rainfall produces up to 381 centimeters (150 inches) of precipitation annually. Although outside of the main

typhoon path, damaging storms can occur in the months from June through November.

## 4 🌐 TOPOGRAPHIC REGIONS

The islands include four types of topographical formations: volcanic, high limestone, low platform, and coral atoll. Palau's volcanic and limestone islands sustain distinctly different vegetation.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Palau islands border the North Pacific Sea on the southeast and the Philippine Sea to the northwest.

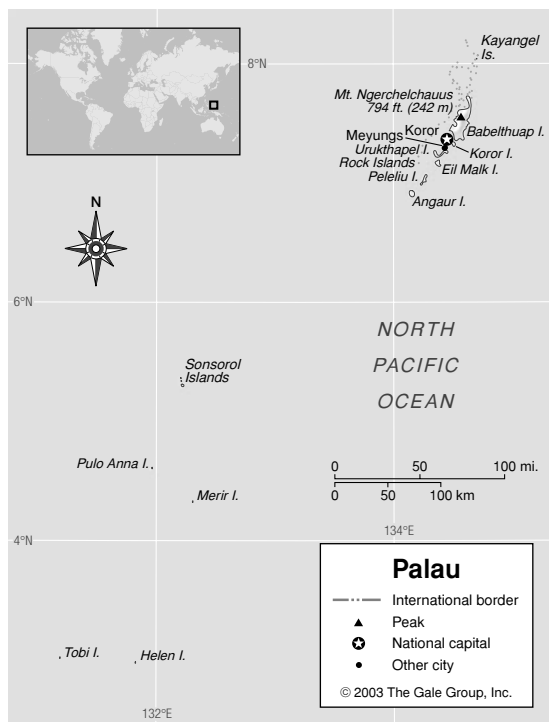
### Sea Inlets and Straits

The Pkurengel Komebail Lagoon stretches across an area of 1,267 square kilometers (489 square miles) on the western side of the islands. It is enclosed by the enormous barrier reef that encircles most of the islands.

### Islands and Archipelagos

Babelthuap is the largest island, with an area of 397 square kilometers (153 square miles). It is also the second-largest island in

# PALAU



Micronesia after Guam. The second-largest island in Palau is Urukthapel. Koror Island, containing the capital and most of the country's population, has an area of 18 square kilometers (7.1 square miles). Other islands include Eil Malk; the islands of Peleliu and Angaur, which are low-platform reefs; and Sonsorol and Hatohobei, the two smallest islands. Kayangel is a coral atoll.

Palau is also home to the world-famous Rock Islands. The Rock Islands are a cluster of more than two hundred rounded knobs of forest-capped limestone that plunges steeply into the sea.

## Coastal Features

The Palau barrier reef encircles the Palau islands, except for Angaur Island and the Kayangel atoll. The dramatic marine environment of extensive coral rock formations,

caves, and reefs, and the abundance of sea life surrounding Palau make it a prime spot for snorkeling as well as for scientific research. The waters are warm year-round, and many of the islands have beautiful white sandy beaches that attract tourists and scuba divers from around the world.

## 6 🌐 INLAND LAKES

There are around eighty saltwater lakes in Palau, all of which are generally very small. The lakes were formed by erosion of the limestone terrain of the islands. Some of the lakes have simple, but unique marine life. Jellyfish Lake is located on Eil Malk. This marine lake has been cut off from the ocean for millions of years. Because of this isolation, and the lack of natural predators, the jellyfish that live in the lake have evolved without the venomous sting that is associated with jellyfish that live in the open ocean.

Ngardok Lake, located near the town of Melekeok on Babelthup Island, is the largest freshwater lake on Palau. It is about 720 meters (2362 feet) long, 180 meters (591 feet) wide, and 2.7 meters (9 feet) deep. Besides receiving water from several small rivers, it is also the largest rainwater catchment area in the country.

## 7 🌐 RIVERS AND WATERFALLS

There are no major rivers in Palau, but several smaller rivers and streams run throughout the islands. Ngermeskang River and Tabecheding River are both located on Babelthup.

Mangrove forests exist in coastal areas and the lower portions of many of the country's rivers. Swamp forests are found in low-lying areas, just inland of mangroves and above tidal areas.

## 8 🌐 DESERTS

There are no desert regions in Palau.

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# PALAU

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EPD/Tom Till

*This beach is part of Rock Islands National Park in Palau.*

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Most of the islands are covered with rock or tropical forest; grasslands cover large areas of Babelthuap, however, where forests have been cleared.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The highest point in Palau, Mount Ngerchelchau, is 242 meters (794 feet) above sea level. The peak is located on the main island of Babelthuap, which, compared to the rest of the islands comprising Palau, is high and mountainous. Many of the other islands are low coral atolls.

## **11** 🌐 **CANYONS AND CAVES**

There are a great number of underwater caves and caverns throughout the reefs surrounding Palau. One of the most popular for divers is Chandelier Cave. Located underneath the island of Ngarol, this four-chamber cave has an opening that is 4.6 meters (15 feet) underwater. Divers can enter this opening, then surface into the cave's air-filled chambers to view its large stalactites.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

On the eastern coast of Ngarchelong stands a series of thirty-seven stone monoliths known as Badrulchau. According to local legend, the gods placed the basalt monoliths

## DID YOU KNOW?

Oceania refers to the islands in the region that covers the central and southern Pacific Ocean and its adjacent seas. The boundaries for the region are the Tropic of Cancer in the north and the southern tip of New Zealand. Micronesia is a division of Oceania that includes the islands east of the Philippines and north of the equator. These include the Caroline Islands (of which Palau is a part), the Marshall Islands, the Mariana Islands, and the Gilbert Islands.

here as columns for a *bai*, or meeting house. Archaeologists believe Portuguese or other native ancestors erected the stones some time between 90 and 1665 A.D.

## 13 MAN-MADE FEATURES

Besides the monoliths described above, there are no other significant man-made features affecting the geography of Palau.

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# Panama

- **Official name:** Republic of Panama
- **Area:** 78,200 square kilometers (30,193 square miles)
- **Highest point on mainland:** Volcán Barú (3,475 meters/11,401 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 7 A.M. = noon GMT
- **Longest distances:** 772 kilometers (480 miles) from east to west; 185 kilometers (115 miles) from north to south
- **Land boundaries:** 555 kilometers (345 miles) total boundary length; Colombia 225 kilometers (140 miles); Costa Rica 330 kilometers (205 miles)
- **Coastline:** 2,490 kilometers (1547 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Panama is an isthmus in Central America, a narrow strip of land that connects the larger land masses of Costa Rica and Colombia. The country lies between the Caribbean Sea and the Pacific Ocean. With a total area of about 78,200 square kilometers (30,193 square miles), the country is slightly smaller than the state of South Carolina. Panama is administratively divided into nine provinces and one territory.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Panama has no outside territories or dependencies.

## 3 🌐 CLIMATE

Panama has a tropical climate with temperate areas at the higher elevations of 700 to 1,500 meters (2,297 to 4,921 feet). There are two seasons: a rainy “winter” from May through December, when humidity is 90 percent to 100 percent, and a drier “summer” from January through April, when the northeast trade winds arrive. Panama’s

average temperature is 29°C (84°F) on the coasts and 18°C (64°F) in the highlands.

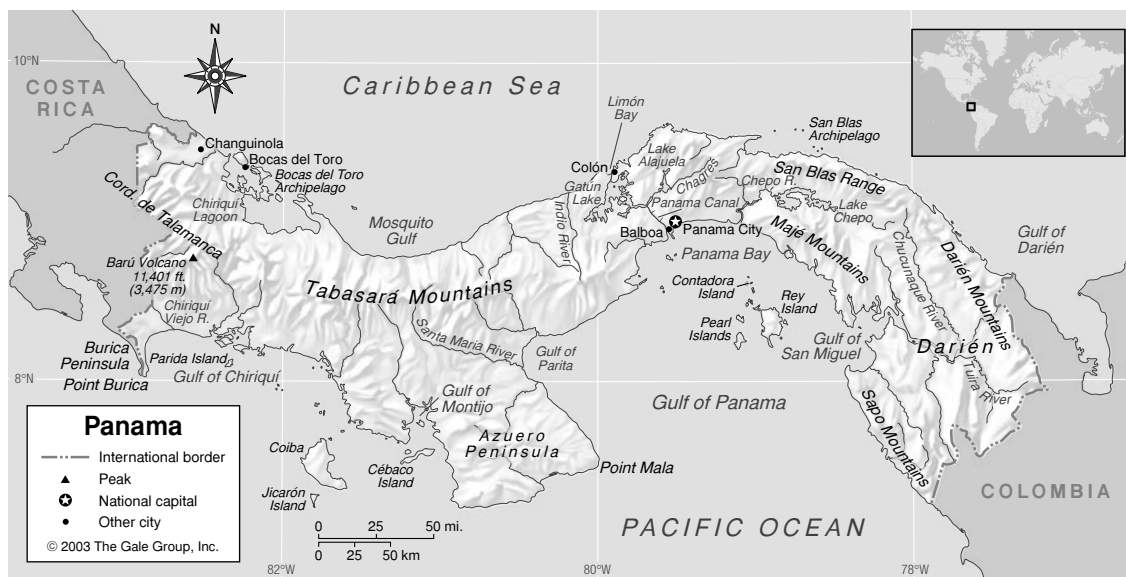
Rainfall patterns are different on Panama’s Caribbean and Pacific coast regions. The Caribbean coast and mountain slopes get rain throughout the year, receiving from 150 to 355 centimeters (59 to 140 inches) annually. The Pacific coast experiences a more distinct dry season and has annual rainfall of 114 to 229 centimeters (45 to 90 inches).

From year to year, Panama has considerable variation in the amount of rainfall, since the country is affected by El Niño and La Niña weather patterns. Panama is not in the path of Caribbean hurricanes.

## 4 🌐 TOPOGRAPHIC REGIONS

Panama, an S-shaped isthmus, divides the Pacific and Atlantic Oceans. The country’s narrowest point is just 48 kilometers (30 miles) across, and its widest is 185 kilometers (115 miles).

# PANAMA



Two parallel mountain ranges traverse Panama; between the mountains are valleys and plains. The highest lands are toward the Costa Rican border; the interior of the country, where the Panama Canal is found, has the lowest elevation.

Panama is seated on the Caribbean Tectonic Plate, but just offshore there are three other plates that bump into the Caribbean Plate: the Cocos Plate to the west, the Nazca Plate to the south, and the South American Plate to the southeast. During the Miocene Epoch, these plates collided, causing the Isthmus of Panama to rise out of the ocean. As the plates kept pushing against one another, the mountain ranges and volcanoes of Panama also rose. Today, the continued interaction of the Cocos, Nazca, and Caribbean Plates causes frequent earthquakes in Panama. Its volcanoes, however, have not erupted in hundreds of years.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Pacific Ocean lies to the south of Panama while the Caribbean Sea (an extension of the Atlantic Ocean) is to the north. Coral reefs

are found along the coastlines; one notable example is the protected coral reef at Isla Basimentos National Park of Bocas del Toro. This reef, located off the northwestern coast, serves as a nesting site for sea turtles. Panama claims the seabed of the continental shelf, which has been defined by the country to extend to the 500-meter submarine contour.

The waters of Panama's Pacific coast, especially within the Gulf of Panama and the Gulf of Chiriquí, are extremely shallow (with depths less than 180 meters/590 feet), with extensive mud flats. Because of this, the tidal range in this area is extreme. The tidal range (the difference in sea level between high and low tide) on the Pacific coast exceeds 700 centimeters (275 inches), while on the Caribbean coast it is only 70 centimeters (27 inches).

### Sea Inlets and Straits

The Caribbean coastline is marked by several good natural harbors; however, Cristóbal, near the Panama Canal, is the only one with significant traffic. The major port on the Pacific is Balboa.

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# PANAMA

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EPD/Saxifraga

*Sea turtles find a suitable nesting site in the waters off Bocas del Toro, Panama.*

From the Costa Rica border to the west, Panama's Caribbean coastline is indented by the Chiriquí Lagoon, and then by the broad Mosquito Gulf, before curving north to the city of Colón and the port of Cristobal on Limon Bay, which is the Caribbean entrance to the Panama Canal. Past the Canal, this coast sweeps south to the Gulf of Darién (Golfo del Darién) and the border of Colombia.

On Panama's Pacific coast, the Gulf of Chiriquí lies between the southwest Point Burica on the Burica Peninsula and the Azuero Peninsula (Península de Azuero). The Gulf of Panama, the largest of the country's Pacific inlets, contains Panama Bay at its apex. There, the capital, Panama City, marks the Pacific entrance to the Panama Canal. The Gulf of Panama is indented on the west by the Gulf of Parita, and on the

east by the Gulf of San Miguel, where rivers flow down from the highlands of Darién.

## **Islands and Archipelagos**

On the Caribbean side, the 366-island San Blas Archipelago stretches for more than 160 kilometers (100 miles) down the eastern Panama coast. The Bocas del Toro Archipelago extends along the west of Panama to the border of Costa Rica.

The Pacific coast has many more offshore islands than the Caribbean. Within the Gulf of Panama are the Pearl Islands, Isla Del Ray, and Contadora Island. Coiba, Panama's largest island at 271 square kilometers (104 square miles), sits in the Gulf of Chiriquí along with Jicarón Island, Cébaco Island, Parida Island, and hundreds of much smaller islands and islets.



# PANAMA

## DID YOU KNOW?

As much as 30 percent of Panama's land is under some degree of official protection—as forest reserves, national parks, or wildlife refuges. Darién National Park is an UNESCO World Heritage Site and Biosphere Reserve extending along most of Panama's border with Colombia. The park's 5,970 square kilometers (2,305 square miles) of mountains and river basins are covered with primary and secondary tropical rainforests, dwarf and cloud forests, and wetlands. Darién National Park is home to jaguars, ocelots, giant anteaters, tapirs, howler monkeys, and many other wildlife species.

### Coastal Features

The Burica Peninsula is located at the western edge of the Pacific coastline. The Azuero Peninsula juts out into the Pacific and separates the Gulf of Chiriquí from the Gulf of Panama. Point Malta is located on the southeast corner of the Azuero Peninsula.

### 6 INLAND LAKES

Gatún Lake, formed by damming the Chagres River, is Panama's largest lake, with an area of 418 square kilometers (161 square miles). Located in the center of Panama at 26 meters (85 feet) above sea level, Gatún Lake is an important bird habitat and includes the Barro Colorado wildlife refuge. Gatún Lake and Lake Alajuela (also known as Lake Mad-den) are supplied by rainwater and provide the

water for the Panama Canal and the drinking water for Panama City. Lake Chepo is another large reservoir in central Panama.

### 7 RIVERS AND WATERFALLS

Panama has more than five hundred rivers, most of which are quite short. Rivers flowing into the Pacific include two of equal length that both are the longest rivers on the country. The Chucunaque and the Chepo are each 215 kilometers (134 miles) long. The Chepo has been dammed to produce hydroelectric power. Other rivers with Pacific outlets are the Santa Maria (168 kilometers/104 miles), Chiriquí Viejo (161 kilometers/100 miles), and the Tuira (127 kilometers/79 miles).

More than 150 rivers draining into the Caribbean, including the Chagres (125 kilometers/78 miles), Changuinola (110 kilometers/68 miles), Indio (92 kilometers/57 miles), and Cricamola (62 kilometers/38 miles). There is a hydroelectric dam on the Chagres, which has its source in mountain cloud forest. The Chagres waters run into Lakes Gatún and Alajuela.

### 8 DESERTS

There are no desert regions in Panama.

### 9 FLAT AND ROLLING TERRAIN

Some regions of natural savannahs exist on Panama's Pacific coast. There are also cattle ranches on the country's central plains, where most of the pastureland is located. Invasive grass species have taken hold in areas deforested by burning and in abandoned pastures.

In Panama, there are three sites that have been designated as Wetlands of International Importance under the Ramsar Convention on Wetlands. Punta Patino in Darién (where there are extensive swamps) is a private nature reserve on a coastal plain with mangroves, salt flats, and reefs; it also is a seabird habitat.

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# PANAMA

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EPD/Saxifraga/Wiel Poelmans

*The copper mines at Cerro Colorado may prove to be among the best in the world.*

The Golfo de Montijo on the Pacific coast is a complex of coastal marshes, mangrove forests, and seasonally flooded grassland. San San-Pond Sak, in Bocas del Toro on the Costa Rican border, is a river basin complex of shallow lakes, mangrove forests, and peat bogs. It is an important bird habitat.

Hills dominate Chiriquí Province in the west, particularly in the Boquete district, where coffee is grown on the hillsides. The Azuero Peninsula and much of the country's center are hilly and are occupied by farming communities.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

A spine of mountains formed by an undersea volcanic chain divides Panama into its Pacific and Caribbean (Atlantic) regions. These two main ranges are the Serrianía de Tabasará in Panama's west and the Cordillera de San Blas in the east. A gap between them in the center

of the country is where the Panama Canal was built. A third mountain system, Cordillera Talamanca on the Costa Rican border, contains Volcán Barú (formerly known as Volcán Chiriquí). It is the highest point in Panama at 3,475 meters (11,401 feet). The peak of Barú, a long-extinct volcano, has views of both the Pacific and Caribbean on clear days. In the east, there are three other smaller mountain ranges. The Majé Mountains run parallel to the Gulf of Panama shore. Entering Panama from Colombia along the Pacific and Caribbean coasts, respectively, are the Sapo Mountains and the Darien Mountains.

The tropical rainforests on the Caribbean region mountain slopes, particularly in the Darién region near Colombia, have an extremely high level of biodiversity, with species from both North and South America. In ad-

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# PANAMA

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dition to the rainforests, there also are dwarf forests and cloud forests in the mountains.

## 11 🌐 CANYONS AND CAVES

The rugged terrain of western Panama contains narrow river canyons. Erosion has carved gorges in Darién, the thickly forested region in the east.

Though not fully explored, the Cerro Colorado copper mine in Chiriquí Province has the potential to be one of the largest copper mines in the world. Another copper mine is located west of Panama City in Petaquilla.

## 12 🌐 PLATEAUS AND MONOLITHS

The El Santuario Plateau rises 400 meters (1,212 feet) in the Boquete district of Chiriquí Province, near the border with Costa Rica.

## 13 🌐 MAN-MADE FEATURES

Since its opening in 1914, the Panama Canal has been an extremely important link between the Pacific and the Atlantic Oceans. Before the canal was built, ships carrying passengers and goods between the western coasts of North and South America and Europe had to travel all the way around the coast of South America to reach their destination. French and American companies built the canal, beginning its construction in 1881. The Panama Canal route shortens a boat trip from New York to San Francisco by an incredible 7,872 miles.

The canal channel is 82 kilometers (51 miles) long, with entrances at Limón Bay on the Atlantic side and the Bay of Panama on the Pacific side. A ship entering Limón Bay is raised by a set of three locks (known as the Gatún Locks) to an elevation of 25.9 meters (85 feet) above sea level. It then crosses Gatún Lake and a stretch known as the Gaillard (formerly Culebra) Cut before reaching the Pedro Miguel Lock, which lowers the ship into Miraflores Lake. Once across Miraflores, a set

of two locks (known as the Miraflores Locks) lowers the ship to sea level. On the return trip, the ship undergoes the same process in reverse. It takes about eight to ten hours for a ship to complete its passage through the canal.

A number of dams have been constructed in order to regulate the flow of water through and around the canal. The Gatún Dam on the Chagres River created Lake Gatún. The dam was built with soil and rock that was excavated as the canal was being built. The two Miraflores Dams created Miraflores Lake. One of them is an earth-fill dam. The other was made of concrete. An earth-fill dam near the Pedro Miguel Lock helps to regulate the water used in its operation.

The United States government owned and operated the canal and the area surrounding it (known as the Canal Zone) until December 31, 1999. On that date, the U.S. government turned over the entire operation to Panama.

## 14 🌐 FURTHER READING

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# Papua New Guinea

- **Official name:** Independent State of Papua New Guinea
- **Area:** 462,840 square kilometers (178,704 square miles)
- **Highest point on mainland:** Mount Wilhelm (4,509 meters/14,793 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 10 P.M. = noon GMT
- **Longest distances:** 2,082 kilometers (1,294 miles) from north-northeast to south-southwest, 1,156 kilometers (718 miles) from east-southeast to west-northwest
- **Land boundaries:** 820 kilometers (510 miles) total boundary length, all with Indonesia
- **Coastline:** 5,152 kilometers (3,201 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The territory of Papua New Guinea includes the eastern half of the island of New Guinea and a group of offshore islands, all located in the southwest Pacific between the Coral Sea and the South Pacific Ocean. The country shares a land border with Indonesia. With a total area of about 462,840 square kilometers (178,704 square miles), the country is slightly larger than the state of California. Papua New Guinea is divided into twenty provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Papua New Guinea has no outside territories or dependencies.

## 3 🌐 CLIMATE

Papua New Guinea is a tropical country, but it has two main seasons and two transition periods: December through March brings the northwest monsoon, April is a transition month, May through October brings the southeast monsoon, and November is a transition month. Average lowland temperatures range from 21°C to 32°C (70°F to 90°F) while the Highlands have temperatures as cold as

3°C (37°F). Lowland humidity averages 75 percent to 90 percent, and Highland humidity averages 65 percent to 80 percent.

Most of Papua New Guinea gets its rain from the northwest monsoon from December through March, but some areas, such as Lae and the Trobriand Islands, get their main rainfall from May through October. The Solomon Islands and the Louisiade Archipelago are out of the monsoon pattern, so rainfall occurs there year-round.

Port Moresby receives less than 127 centimeters (50 inches) of rain per year. Rainfall is heaviest in the island of New Guinea's western river basin region, averaging up to 584 centimeters (230 inches) a year. The average annual rainfall for all of Papua New Guinea is 203 to 254 centimeters (80 to 100 inches). Snow and ice cover the highest mountain peaks.

## 4 🌐 TOPOGRAPHIC REGIONS

The island of New Guinea, the second-largest in the world (820,003 square kilometers/316,605 square miles), is divided in half between Papua New Guinea and the Indonesian

# PAPUA NEW GUINEA



province of Papua (formerly Irian Jaya.) The border between the two is a nearly straight north-south line. The island of New Guinea was formed by the colliding Australian and Pacific Tectonic Plates. New Guinea's mountains have isolated the surrounding regions from one another, producing diversity in languages, customs, and wildlife. The mountains form chains crossing the island, with riverine plains interspersed. Hundreds of smaller volcanic and coral islands lie off the eastern shore to complete the nation of Papua New Guinea, but 85 percent of the total land area is on the island of New Guinea itself.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The seas surrounding New Guinea all belong to the Pacific Ocean. The Bismarck Sea is to the north of the main island of New Guinea and is encircled by the Bismarck Archipelago. To the east of New Guinea is the Solomon Sea,

which is enclosed by New Britain, Bougainville, and the Solomon and Trobriand Islands. The Coral Sea is south of New Guinea and north of Australia.

About 40,000 square kilometers (15,444 square miles) of coral reefs, rich in marine life, lie close to the shore of New Guinea. The Ontong Java Plateau, one of the world's largest ocean lava platforms, is to the northeast of New Guinea. The Eastern and Papuan Plateaus lie beneath the Coral Sea.

### Sea Inlets and Straits

The D'Entrecasteaux Islands enclose Milne Bay at the southeastern end of New Guinea. The Gulf of Papua is an inlet of the Coral Sea on Papua New Guinea's southern coast. The coast indents at Astrolabe Bay near the town of Madang. The Torres Strait separates New Guinea from the northern tip of Australia and leads to the Arafura Sea of Indonesia. The Vi-

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# PAPUA NEW GUINEA

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tiaz Strait flows between the Huon Peninsula and New Britain. The natural harbor of Port Moresby, the nation's capital, is situated on the south side of the arm of southeast New Guinea.

## Islands and Archipelagos

Papua New Guinea includes more than fourteen hundred islands besides New Guinea itself. Off the north coast of New Guinea are the volcanic Manam, Karkar, Long, and Umboi Islands. To the east of New Guinea are the islands of the Bismarck Sea and Solomon Sea. A chain of volcanoes formed New Britain Island, in the western Bismarck Archipelago. New Ireland, also in the western Bismarck Archipelago, contains limestone mountains. New Hanover and Mussau are smaller islands in the same area. Further west in the Bismarck Archipelago is Manus. Manus and the surrounding coral atolls form the Admiralty Islands.

The two largest islands in Papua New Guinea are the mountainous, mineral-rich Bougainville, which is 204 kilometers (127 miles) long and 80 kilometers (50 miles) wide; and Buka, which is 56 kilometers (35 miles) long and 14 kilometers (9 miles) wide. These two land masses are part of the chain of islands known as the Solomon Islands (not to be confused with the country of that same name). There are also many small atolls near these islands.

Many of the twenty-two small islands comprising the Trobriand Group in the Solomon Sea are low coral types. They include Kaileuna, Kiriwina, Kitava, and Vakuta. Other island groups in the Solomon Sea include the D'Entrecasteaux Group, the Louisiade Archipelago, and the Woodlark Group.

## Coastal Features

The northern coast of Papua New Guinea slopes to the southeast from the Indonesian border along Cape Moem and the outlets of the Sepik and Ramu Rivers. In the southeast, the Huon Peninsula protrudes above the Huon Gulf, an indentation of the Solomon Sea. Cape Ward Hunt extends southeast from the Huon Gulf, leading into the long arm of southeast New Guinea, formed by the Owen Stanley Range.

## 6 INLAND LAKES

The largest lake in the country is Lake Murray. It is a 647-square-kilometer (250-square-mile) freshwater lake that connects with the Strickland River in western New Guinea. The lake and river both are badly polluted with chemicals from nearby mining operations. Lake Kutubu, in the southern Highlands, has been designated a Wetland of International Importance under the Ramsar Convention on Wetlands. The 49-square-kilometer (19-square-mile) site includes the pristine lake and adjacent swamp forest. The lake contains ten unique fish species.

The Muruk Lakes are a group of freshwater lakes and saltwater lagoons in the Sepik River region with mangrove forests around them. Also in the Sepik region are the Blackwater Lakes and the Chambri Lakes, a 216-square-kilometer (83-square-mile) system of linked shallow lakes and swamps.

## 7 RIVERS AND WATERFALLS

The Fly, Purari, and Kikori Rivers all flow southward into the Gulf of Papua. The Sepik, Markham, and Ramu Rivers flow northward into the Pacific. The Fly River and Sepik River are crucial transportation routes. Rising in the Star Mountains, the twisting Fly River is navigable for 805 kilometers (500

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# PAPUA NEW GUINEA

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EPD/Cynthia Bassett

*The Sepik River is one of Papua New Guinea's most important transportation routes.*

miles). It is 80 kilometers (50 miles) wide at its entry to the Gulf of Papua. The Fly forms a 1,200-kilometer-long (746-mile-long) river system with the Ok Tedi and Strickland Rivers, creating the largest river network in the country. The Sepik River, which is 1,126 kilometers (698 miles) long, has its source in the Victor Emmanuel Mountains. It is wide and navigable throughout its entire length and has no real delta.

Savannahs, mixed with scrub woods and swamps, stretch from the Fly and Sepik Rivers into Indonesian Papua. These coastal grasslands flood during the rainy season.

## **8** 🌐 **DESERTS**

There are no desert regions in Papua New Guinea.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Tonda Wildlife Management Area is also a Ramsar Wetland of International Importance. It is located near the Indonesian Papua border and covers an area of about 5,900 square kilometers (2,278 square miles). The site includes coastal plains that flood seasonally as well as grasslands and mangroves, all of which are waterbird habitat.

Tropical rainforest covers as much as 77 percent of Papua New Guinea. These forests are a wealth of biodiversity. Papua New Guinea has an estimated 11,000 plant species, 250 mammal species, and 700 bird species.

The steep mountains of the Highlands have very few foothills. Hill areas of the island of New Guinea include the upper Sepik region and the countryside surrounding Port Moresby.

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## PAPUA NEW GUINEA

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EPD/Cynthia Bassett

*A view from the Highlands of Papua New Guinea.*

The valleys in the central Highlands have grasslands that were produced by burning forests to clear land for agriculture. Alpine grasslands exist at elevations above 3,353 meters (11,000 feet), where there is a moist, cool climate.

### **10** 🌐 **MOUNTAINS AND VOLCANOES**

The island of New Guinea is rugged, with many high peaks. At the center of the island are the Highlands, which include the Bismarck Range. Papua New Guinea's highest peak, Mount Wilhelm (4,509 meters/14,793 feet), is in the Bismarck Range. The second-highest summit, also in the central mountain complex, is Mount Giluwe, an extinct volcano at an elevation of 4,367 meters (14,327 feet). Another major mountain range, the Owen Stanley, is found in the southeast. The highest peak there is Mount Victoria (4,073

meters/13,363 feet). The Finisterre, Sarawat, and Rawlinson ranges line the northeast coast. They are made of coral limestone and extend into New Guinea from the sea. In the west of New Guinea, near the Indonesian Papua border, the Star, Hindenburg, and Victor Emmanuel ranges also are made of limestone.

Many of the islands in Papua New Guinea are volcanic in origin, with rugged terrain and peaks above 1,524 meters (5,000 feet). The Father, on New Britain, rises to 2,300 meters (7,546 feet), but the tallest peak on the outer islands is Balbi (2,743 meters/8,999 feet), located on Bougainville.

Most of the active volcanoes are on the southeastern arm of New Guinea, the large island of New Britain, and other islands.



# PAPUA NEW GUINEA

## DID YOU KNOW?

The Ok Tedi mine is a major producer of copper concentrate for the world smelting market. It is located on Mount Fubilan in the Star Mountains of western New Guinea. An average of 80,000 metric tons of material are mined each day. In 2001, Ok Tedi Mining Limited exported 694,900 dry metric tons of copper concentrate. This mixture contained 203,762 tons of copper, 455,222 ounces of gold, and 1,150,031 ounces of silver. At this rate of production, the mine will be depleted of its resources by 2010.

## 11 🌐 CANYONS AND CAVES

Numerous canyons, gorges, and ravines slice through the rugged mountain terrain of New Guinea. The upper Fly River has many deep gorges. The region between the northeastern coastal mountains and the central Highlands, where the Sepik and Markham Rivers and their tributaries flow, is known as the Central Depression.

In the west of New Guinea, the Star, Hindenburg, and Victor Emmanuel ranges contain many deep limestone caves.

## 12 🌐 PLATEAUS AND MONOLITHS

The Great Papuan Plateau is in the central mountains, rising 1,500 to 2,000 meters (4,921 to 6,562 feet) above sea level. It is a limestone formation, with many caves and petroleum deposits. The Oriomo Plateau rises in the west. Nine rivers run through it from east to west into Indonesian Papua. Tabubil Plateau, also in the west, is the site of the enormous Ok Tedi copper and gold mine. Sogeri Plateau, on the outskirts of Port Moresby, is 800 meters (2,625 feet) in elevation and is home to many bird species.

## 13 🌐 MAN-MADE FEATURES

There are no significant man-made structures affecting the geography of Papua New Guinea.

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# Paraguay

- **Official name:** Republic of Paraguay
- **Area:** 406,750 square kilometers (157,047 square miles)
- **Highest point on mainland:** Cerro Pero (842 meters/2,762 feet)
- **Lowest point on land:** Junction of Paraguay River and Paraná River (46 meters/151 feet)
- **Hemispheres:** Southern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 491 kilometers (305 miles) from east-northeast to west-southwest; 992 kilometers (616 miles) from north-northwest to south-southeast
- **Land boundaries:** 3,920 kilometers (2,436 miles) total boundary length; Argentina 1,880 kilometers (1,168 miles); Bolivia 750 kilometers (466 miles); Brazil 1,290 kilometers (802 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Located in the south-central interior of South America and bisected laterally by the Tropic of Capricorn, Paraguay is separated from Argentina on the west by the Pilcomayo and Paraguay Rivers and on the south by the Alto Paraná River. On the east, it is separated from Argentina and Brazil by the higher reaches of the Alto Paraná. On the north and northwest, its border with Bolivia is marked by small streams and by surveyed boundary lines. Paraguay is seventh in size among the South American nations and one of only two landlocked countries on the continent (the other is Bolivia). With an area of 406,750 square kilometers (157,047 square miles), Paraguay is almost as large as the state of California.

## 2 🌐 TERRITORIES AND DEPENDENCIES

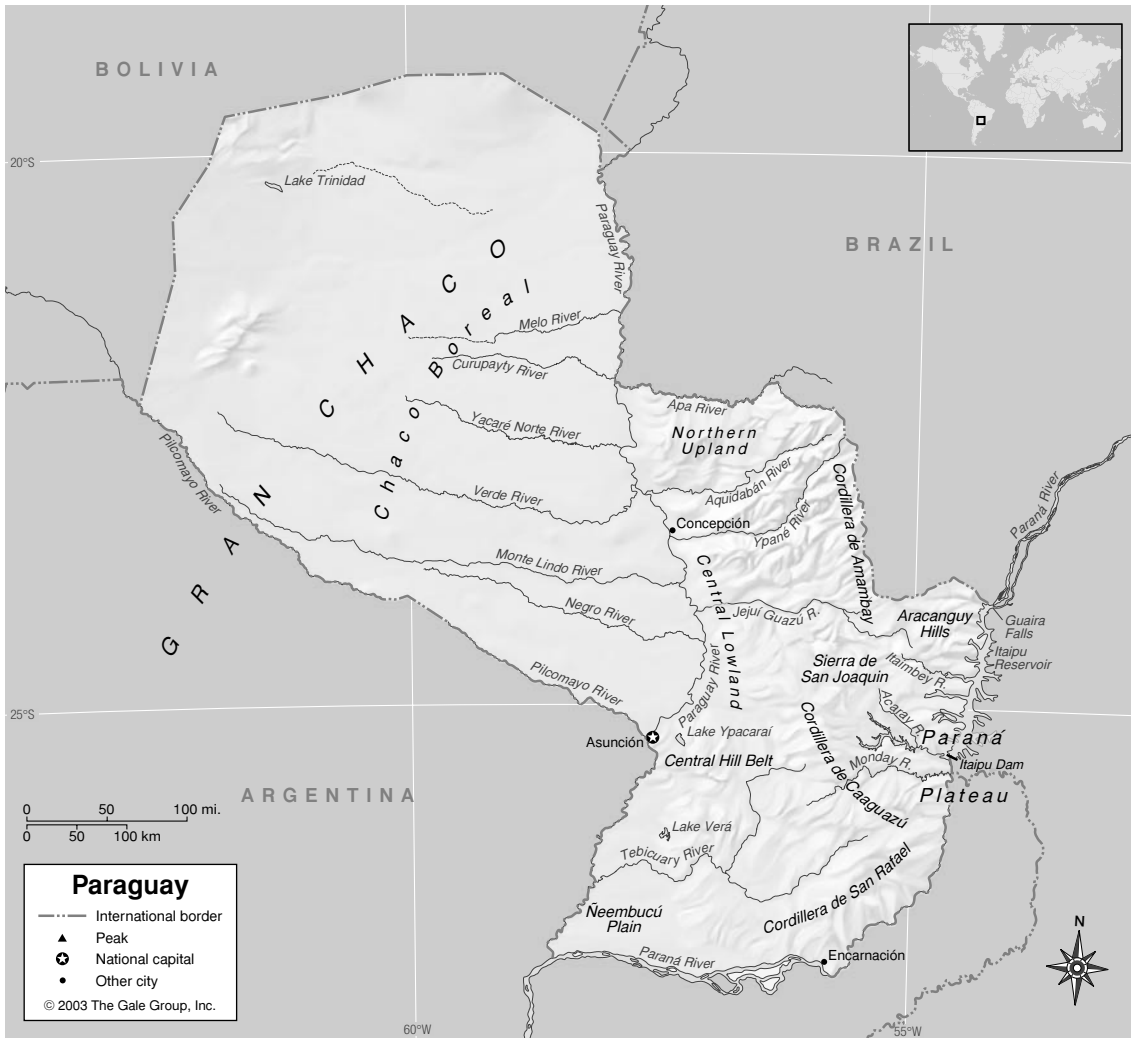
Paraguay has no territories or dependencies.

## 3 🌐 CLIMATE

Most of the Eastern Paraguay region lies south of the Tropic of Capricorn and thus has

a subtropical climate. The Chaco region to the west, which lies mostly between the Tropic of Cancer and the Tropic of Capricorn, has a tropical climate. There are basically two seasons: summer (October through March) and winter (May through August), with April and September serving as transitional months. Average summer temperatures range from about 25°C (77°F) to 38°C (100°F). Summer highs in the east usually do not rise much above 32°C (90°F), whereas highs in the west can top 43°C (109°F). Average winter temperatures are usually between about 16°C (60°F) and 21°C (70°F). Rainfall is heaviest on the Paraná Plateau in the east, where it averages over 152 centimeters (60 inches) annually, decreasing to about 127 centimeters (50 inches) in the lowlands east of the Paraguay River, and about 76 centimeters (30 inches) in the Chaco region west of the river. Most of the rain falls in the summer months, but rainfall is generally irregular.

# PARAGUAY



## 4 🌐 TOPOGRAPHIC REGIONS

Flowing south from Brazil, the Paraguay River divides the country into two contrasting regions. The three-fifths of Paraguay north and west of the river is the Chaco, a hot, flat, semiarid plain with little vegetation and few inhabitants. The two-fifths of the country to the south and east is called Eastern Paraguay, sometimes referred to as Paraguay Proper. Its lush and diverse landscape is home to nearly the entire population of the country. The east-

ernmost part of this region forms the western end of the Paraná Plateau, which also extends into Brazil and Argentina.

## 5 🌐 OCEANS AND SEAS

Paraguay is landlocked.

## 6 🌐 INLAND LAKES

The largest freshwater lakes are the shallow Lake Ypacaraí in the Central Hill Belt and Lake Ypoá on the Ñeembucú Plain.

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## PARAGUAY

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AP Photo/Walter Astrada

*A man carries a cayman (type of South American crocodile) in a field near a lagoon northeast of Asunción. Thousands of caymans in the area are threatened because the small lakes are drying up due to drought and the rerouting of water from the Pilcomayo River for crop irrigation.*

The cayman is a type of crocodile native to Central and South America. Thousands of caymans in Paraguay are threatened because the small lakes are drying up. The lake and lagoon habitats of the caymans began to dry up when water from the Pilcomayo River was rerouted so that farmers could use it to irrigate their crops. The government is experimenting with a program to move the caymans to another location.

### **7** **RIVERS AND WATERFALLS**

The Paraguay and Alto Paraná Rivers and their tributaries define most of the country's frontiers.

Rising in the Mato Grosso of Brazil, the Paraguay River borders or passes through the country along a southward course of about

1,128 kilometers (700 miles). The Paraná River flows some 804 kilometers (500 miles) from the Brazilian frontier at the Guaira Falls, where it becomes known as the Alto Paraná River, to its juncture with the Paraguay River. The third-largest river, the Pilcomayo, is a tributary of the Paraguay and enters it near Asunción after following the entire length of the frontier between the Chaco and Argentina. The Verde and Monte Lindo Rivers also enter the Paraguay River from the Chaco. Major tributaries of the Paraguay River entering it from Eastern Paraguay include the Apa, Ypané, and Jejuí-Guazú. Some sixteen rivers—including Acaray, Monday, and Itaimbey—enter the Alto Paraná above Encarnación.

# PARAGUAY

## 8 🌐 DESERTS

Paraguay has no deserts.

## 9 🌐 FLAT AND ROLLING TERRAIN

Between the two westward extensions of the Paraná Plateau lies the Central Lowland, which slopes gently upward toward the plateau and is covered largely with savannah. Its most conspicuous features are flat-topped, forested hills projecting 6 to 9 meters (20 to 30 feet) above the grassy plain and covering areas ranging from a few acres to several square miles. They are called *islas de monte* (mountain islands).

The Chaco region is part of the South American Gran Chaco, which extends from Argentina to the fringes of Bolivia and Brazil. Its eastern border is the Paraguay River and its southwestern edge is the Pilcomayo River. Except for low hills in the northeast, the featureless landscape is virtually flat, broken by intermittent rivers and streams and by extensive swamps in the south. In the southwestern part of Paraguay's eastern region lies the Ñeembucú Plain, an alluvial flatland bisected by the Tebicuary River.

## 10 🌐 MOUNTAINS AND VOLCANOES

The mountains of the Paraná Plateau include the Cordillera de Amambay, which extends southward from Brazil along the border with Paraguay, and, to the southeast, the Cordillera de San Rafael, which contains the country's highest peak.

## 11 🌐 CANYONS AND CAVES

The pre-Columbian caves in the Cerro Corá National Park are among the country's major historical and natural attractions.

## 12 🌐 PLATEAUS AND MONOLITHS

The heavily wooded Paraná Plateau occupies one-third of Eastern Paraguay. At its western edge is an escarpment that descends from an altitude of about 457 meters (1,500 feet) in

## DID YOU KNOW?

The prairies and swamps of Paraguay's Chaco region, while nearly uninhabited by humans, provide a habitat for a diverse array of wildlife, including such unusual species as anteaters, armadillos, tapirs, peccaries, and the capybara, the world's largest rodent, which can grow to a length of over 1 meter (4 feet).

the north to about 183 meters (600 feet) at its southern extremity. Eroded extensions of the Paraná Plateau further divide Eastern Paraguay into sub-regions.

## 13 🌐 MAN-MADE FEATURES

The Itaipu Dam, located on Paraguay's border with Brazil, supplies more than three-fourths of Paraguay's electrical power. Built jointly with Brazil and completed in the 1980s, it is the largest hydroelectric generation facility ever built. It is 196 meters (643 feet) high and 7.8 kilometers (4.8 miles) long.

## 14 🌐 FURTHER READING

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# Peru

- **Official name:** Republic of Peru
- **Area:** 1,285,220 square kilometers (496,226 square miles)
- **Highest point on mainland:** Nevado Huascarán (6,768 meters/22,205 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Western
- **Time zone:** 7 A.M. = noon GMT
- **Longest distances:** 1,287 kilometers (800 miles) from southeast to northwest; 563 kilometers (350 miles) from northeast to southwest
- **Land boundaries:** 5,536 kilometers (3,440 miles) total boundary length; Bolivia 900 kilometers (559 miles); Brazil 1,560 kilometers (969 miles); Chile 160 kilometers (99 miles); Colombia 1,496 kilometers (930 miles); Ecuador 1,420 kilometers (882 miles)
- **Coastline:** 2,414 kilometers (1,500 miles)
- **Territorial sea limits:** 370 kilometers (200 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Peru is located on the western coast of South America, just south of the equator. It is the third-largest country in South America and shares borders with Ecuador, Colombia, Brazil, Bolivia, and Chile. With a total area of about 1,285,220 square kilometers (496,226 square miles), the country is slightly smaller than the state of Alaska. Peru is divided into twenty-four departments and one constitutional province.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Peru has no territories or dependencies.

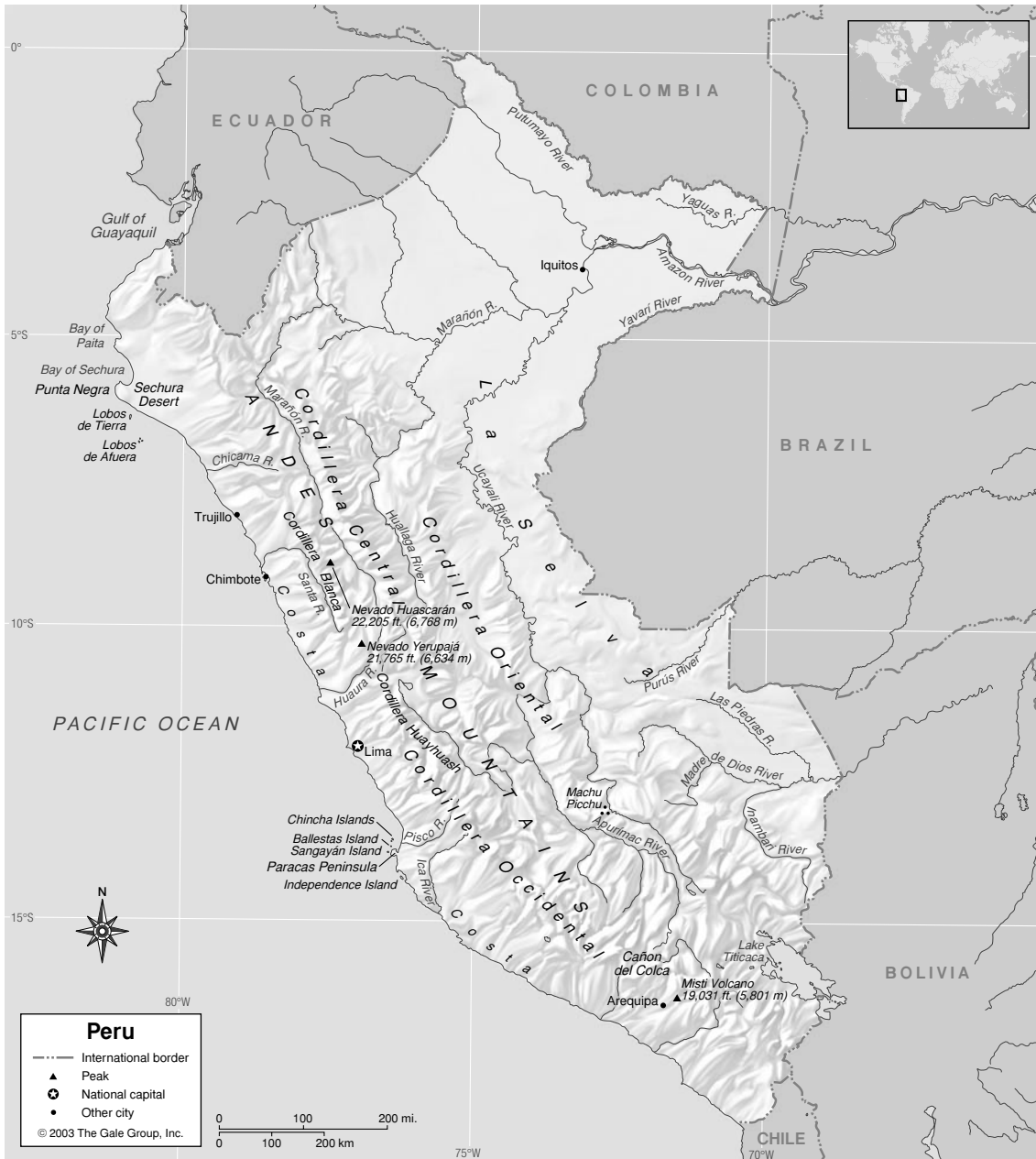
## 3 🌐 CLIMATE

Peru has two seasons that correspond to rainfall rather than to temperature. Summer is from January through March and winter is during the remainder of the year. Because of extremes in topography, average temperatures vary greatly between regions.

In the La Sierra region, temperatures average 8°C (47°F) all year. To the east in the *montaña* forests, the temperature is warmer but still fairly moderate. To the south, in La Selva and the jungles of the Amazon Basin, temperatures average 20°C (68°F) and can soar as high as 35°C (95°F) during the hottest months. The Coast (La Costa) is also warm all year, averaging 20°C (68°F). Despite being a desert area, these relatively moderate temperatures are credited to nearly constant cold air movement. The Peru (Humboldt) Current is a wind blowing from the very cold waters, located in the Peru-Chile Trench of the Pacific Ocean, toward the equator.

In addition to the chilly Peru Current, Peru is affected by a second weather phenomenon: El Niño. Every four to ten years, El Niño presents the strongest climate-changing phenomenon on Earth. El Niño is a warm current originating from the central Pacific Ocean along the coasts of Peru and Ecuador that, among other effects,

# PERU



brings flooding rains and unusually warm temperatures to Peru. Peruvian fishermen chose the name El Niño, which refers to the infant Christ, because the weather system begins near Christmas. El Niño has strong worldwide

effects on climate, as well as on fishing, agriculture, and animal and plant life.

Most rain and moisture originates from trade winds to the east, blowing across the Amazon Basin. Because the mountains trap

nearly all the rains, the coastal plain is relatively dry year-round, averaging less than 2.5 centimeters (one inch) of annual rainfall in Lima. During the winter season, however, a nearly constant mist, the *garua*, shrouds the coast. In extreme contrast, the eastern forests receive an average annual rainfall of 245 centimeters (100 inches); in some years, these areas are inundated with up to 350 centimeters (140 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Peru is a country of geographic extremes. Consider, for example, that two canyons in Peru are each twice as deep as the Grand Canyon in the United States. Peru also has the highest navigable lake in the world and has some of the world's highest and most spectacular mountains. Off the Pacific Ocean shoreline is a trench as deep as the Andes Mountains are high, and the driest desert on earth is located in Peru.

Peru has three major topographic regions running from north to south: La Costa, La Sierra, and La Selva. La Costa, bordering the Pacific Ocean, is a 2,414-kilometer- (1,500-mile-) long desert; it is only 16 kilometers (10 miles) wide at one point, but it widens to about 160 kilometers (100 miles) in both the north and the south. La Sierra is the Peruvian portion of the Andes, a vast mountain range crossing Peru and parts of Bolivia, Chile, and Ecuador. La Selva covers roughly 60 percent of Peru. It is the rainforest region of the Amazon Basin, between the mountains of La Sierra and the eastern foothills.

Peru has occasional volcanic activity and earthquakes from the effect of the offshore Nazca Tectonic Plate moving under the South American Plate, on which Peru sits.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The western border of Peru is the Pacific Ocean. Offshore, the ocean floor drops quickly into the Peru-Chile Trench, a trench that is 1,770 kilometers (1,100 miles) long and averages a depth of 5,000 meters (16,400 feet), as deep as the Andes Mountains are tall. Cold water rising in the underwater trench generates the chilly coastal winds named the Peru Current.

### Sea Inlets and Straits

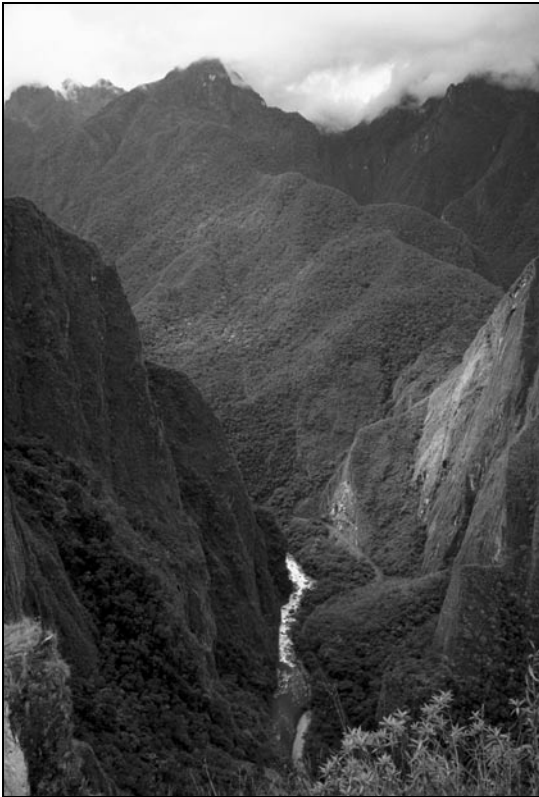
A section of the north coast near Ecuador has two inlets: Bahía de Paita (Paita Bay) and the larger Bahía de Sechura (Sechura Bay).

### Islands and Archipelagos

The Islas de los Uros, in the Peruvian part of Lake Titicaca, may be the most unique inhabited islands in South America. The Uros are made of reeds that float; consequently, they are also called Islas Flotantes. The largest islands in the group are Toranipata, Huaca Huacani, and Santa Maria. Lake Titicaca also surrounds more than thirty normal islands on each side of the Peru/Bolivia border. On the Peruvian side, two important islands, both to the east of Islas de los Uros, are Isla Taquile and Isla Amantani; the latter contains Inca ruins. A third, Isla Esteves, is connected to the mainland town of Puno by a causeway.

Because the ocean floor is so steep, few islands appear off the Pacific coast of Peru, and those that do are relatively small. Starting from the north, a few kilometers from the shore of the Sechura Desert, are Isla Lobos de Tierra and Islas Lobos de Afuera, the latter of which actually is composed of two tiny islands. Much further south, near the mouth of the Pisco River within Reserva Nacional





EPD/Wilko Gijbsbertsen

*The Urubamba River flows through  
El Valle Sagrado.*

de Paracas, are several islands notable for the rare sea animals and birds that live there, including the most northern habitat of penguins. From north to south they are the Chincha Islands, Islas Ballestas, Islas de Sangayán, and Isla de la Independencia.

## Coastal Features

The coastline is somewhat featureless, with few ports, bays, or dramatic points. The Pacific coast begins at the border with Ecuador in the Gulf of Guayaquil. Punta Negra on the northern coast separates Bahía de Paita and Bahía de Sechura. Further south, the Paracas Peninsula juts out below Lima near the town of Pisco.

## 6 INLAND LAKES

Dozens of small lakes filled by milky-blue glacial water speckle the Peruvian Andes. One notably large lake, Lake Titicaca, is by far the largest lake in the country. At 3,856 meters (12,650 feet) above sea level, Titicaca is the world's highest navigable lake. It is situated in the mountains, in Peru's southeastern corner on the border with Bolivia. The lake is nearly equally shared between the two countries. Titicaca is 220 kilometers (136 miles) long and 60 kilometers (37 miles) at its widest. Its surface covers a total area of 8,320 square kilometers (3,212 square miles) and its maximum depth is 360 meters (1,181 feet).

In 1998, the especially severe El Niño created Peru's newest lake. It is located in the northern desert district of Piura and was formed from rainfall and drainage off the western mountains. It has become the second-largest lake in Peru, but it has not yet been named. Experts expect the lake will dry out in a few years unless another El Niño occurs.

## 7 RIVERS AND WATERFALLS

About sixty rivers flow generally westward through the coastal plains to empty into the Pacific. They are relatively short and low-volume. The rivers swell during the few rainy months, then diminish or even dry up during the arid season. Rio Santa is an exception. It is larger in volume than the other rivers flowing into the Pacific and flows mostly from north to south for 160 kilometers (100 miles). Other rivers that empty into the Pacific include the Chicama, the Huaura, the Pisco, and the Ica Rivers.

Scores of rivers flow eastward into the Amazon Basin. Because of heavy rainfall, these rivers carry a tremendous volume of water. Many of these rivers are tributaries that create the Amazon. The Amazon is the second-longest river in the world with a total length of about 6,570 kilometers (4,080 miles). In 2000, a National Geographic

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## PERU

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EPD/Wilko Gijbsbertsen

*Southwest Peru, near the Cañon del Colca.  
The region provides habitat for the large bird, the Andean condor.*

expedition established the precise source of the Amazon to be a stream running from Nevado Mismi, an 5,597-meter (18,363-foot) mountain in the Cordillera del Chila of the central-south Andes. It is the farthest point from which water flows year-round into the Amazon. Less than one-tenth, or a total of 592 kilometers (368 miles), of the Amazon flows through Peru, however. The river flows through Colombia and Brazil before reaching the Atlantic Ocean. It has eighteen major tributaries, including ten that are larger than the Mississippi River. The river is also known as having the world's largest flow of water, emptying about 80 million gallons of water per second into the Atlantic Ocean. The Amazon Basin is home to the world's largest tropical rainforest area.

Major northeastern Peruvian rivers that contribute to the Amazon include the Marañón, the Ucayali, and the Yavarí. The Marañón flows

northeast from the Andes and the Ucayali flows north from central Peru; both tributaries join the Amazon in the northeast. The Marañón has many tributaries of its own, including the Napo, Mantaro, Huallaga, Tigre, and Pastaza. Rivers that feed into the Ucayali include the Urubamba and the Apurímac. The Urubamba River flows through El Valle Sagrado (The Sacred Valley), beside and below the ancient city of Machu Picchu. The Yavarí River flows somewhat parallel and to the east of the Urubamba and makes up most of Peru's border with Brazil. The Putumayo River, which forms the border with Colombia, later joins the Amazon in Brazil.

In southeastern Peru, there are several important rivers. The Purús, Río de las Piedras, Madre de Dios, and Inambari drain the region north of Lake Titicaca. They all flow northeast and join the Amazon thousands of miles later, in Brazil.

**DID YOU KNOW?**

The Nazca lines, created by the ancient Nazca people of southern Peru, continue to mystify archaeologists. The elegant lines are really a series of over three hundred pictures or drawings of animal and plant figures (called biomorphs) and geometric figures (also called geoglyphs) that were created in the desert plains on the southern coast of Peru, about 400 kilometers south of Lima. Since the lines of the pictures extend for hundreds of meters, the images are only completely recognizable from the air; because of this, they were not discovered until the 1920s as airplanes began to fly over the area. The Nazca people created the lines by moving aside the dark stones of the desert to reveal the lighter-colored sands beneath.

Since the climate there is very dry and relatively windless, the pictures have remained for centuries. Archaeologists have not yet agreed on why the Nazca people drew the pictures. One theory indicates that the images were created as part of rituals involving the worship of sky gods and ancient astronomy or astrology practices.

Besides various estuaries, one remote large wetland in the northeast Selva region is especially interesting. Reserva Pacaya Samiria (20,800 square kilometers/8,031 square miles) is a complex expanse of alluvial terraces and floodplains covered by tropical rainforest. It contains two river basins, permanent freshwater lakes, and seasonally flooded, forested wetlands.

**8 🌐 DESERTS**

The western side of Peru, bordering the Pacific Ocean, is desert. One particularly inaccessible area in the far northwest is the Sechura Desert. This desert consists of shifting sand dunes and borax lakes. It is a national reserve area.

The driest area anywhere on Earth is at Peru's far south near the Chilean border. This region marks the beginning of the Atacama Desert, an area that virtually never receives rain and is measurably drier than the Sahara Desert.

**9 🌐 FLAT AND ROLLING TERRAIN**

Some of the world's most spectacular forests are in Peru. An enormous band of tropical cloud forests (*montaña*) form a natural border between the Andes and the Amazon Basin to the east. Starting at about 2,500 meters (8,200 feet) and below, the mountain vegetation changes from grasses to bushes, shrubs, and then trees. This transition in vegetation is sharply noticeable, hence the Spanish name for it: *ceja de la montaña* (eyebrow of the forest). Further east and south, toward Brazil, is La Selva, the lowland forest and rainforest region of Peru. Over some areas of this region, the forest is so dense that access to it exists only along the rivers.

**10 🌐 MOUNTAINS AND VOLCANOES**

The Andes Mountains (Cordillera de los Andes) is the world's longest continuous mountain chain. At about 8,045 kilometers (5,000 miles) long, it stretches down the entire western coast of South America, from Venezuela to

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# PERU

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the Tierra del Fuego of Argentina. The Andes is the second-highest mountain range in the world, with some peaks rising more than 6,096 meters (20,000 feet).

Covering the greater part of the country, the Andes Mountains in Peru are subdivided into three main parallel ranges. From west to east, they are the Cordillera Occidental, the Cordillera Central, and the Cordillera Oriental. The Cordillera Occidental is further divided into the adjacent Cordillera Blanca and Cordillera Huayhuash. Nevado Huascarán, Peru's highest mountain, towering to 6,768 meters (22,205 feet), is in the Cordillera Blanca about 97 kilometers (60 miles) inland from the coastal city of Chimbote. The Cordillera Huayhuash is lower but includes Nevada Yerupajá at 6,634 meters (21,765 feet) and Cerro Jyamy at 5,197 meters (17,050 feet). In the south are two of the highest volcanoes in the world: Volcán Misti, which rises to 5,801 meters (19,031 feet) at the edge of Arequipa, and the slightly shorter Volcán Yucamani, which reaches 5,444 meters (17,860 feet).

## 11 🌐 CANYONS AND CAVES

Cañon del Colca (Colca Canyon), in southwest Peru, is 3,182 meters (10,607 feet) deep, twice as deep as the United States' Grand Canyon. Unlike the Grand Canyon, however, parts of Colca Canyon are inhabited. The canyon attracts visitors who not only want to view the magnificent canyon itself, but also wish to watch the Andean condors, which hunt and nest in the canyon. Only recently has the canyon been fully traversed. Nearby Cañon del Cotahuasi is less explored. Some observers think that Cotahuasi is deeper than Colca, and ultimately may prove to be the world's deepest canyon.

## 12 🌐 PLATEAUS AND MONOLITHS

The Altiplano (meaning "high plain") is a high plateau within the Andes that is shared by Peru

and Bolivia. Lake Titicaca is located here. The high level plain is densely populated. Open land is used mainly as pasture for sheep, goats, alpacas, and llamas. The Mato Grosso plateau extends from Brazil into southeast Peru and northwest Bolivia. This is a sparsely populated area of forests and grasslands.

## 13 🌐 MAN-MADE FEATURES

Peru's Valley of the Pyramids, or the Pyramids of Tucume, is the most significant artificial geographic feature. The Valley of the Pyramids is located between the cities of Chiclayo and Trujillo. Twenty-six step-type pyramids, built sometime before 1,100 A.D., serve as tombs for ancient Peruvians. One pyramid honors the Lord of Sipan, believed to have been a revered leader of the Moche people, who were prominent from about 3 A.D. to 700 A.D. Archaeologists have discovered artifacts of gold, silver, copper, and semi-precious stones in his tomb, as well as several sets of human remains. Scientists speculate these remains were unfortunate subjects of the king, who may have been entombed alive at the time the pyramid was closed for the king's burial.

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# The Philippines

- **Official name:** Republic of the Philippines
- **Area:** 300,000 square kilometers (115,800 square miles)
- **Highest point on mainland:** Mount Apo (2,954 meters/9,692 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 8 P.M. = noon GMT
- **Longest distances:** 1,851 kilometers (1,150 miles) from south-southeast to north-northwest, 1,062 kilometers (660 miles) from east-northeast to west-southwest
- **Land boundaries:** None
- **Coastline:** 36,289 kilometers (22,499 miles)
- **Territorial sea limits:** Determined by treaty and irregular in shape, extending up to 185 kilometers (100 nautical miles) from shore in some locations

## 1 🌐 LOCATION AND SIZE

The Philippines is an archipelago in southeastern Asia, located between the South China Sea and the Pacific Ocean. With an area of about 300,000 square kilometers (115,800 square miles), the country is slightly larger than the state of Arizona. The Philippines is divided into seventy-three provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The Philippines has no outside territories or dependencies.

## 3 🌐 CLIMATE

The Philippines has a tropical maritime climate with two seasons. From November through April, the northeast monsoon brings rain, and from May through October, the southwest monsoon brings cool, dry weather. The average temperature is 27°C (80°F) with a range between 23°C and 32°C (73°F and 90°F). Humidity averages 77 percent.

The annual average rainfall varies from 96 to 406 centimeters (38 to 106 inches). The northern islands are often heavily affected by seasonal typhoons, which cause destructive winds and flooding rains.

## 4 🌐 TOPOGRAPHIC REGIONS

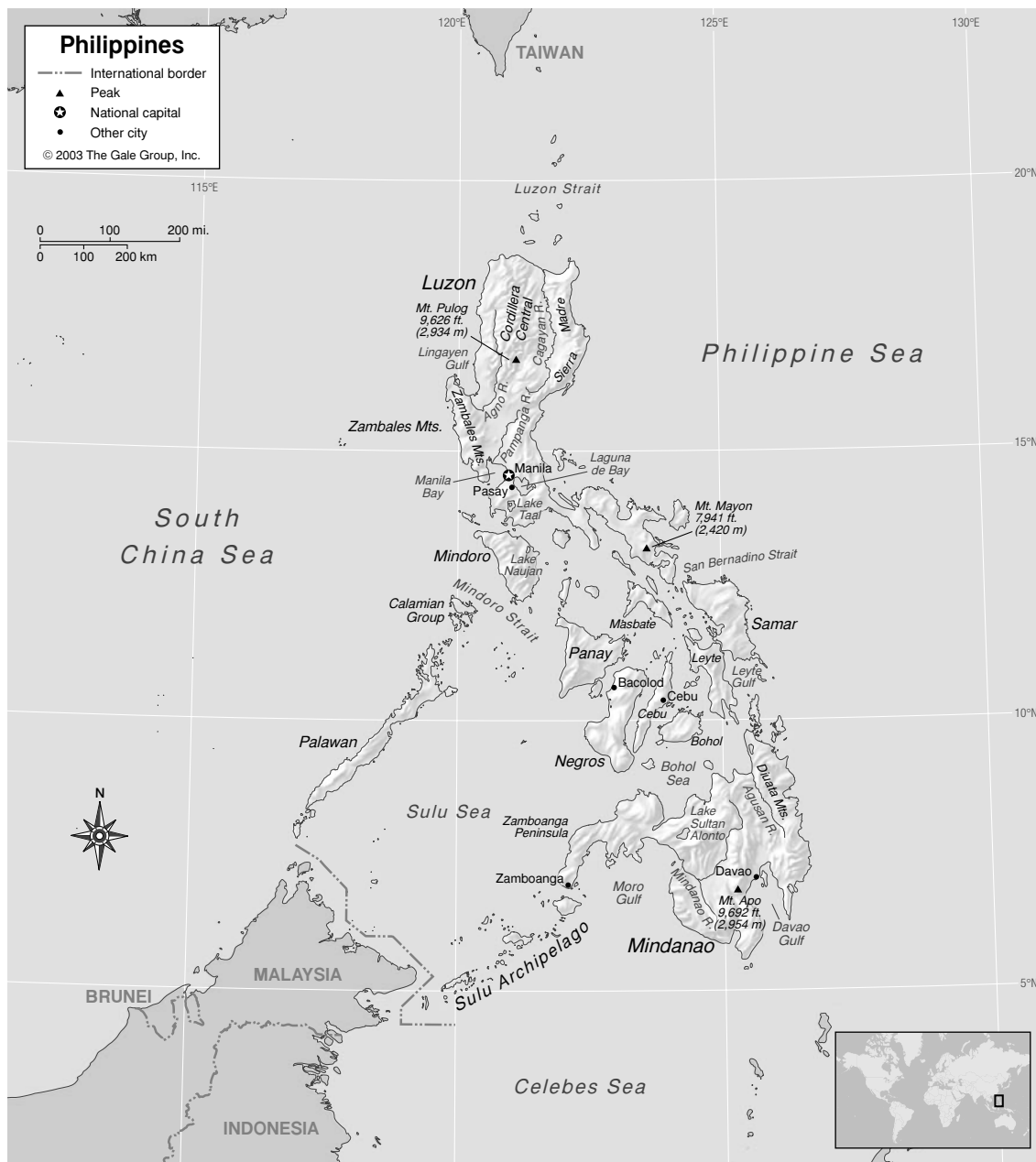
The very complex and volcanic origin of most of the Philippine islands is visible in their varied and rugged terrain. A number of the volcanoes are still active. Mountain ranges divide most of the island surfaces into narrow coastal strips and low-lying interior plains or valleys. The islands are subject to flooding and destructive earthquakes.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

All of the waters surrounding the Philippines are branches of the Pacific Ocean. The eastern coast of the Philippines faces the Philippine Sea, where the Philippine Trough (Emden Deep) plunges to 10,430 meters (34,219 feet).

# THE PHILIPPINES



The northwest coast faces the South China Sea. The southwest surrounds the Sulu Sea on three sides. The Celebes (Sulawesi) Sea is in the south, between the island of Mindanao and the Indonesian island of Sulawesi. The Bohol Sea is to the north of Mindanao. The Visayan

Sea is encircled by Panay, Masbate, Cebu, Negros, and other islands. The Sibuyan Sea meets southern Luzon and eastern Mindoro. The Camotes Sea lies between Cebu, Leyte, and Bohol. The Samar Sea is between Samar and Masbate.

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# THE PHILIPPINES

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## Sea Inlets and Straits

There are countless straits between the Philippine islands. Principal among them are the San Bernadino Strait and Verde Island Passage, both of which permit ocean travel across the northern part of the archipelago. The Surigao Strait allows travel between the Pacific and the Bohol Sea in the south. The Mindoro Strait lies between Mindoro and the Calamian Group of islands. A number of channels north of the country make up the Luzon Strait, separating that island from Taiwan.

## Islands and Archipelagos

The Philippine Archipelago contains about 7,100 islands and extends over 1,609 kilometers (1,000 miles) from north to south. Only 154 of the islands exceed 13 square kilometers (5 square miles) in area. The two largest islands, Luzon in the north and Mindanao in the south, comprise about 65 percent of the total land area of the archipelago.

The largest of the Philippine islands, Luzon, has an area of 104,687 square kilometers (40,420 square miles). The main part of the island is roughly 402 kilometers (250 miles) in length and has a width from between 120 and 160 kilometers (75 and 100 miles).

Just south of Luzon lies Mindoro. This island is largely mountainous and has high peaks rising above 2,438 meters (8,000 feet). Coastal lowlands lie to the east and northeast of the mountain zone.

Southwest of Mindoro is the Calamian Group of islands, with the long, narrow island of Palawan beyond them. Over eleven hundred smaller islands and islets surround Palawan.

Over half of the islands that make up the country belong to the Visayan group, forming a rough circular pattern around the Visayan Sea. They include the seven large, populated islands

of Masbate, Samar, Bohol, Cebu, Leyte, Panay, and Negros, plus numerous islets. The long narrow island of Cebu is the site of the country's largest copper mine and also produces low-grade coal and limestone used for cement.

Mindanao, the second largest of the Philippine Islands, has an area of 94,630 square kilometers (36,537 square miles). In the east of the island, the Agusan River runs between two mountain ranges. To the southwest of those ridges, several rivers meet in the Cotabato Basin and mountain peaks lead to the Bukidnon-Lanao Plateau. West of the Plateau, the island narrows to an isthmus ten miles wide, from which the long Zamboanga Peninsula protrudes to the southwest. The peninsula is covered largely with mountains and possesses limited coastal lowlands.

Southwest of the Zamboanga Peninsula of Mindanao is the Sulu Archipelago, a string of smaller islands of volcanic and coral origin protruding from a submarine ridge. The Sulu Archipelago stretches for about 322 kilometers (200 miles) and has over eight hundred islands. Its three principal islands are Basilan, Jolo, and Tawi-Tawi.

## Coastal Features

Lingayen Gulf indents Luzon's western coast. Further south is Manila Bay, which is surrounded by the Bataan Peninsula. The capital city of Manila is located on the eastern shore of Manila Bay. Tayabas Bay and Ragay Gulf surround the Bondoc Peninsula of Luzon's southern coastline. The southeastern extension of Luzon ends in the Sorsogon Peninsula. North of the peninsula on the east coast is Lamon Bay; further north are Dingalan Bay and Escarpada Point.

Mindanao's very irregular shape is characterized by a number of sizable gulfs and bays and several large peninsulas that give

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# THE PHILIPPINES

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EPD/Saxifraga/Wiel Poelmans

*Mount Katanglad National Park on Mindanao.*

it an extremely long coastline. Mindanao's northernmost point is the Surigao Peninsula, with Butuan Bay to its west. Iligan Bay makes a deep indentation, creating a narrow isthmus that connects the large Zamboanga Peninsula to the rest of Mindanao. Sibuguey and Baganian Peninsulas protrude from the south coast of the Zamboanga Peninsula on Moro Gulf, with Pagadian Bay on the south of the isthmus and Illana Bay continuing the southwest coast. Sarangani Bay indents the coast just above its southernmost part, Tinaca Point. North of that point is Davao Gulf, defined by Cape San Agustin.

Among the Visayan Islands there are two large gulfs: Leyte in the southeast and Panay in the west.

## **6** 🌐 **INLAND LAKES**

The largest lake in the Philippines is the freshwater Laguna de Bay, located on Luzon, south-

east of Manila Bay. It has a water surface of 922 square kilometers (356 square miles). Lake Taal, which has an active volcano in its center, lies a few miles to the southwest of Laguna de Bay. Other crater lakes are Lake Danao and Lake Balinsasayan in southeast Negros.

On Mindanao, atop the Bukidnon-Lanao Plateau, is Lake Sultan Alonto (formerly Lake Lanao). The second-largest lake in the country, it covers 347 square kilometers (134 square miles). The shallow Lake Buluan is in Mindanao, south of the Plateau. The lowland of Mindoro contains Lake Naujan, one of the country's larger lakes, home to many fish and bird species.

## **7** 🌐 **RIVERS AND WATERFALLS**

In general, the larger rivers of the Philippines are navigable for only short distances. Most main streams and their tributaries are subject to extensive and damaging floods



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## THE PHILIPPINES

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during the heavy rainfall of typhoons and the monsoon seasons.

The Cagayan River is located in the Cagayan Valley of northern Luzon. It flows northward and empties into the sea at Aparri. A network of rivers and streams interlaces the low-lying Central Luzon Plain. Two of the plain's more important rivers are the Agno, which flows northward into Lingayen Gulf, and the Pampanga, which empties into Manila Bay. The short Pasig River flows through the city of Manila.

Two large rivers are found on Mindanao. The Agusan River is the longest in the country, with a length of 386 kilometers (240 miles). It flows northward through the Agusan Valley into the Bohol Sea. The Mindanao River and its tributaries drain the Cotabato Lowland, emptying into Moro Gulf.

On Palawan, the St. Paul Underground River is a popular destination for adventurous tourists. At its mouth lies a small bay connecting it to the ocean. Accessible only by canoe, the river flows through a large cavern inhabited by bats and filled with stalagmites.

### **8** **DESERTS**

There are no desert regions in the Philippines.

### **9** **FLAT AND ROLLING TERRAIN**

The Central Luzon Plain, barely above sea level, has extensive swamps along the north of Manila Bay and the Candaba Swamp.

The low Ragay Hills overlook Ragay Gulf on the Bicol Peninsula of southeastern Luzon. To the south on Samar, the terrain is broken up by rocky hills, which are 152 to 305 meters (500 to 1,000 feet) high. In central Bohol there is a 52-square-kilometer (20-square-mile) area known as the Chocolate Hills. There are 1,268 individual mounds in the Chocolate Hills, each one between 50 and 200 meters (164

### **DID YOU KNOW?**

There are four “Wetlands of International Importance” in the Philippines, as designated under the Ramsar Convention on Wetlands. These are: Agusan Marsh Wildlife Sanctuary, which includes rare swamp forest and peat forest; Olongo Island Wildlife Sanctuary, a shorebird habitat; Naujan Lake National Park; and Tubbataha Reefs National Marine Park.

The mountain rice terraces of northern Luzon's Cordillera are an UNESCO World Heritage site. Built by the indigenous Ifugao people over the last two millennia, the terraces follow mountain contours over 1,000 meters (3,281 feet) high, creating an agricultural landscape that is both productive and harmonious with nature.

and 656 feet) high; these hills are covered in grass, which turns brown in the dry season. Although their origin has not been determined; scientists speculate they were formed from eroded coral limestone. Hill areas also exist on Panay and nearby Guimaras, as well as on Masbate, Tablas, and Romblon.

Savannahs, mixing grasslands and scrub woods, are found in Luzon's Cagayan Valley, and amid the hills of Mindoro, Negros, and Masbate, as well as on Panay, and on Mindanao's Bukidnon-Lanao Plateau.

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# THE PHILIPPINES

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EPD/Saxifraga

*Palawan Cave in St. Paul's National Park on Palawan.*

## **10** **MOUNTAINS AND VOLCANOES**

All of the Philippine Islands are volcanic in origin. As a result, the country is very mountainous. The northern part of Luzon Island is extremely rugged. Luzon's highest peak, Mount Pulog, rises to 2,934 meters (9,626 feet). The island has three mountain ranges that run roughly parallel in a north-south direction. A range in the east, the Sierra Madre, runs so close to the island's eastern shore that there is hardly any coastal lowland. The valley of the Cagayan River separates this eastern range from a large mountain complex to the west, the Cordillera Central. On the west, the Zambales Mountains extend southward and terminate at Manila Bay. Southeastern Luzon consists of a large peninsula. It is a mountainous and volcanic area containing the active volcano, Mount Mayon (2,420 meters/7,941 feet).

The large island of Mindanao has five major mountain systems, some of which were formed by volcanic action. The eastern edge of Mindanao is highly mountainous; this region includes the Diuata Mountains, with several elevations above 1,828 meters (6,000 feet), and the southeastern ranges, which reach a high point of 2,804 meters (9,200 feet). In central Mindanao there is a broad mass of rugged mountain ranges, one of which bisects the island from north to south. This range contains Mount Apo (2,954 meters/9,692 feet), the highest peak in the country, which overlooks Davao Gulf.

Most of the islands are located on the Eurasian Tectonic Plate, but a major fault line extends along the eastern part of the archipelago, aligned over the boundary with the Philippine Plate. As part of the western-Pacific

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# THE PHILIPPINES

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“Ring of Fire,” the Philippines have thirty-seven volcanoes, of which eighteen are active.

## 11 🌐 CANYONS AND CAVES

Many of the Philippines’s rivers have carved canyons through the mountains. Particularly deep canyons cut through the Bukidnon-Lanao Plateau of Mindanao. Pagsanjan Gorge National Park, southeast of Manila on Luzon, is a river gorge with each of its steep faces towering to a height of 91 meters (300 feet).

## 12 🌐 PLATEAUS AND MONOLITHS

The central mountain complex of Mindanao extends into the northwest corner of the island, terminating in the Bukidnon-Lanao Plateau. At approximately 609 meters (2,000 feet) in elevation, the plateau is interspersed with extinct volcanic peaks. On southeast Negros, the volcanic rock Tablas plateau rises 152 to 305 meters (500 to 1,000 feet.)

## 13 🌐 MAN-MADE FEATURES

There are no major man-made structures affecting the geography of the Philippines.

## 14 🌐 FURTHER READING

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# Poland

- **Official name:** Republic of Poland
- **Area:** 312,685 square kilometers (120,728 square miles)
- **Highest point on mainland:** Mount Rysy (2,499 meters/8,199 feet)
- **Lowest point on land:** Raczki Elblaskie (2 meters/6.6 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 689 kilometers (428 miles) from east to west; 649 kilometers (403 miles) from north to south
- **Land boundaries:** 2,888 kilometers (1,794 miles) total boundary length; Russia 206 kilometers (128 miles); Lithuania 91 kilometers (57 miles); Belarus 605 kilometers (376 miles); Ukraine 428 kilometers (266 miles); Slovakia 444 kilometers (276 miles); Czech Republic 658 kilometers (409 miles); Germany 456 kilometers (283 miles)
- **Coastline:** 491 kilometers (305 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Poland is an unbroken plain in Eastern Europe extending from the shore of the Baltic Sea to the Carpathian Mountains. It covers an area of 312,685 square kilometers (120,728 square miles), or slightly less than the state of New Mexico.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Poland has no territories or dependencies.

## 3 🌐 CLIMATE

Poland's continental climate is modified by westerly winds. Summers are generally cool, with only the southern portions of the country experiencing notable humidity. Winters can be frigid. Average temperatures are  $-6^{\circ}\text{C}$  to  $-1^{\circ}\text{C}$  ( $21$ – $30^{\circ}\text{F}$ ) in January and  $13^{\circ}\text{C}$ – $24^{\circ}\text{C}$  ( $55^{\circ}\text{F}$ – $75^{\circ}\text{F}$ ) in July. Annual average precipitation ranges from 50 centimeters (20 inches) in the lowlands to 135 centimeters (53 inches) in the mountains. For the country as a whole, the

average annual precipitation is 64 centimeters (25 inches).

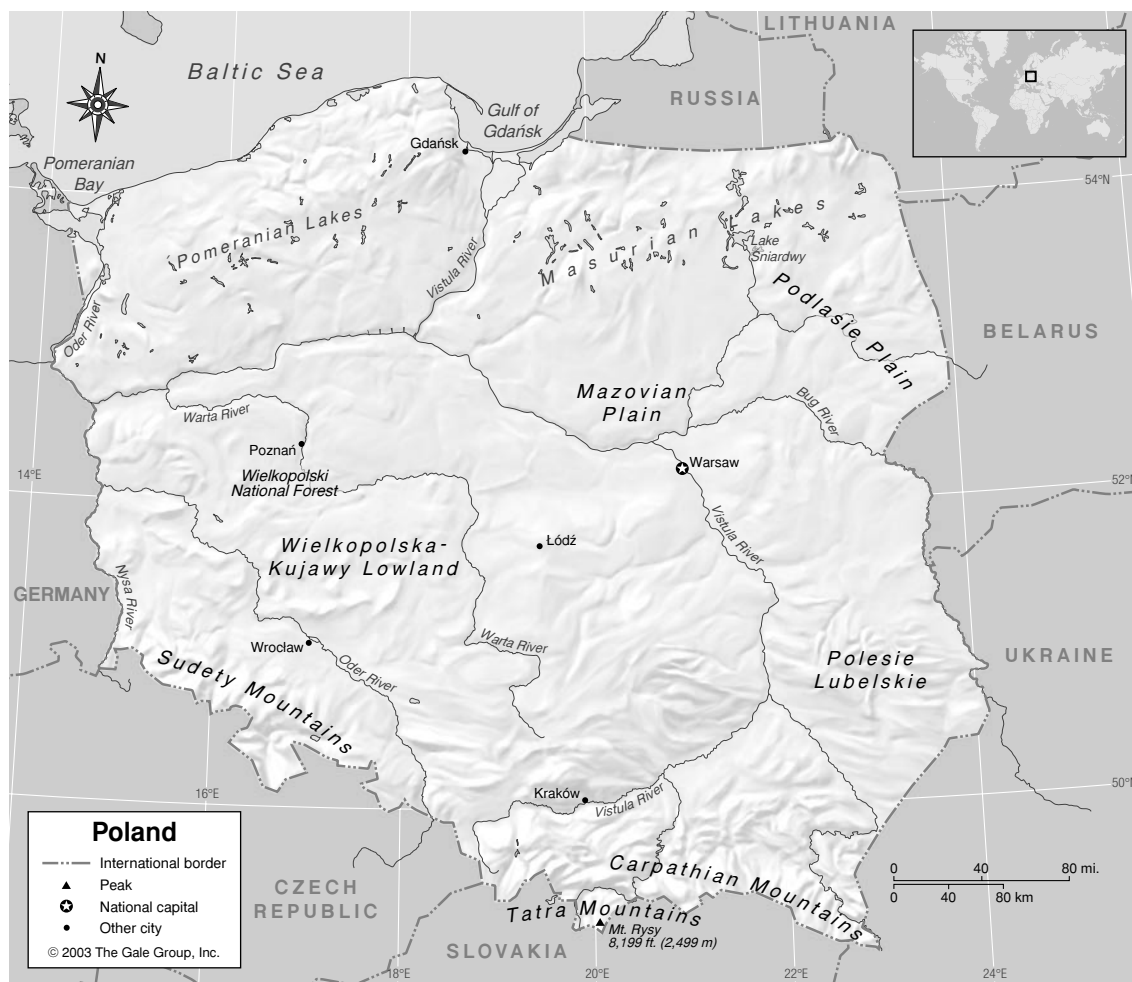
## 4 🌐 TOPOGRAPHIC REGIONS

Differences in climate and terrain occur in bands that extend from east to west. The coastal area lacks natural harbors except those at Gdansk-Gdynia and Szczecin. The vast plains south of the coast and its adjoining lake district have more fertile soil, a longer growing season, and a denser population than the northern regions. The southern foothills and mountains contain most of the country's mineral wealth and much of this land has attracted the greatest concentration of industry and people.

## 5 🌐 OCEANS AND SEAS

Poland is bordered by the Baltic Sea to the north.

# POLAND



## Sea Inlets and Straits

The major ocean inlets bordering the Polish coast are the Pomeranian Bay in the west and the Gulf of Gdansk in the east.

## Coastal Features

Poland's coastline is a narrow lowland dotted with bays, lakes, and promontories (high rocky cliffs).

## 6 🌐 INLAND LAKES

The lake district of northeast Poland is subdivided into two smaller regions. The Pomeranian district has over four thousand lakes,

occupying over 115,000 hectares (290,000 acres); the Masurian district has over twenty-five hundred lakes, which cover almost 142,000 hectares (355,000 acres). Most of the lakes are small and shallow; nearly a dozen, however, including some very small ones, have depths exceeding 50 meters (164 feet).

## 7 🌐 RIVERS AND WATERFALLS

By far the greatest portion of the country drains northwestward to the Baltic Sea by way of the Vistula (Wisla) and Oder (Odra) Rivers. Most other rivers in Poland join the Vistula and Oder systems. The Vistula and its tributaries

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# POLAND

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EPD/Saxifraga/Jan van der Straaten

*The central lowlands are the largest region in Poland.*

drain the country's largest basin, an area that includes practically all of the southeastern and east-central regions and much of the northeast as well. The Vistula rises in the Tatra Mountains in the south, flows northward, and drains into the Baltic Sea at the Gulf of Gdansk (Danzig). One of its tributaries, the Bug, forms about 280 kilometers (174 miles) of Poland's eastern border. The Oder, which together with the Neisse (Nysa) River forms most of the border between Poland and Germany, is fed by several other rivers and streams, including the Warta, which drains a large section of central and western Poland. The Oder reaches the Baltic Sea through the harbors and bays north of Szczecin.

## **8** 🌐 **DESERTS**

There are no deserts in Poland.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Poland's average elevation is 173 meters (567 feet); more than 90 percent of the country lies below 300 meters (984 feet). The single largest region is the central lowlands area, which ac-

counts for three-fourths of Poland's territory. Extending over the entire country in an east-west band, it is narrow in the west but expands to both the north and the south as it extends eastward. At the eastern border, it includes nearly all the terrain from the northeastern tip of the country to about 200 kilometers (124 miles) from the southeastern corner.

When the most recent glacier receded several millennia ago, it left behind the hills, forests, and lakes north of the central lowlands. The effects of glaciation dominate the terrain for about 200 kilometers (124 miles) inland from the Baltic Sea in the western part of the country, but for a much shorter distance in the east. There are large areas of swampland in the northern lake district because of poor drainage, and land here has been hard to reclaim.

The foothills of the Tatra Mountains and Sudeten Mountains to the south of the central lowlands blend into the other mountains in the extreme south and in the southwestern corner of the country.

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# POLAND

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## 10 🌐 MOUNTAINS AND VOLCANOES

Mount Rysy, the country's highest peak at 2,499 meters (8,199 feet), is in the Tatra (Tatry) range of the Carpathian Mountains. Six other peaks in the Polish portion of the Tatras reach 1,900 meters (6,233 feet) or more. The Sudeten Mountains are lower, with only one peak exceeding 1,600 meters (5,249 feet). Most of the more rugged slopes are in the Tatra Mountains; many slopes in the Sudeten range are gentle and have been cultivated or used as meadows and pastures on dairy farms.

## 11 🌐 CANYONS AND CAVES

Over twenty-five hundred caves have been identified in Poland, most clustering in the south-central part of the country, in the west-ern Tatra Mountains and the Kraków region.

## 12 🌐 PLATEAUS AND MONOLITHS

Only 3 percent of Poland's terrain rises above 500 meters (1,640 feet). These small highland areas in the Carpathian and Sudeten (Sudety) Mountains extend across the country parallel to the southern border in a belt roughly 90 to 120 kilometers (55 to 74 miles) wide.

## 13 🌐 MAN-MADE FEATURES

Gdansk is known for its historic gateways, including the landmark sixteenth-century Green Gate and High Gate and the fifteenth-century Crane Gate, which was rebuilt following World War II (1939–45).

## DID YOU KNOW?

In 98 A.D., the Roman historian Tacitus recorded the name of Poland's longest river, the Vistula. One of the early Germanic tribes who had settled in the region, the Goths, gave the river its name.

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index.html (accessed April 22, 2003).

# Portugal

- **Official name:** Portuguese Republic
- **Area:** 92,391 square kilometers (35,672 square miles)
- **Highest point on mainland:** Estrela (1,991 meters/6,532 feet)
- **Highest point in territory:** Ponta do Pico (2,351 meters/7,714 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** Noon = noon GMT
- **Longest distances:** 218 kilometers (135 miles) from east to west; 561 kilometers (349 miles) from north to south
- **Land boundaries:** 1,214 kilometers (754 miles) total boundary length, all with Spain
- **Coastline:** 1,793 kilometers (1,114 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Portugal is located at the westernmost edge of continental Europe. It occupies approximately one-sixth of the Iberian Peninsula, which it shares with Spain. There are few natural frontiers between the two nations; many of Portugal's geographical features are continuations of those in Spain. With a total area of 92,391 square kilometers (35,672 square miles), Portugal is almost as large as the state of Indiana.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Portugal has jurisdiction over two autonomous island groups in the Atlantic—the Azores and Madeira. The Madeiran archipelago, located about 960 kilometers (600 miles) west of mainland Portugal, consists of the islands of Madeira and Porto Santo, and the uninhabited Desertas and Selvagens islets. The Azorean archipelago, about 1,300 kilometers (800 miles) west of mainland Portugal, is a volcanic mountain chain of nine islands divided into three groups: São Miguel and Santa Maria to the east; Terceira, Pico, Faial, São Jorge, and Gra-

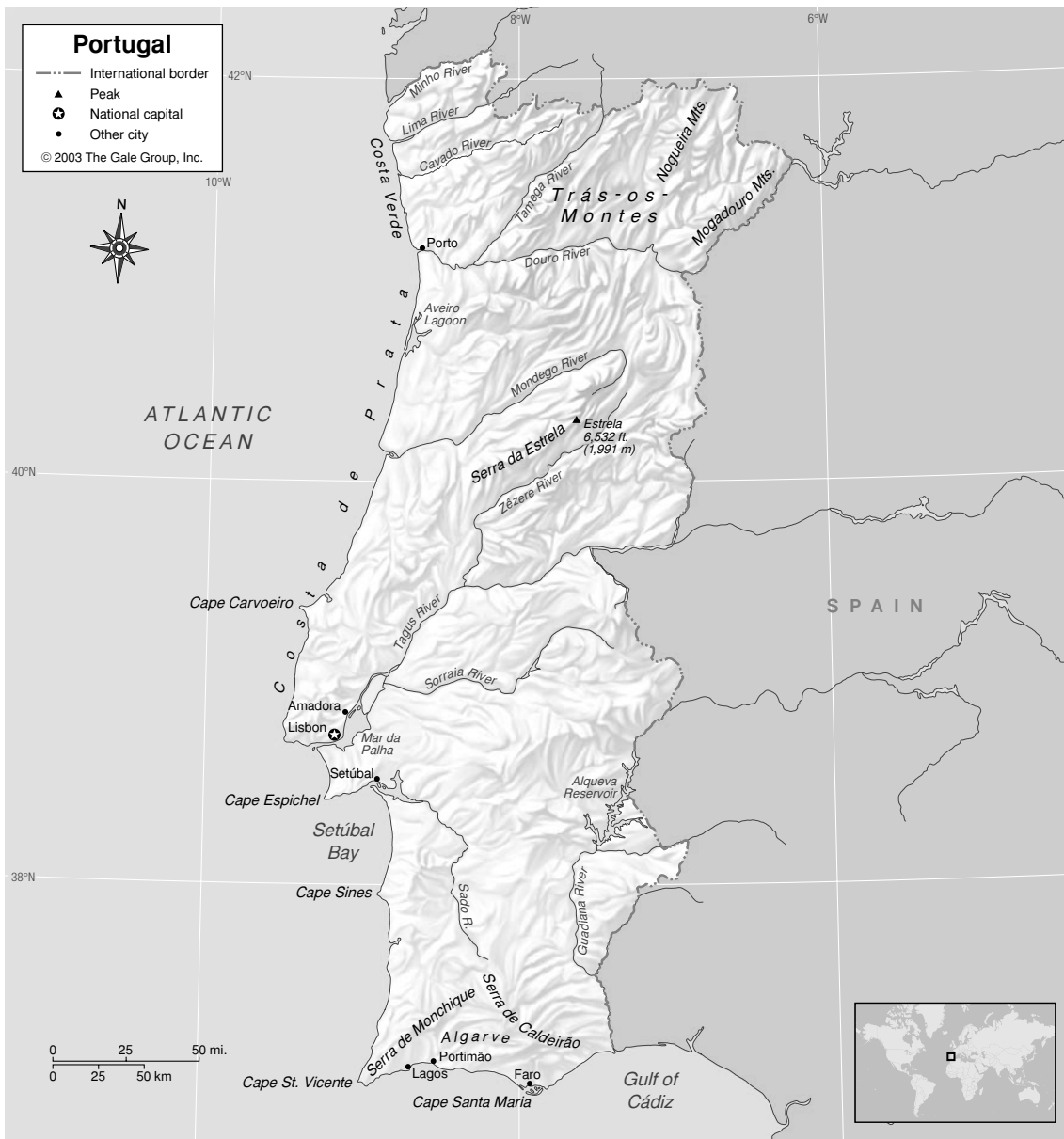
ciosa in the center; and Flores and Corvo to the northwest. Thermal springs are features on the largest island, São Miguel.

## 3 🌐 CLIMATE

Proximity to the Atlantic Ocean keeps Portugal's climate generally temperate, with variations from north to south. The northwest has a maritime climate, with short, cool summers and mild winters. In the northeast the climate is more continental, with sharper contrasts between the seasons. The central part of the country has hot summers and mild, rainy winters, and the south has a dry climate with long, hot summers. Average temperatures in Lisbon are about 24°C (75°F) in July and about 4°C (40°F) in January. Average annual rainfall ranges from over 305 centimeters (120 inches) in the northwestern grape-growing region to 51 centimeters (20 inches) on the southern coast. Average annual rainfall in Lisbon is 69 centimeters (27 inches).



# PORTUGAL



## 4 TOPOGRAPHIC REGIONS

Portugal's major topographical dividing lines are the Douro and Tagus Rivers, which flow across the country, and the centrally located Serra da Estrela mountain range. The Tagus River forms a dividing line between the upland regions of the north and the rolling plains of

the south. The Minho region in the northwest is bounded by several mountain ranges on the east and by the Minho and Douro Rivers to the north and south, respectively. Trás-os-Montes (literally, "across the mountains") is the northeasternmost area of Portugal, bounded to the north and east by Spain, to the south by the

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# PORTUGAL

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EPD/Saxifraga/Marijke Verhagen

*The southern coast of Portugal is known as the Algarve.*

Douro River, and to the west by the mountains that separate it from the Minho.

The central area south of the Douro and north of the Tagus is the Beiras, a transitional region between the north and the south. The Serra da Estrela divide the region in two. Coastal Beira, known as Beira Litoral, consists of rolling, sandy hills. The northern part, known as Beira Baixa, is a dry and windswept region similar to Trás-os-Montes. The west-central region of Estremadura includes the Tagus estuary, the capital city of Lisbon, and the Tagus valley area known as Ribatejo. The Alentejo region to the south is a vast area of gently rolling hills commonly divided into two subregions: Alto Alentejo and Baixo Alentejo. The Algarve, the southernmost region, is separated from the Alentejo by two mountain ranges: the Serra de Monchique in the west and the Serra de Caldeirao in the east.

## 5 OCEANS AND SEAS

Portugal is bordered on the west and south by the North Atlantic Ocean.

### Sea Inlets and Straits

The southeastern part of Portugal's coast is on the Gulf of Cadiz.

### Coastal Features

Most of Portugal's coastline is smooth, but there are indentations at the mouths of the major rivers. The major harbors are at the mouths of the Tagus and Sado Rivers. The forested northern part of the coast, which is famous for its vineyards, is called the Costa Verde, or "green coast." The midsection of the coast is called the Costa de Prata, or "silver coast." The Beira coastal plain has salt marshes, alluvial deposits, and stretches of sand dunes.

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# PORTUGAL

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EPD/Saxifraga/Jan van der Straaten

*The plains in the central region make up Portugal's agricultural heartland.*

Several capes jut out into the Atlantic in the southern half of the coast, including Cape Carvoeiro, Cape Espichel, Cape Sines, Cape São Vicente, and Cape Santa Maria. The Mar da Palha, the estuary of the Tagus River, is one of the world's great natural harbors.

## **6** 🌐 **INLAND LAKES**

The construction of the Alqueva Dam in southern Portugal between 2002 and 2006 is expected to create the largest artificial lake in Europe, with an area of 250 square kilometers (96 square miles).

## **7** 🌐 **RIVERS AND WATERFALLS**

Of the ten major rivers in Portugal, five have their origins in Spain, and five lie entirely within Portugal. The major river in northern Portugal is the Douro. The total length of this river is 940 kilometers (584 miles), of which 740 kilometers (460 miles) are situated in Spain and 200 kilo-

eters (124 miles) in Portugal. The Tagus is the longest river in both Portugal and on the Iberian Peninsula; its total length is 999 kilometers (621 miles), 228 kilometers (142 miles) of which traverses Portugal. (This river is also called the Tejo in Portugal, and the Tajo in Spain.)

## **8** 🌐 **DESERTS**

There are no true deserts in Portugal, but the Alentejo region is semiarid.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The Alentejo region accounts for one-third of the country's total area. Its undulating land is generally about 183 meters (600 feet) above sea level, but in some places it rises to between 274 and 457 meters (900 and 1,500 feet). The Minho region in the northwest is also hilly.

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# PORTUGAL

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## 10 🌐 MOUNTAINS AND VOLCANOES

The most mountainous part of Portugal is the northern region known as Trás-os-Montes, or “across the mountains.” Its ranges are part of the same system as the Cantabrian Mountains of Spain. Portugal’s most important single mountain range, however, is the Serra da Estrela in the central part of the country, which includes the country’s highest peak, also called Estrela (1,991 meters/6,532 feet). (Ponta do Pico, 2,351 meters/7,714 feet in elevation, lies on Ilha do Pico in the Azores.)

## 11 🌐 CANYONS AND CAVES

The six caves that make up the Grutas de Santo-Adriao in northeast Portugal were formerly marble quarries.

## 12 🌐 PLATEAUS AND MONOLITHS

At over 7 meters (23 feet) tall, the Menhir of Meada is among the loftiest monoliths on the Iberian Peninsula. It is thought to be at least five thousand years old.

## 13 🌐 MAN-MADE FEATURES

The Alqueva Dam on the Guadiana River, whose floodgates opened in early 2002, is intended to provide irrigation for farmlands in Portugal’s dry southern region as well as drinking water and electricity. The project was opposed by environmentalists, however. They claimed that construction of the dam destroyed the habitat of several endangered animal species, flooded significant Roman

## DID YOU KNOW?

The name *Madeira*, taken from the Portuguese word for wood, comes from the dense forests on the islands of this group.

and prehistoric ruins, and swept away one million trees.

The 10-mile (17-kilometer) Vasco da Gama Bridge spans the Tagus River in Lisbon, allowing north-south travelers to bypass the city. It officially opened March 31, 1998.

## 14 🌐 FURTHER READING

### Books

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Saramago, Josi. *Journey to Portugal: In Pursuit of Portugal’s History and Culture*. Translated by Amanda Hopkinson and Nick Caistor. New York: Harcourt, 2001.

Symington, Martin. *Essential Portugal*. Lincolnwood, IL: Passport Books, 1994.

### Web Sites

*Ideamen’s Links to Portugal*. <http://www.well.com/user/ideamen/Portugal.html> (accessed April 3, 2003)

# Puerto Rico

- **Official name:** Commonwealth of Puerto Rico
- **Area:** 9,104 square kilometers (3,515 square miles)
- **Highest point on mainland:** Cerro de Punta (1,338 meters/4,390 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 179 kilometers (111 miles) from east to west; 58 kilometers (36 miles) from north to south
- **Land boundaries:** None
- **Coastline:** 501 kilometers (313 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Puerto Rico, a commonwealth of the United States of America, is located at the eastern end of the Greater Antilles archipelago, between the Atlantic Ocean and the Caribbean Sea. It is 1,609 kilometers (1,000 miles) southeast of the U.S. mainland, between the island of Hispaniola to the west and the Virgin Islands to the east. In addition to its main island, Puerto Rico also includes three smaller ones: Vieques and Culebra to the east and Mona to the west.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Puerto Rico has no territories or dependencies.

## 3 🌐 CLIMATE

Trade winds from the northeast moderate Puerto Rico's tropical climate. Temperatures year-round generally stay between 21°C and 27°C (70°F and 80°F), although more extreme temperatures are possible in lower inland areas and on the southern coast. The mean temperature in San Juan is 24°C (75°F) in January and 27°C (81°F) in July. Hurricanes are a hazard between August and October. Average annual rainfall varies from 91 centimeters (36 inches)

in the south, to 152 centimeters (60 inches) at San Juan, to as much as 457 centimeters (180 inches) in the mountains. Rainfall is distributed fairly evenly throughout the year.

## 4 🌐 TOPOGRAPHIC REGIONS

Puerto Rico's main island, rectangular in shape, has a hilly and mountainous interior ringed by a narrow coastal plain. The major mountain system is the Cordillera Central, which bisects the western and central parts of the island.

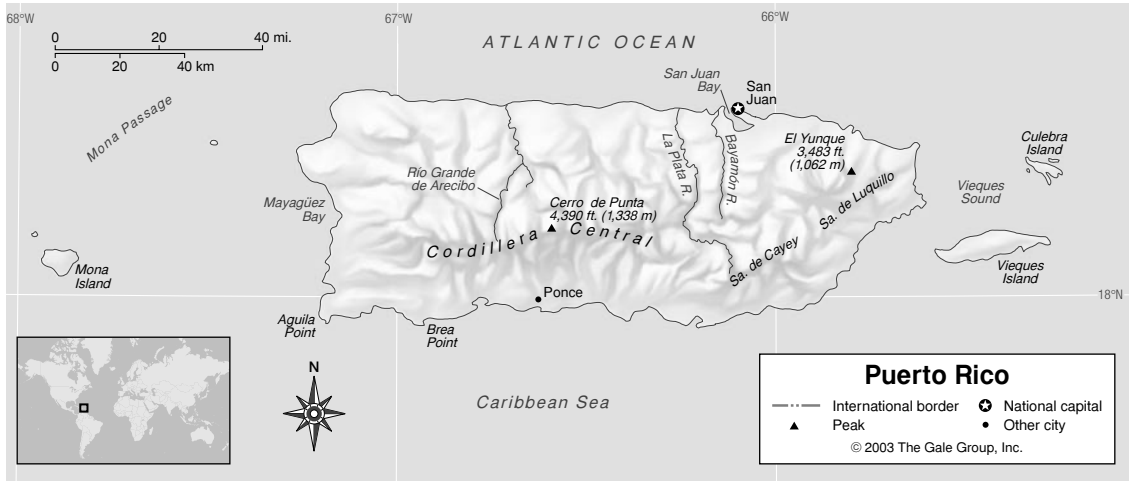
## 5 🌐 OCEANS AND SEAS

Puerto Rico is bordered on the north by the rough, cold waters of the Atlantic Ocean and on the south by the warmer, calmer Caribbean Sea.

## Seacoast and Undersea Features

The waters just off the coast are shallow, but a few miles to the north the ocean floor drops to a depth of 1,829 meters (6,000 feet). Some 64 kilometers (40 miles) farther north lies the Puerto Rico Trench. At its western end is the Milwaukee Depth, where the ocean floor plunges more than 8,380 meters (27,493 feet)—

# PUERTO RICO



among the deepest ocean trenches in the world, and the greatest known depth in the Atlantic.

## Sea Inlets and Straits

Puerto Rico is separated from the island of Hispaniola to the west by the Mona Passage, and from the Virgin Islands to the east by both the Vieques Sound and the Virgin Passage.

## Islands and Archipelagos

Vieques, Puerto Rico's largest island aside from the main island, has an area of about 135 square kilometers (52 square miles), much of it occupied by a U.S. naval training facility. Culebra, which also lies to the east of the main island, is an archipelago consisting of a largely flat main island surrounded by twenty islets. Mona Island, to the west, has an area of 52 square kilometers (20 square miles).

## Coastal Features

Puerto Rico's coastline is moderately indented at most points. San Juan Bay is in the northeast, and Mayagüez Bay marks the western end of the island. Águila Point and Brea Point are in the southwest. The shore has both rocky and sandy beaches.

## 6 🌐 INLAND LAKES

There are no natural lakes in Puerto Rico, but there are more than a dozen artificial ones.

## 7 🌐 RIVERS AND WATERFALLS

The major rivers flow northward over the mountains to the coast. These waterways include the La Plata River (the longest), the Río Grande de Loíza (the widest), the Bayamón River, and the Río Grande de Arecibo. The rivers in the south are fewer, shorter, and smaller in volume.

## 8 🌐 DESERTS

There are no deserts in Puerto Rico.

## 9 🌐 FLAT AND ROLLING TERRAIN

Puerto Rico's steep mountains descend to foothills before giving way to the coastal plains that ring the island. They span 24 kilometers (15 miles) at their widest point, and the strip of plain on the north is only 8 kilometers (5 miles) wide. The Turabo Valley, a largely agricultural area, lies between three mountain chains in the eastern part of the island.

## PUERTO RICO



David Boyer/National Geographic Image Collection

*A man stands in the mouth of one of the many caves that lie under Puerto Rico's northwest region.*

### 10 MOUNTAINS AND VOLCANOES

Steep mountain slopes cover nearly one-fourth of the island. The highest and longest mountain range is the Cordillera Central, which extends 97 kilometers (60 miles) across the center of the island and reaches elevations of over 914 meters (3,000 feet). Puerto Rico's highest peak, Cerro de Punta (1,338 meters/4,390 feet), is part of this system, which rises rapidly from the southern coast and ascends more gradually in the north. The other major mountain system is the Sierra de Luquillo in the east, where the country's most famous peak, El Yunque (1,062 meters /3,483 feet) is located. A third mountain range—the Sierra da Cayey—is found in the southeast.

### 11 CANYONS AND CAVES

Numerous cliffs, caves, sinkholes, and tunnels have been carved by rainwater into the limestone of Puerto Rico's karst region in the northwest. The subterranean caves at the Camuy River form one of the largest cave systems in the world. The largest single cave, Cueva Clara, is 210 meters (695 feet) long.

#### **DID YOU KNOW?**

**T**he Camuy River cave system is home to a rare species of fish that is completely blind.

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# PUERTO RICO

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## 12 🌐 PLATEAUS AND MONOLITHS

Puerto Rico's karst region in the interior northwest of the island lies on a plateau ranging in elevation from 30 to 213 meters (100 to 700 feet).

## 13 🌐 MAN-MADE FEATURES

Dams built on all but one of Puerto Rico's major rivers have created more than a dozen reservoirs. Lakes Guayabal, Guajataca, Dos Bocas, and La Plata are among the largest of these reservoirs.

## 14 🌐 FURTHER READING

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Marino, John. *Puerto Rico: Off the Beaten Path*. Guilford, CT: Globe Pequot Press, 2000.

Pariser, Harry S. *The Adventure Guide to Puerto Rico*. Edison, NJ: Hunter Publications, 1996.

### Web Sites

*Welcome to Puerto Rico!* <http://welcome.topuertorico.org/> (accessed March 12, 2003).

*Sol Boricua Web Site*. <http://www.solboricua.com/index.htm> (accessed March 12, 2003).



# Qatar

- **Official name:** State of Qatar
- **Area:** 11,437 square kilometers (4,416 square miles)
- **Highest point on mainland:** Qurayn Abu al Bawl (103 meters/338 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 160 kilometers (100 miles) from north to south; 90 kilometers (55 miles) from east to west
- **Land boundaries:** 60 kilometers (37 miles) total boundary length, all with Saudi Arabia
- **Coastline:** 563 kilometers (350 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Qatar consists of a tiny peninsula projecting northward into the Persian Gulf from the larger Arabian Peninsula. With an area of 11,437 square kilometers (4,416 square miles), Qatar is almost as large as the state of Connecticut.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Qatar has no territories or dependencies.

## 3 🌐 CLIMATE

Qatar has a desert climate that is characterized by extremely hot and dry summers, from May to October, and mild winters. Mean temperatures in June are 42°C (108°F), dropping to 15°C (59°F) in winter. Average annual precipitation is less than 8 centimeters (3 inches). Most of the rainfall occurs during the winter months, sometimes only in localized heavy downpours. Humidity along the coast frequently reaches 90 percent during summer.

## 4 🌐 TOPOGRAPHIC REGIONS

Qatar's terrain is mostly a flat and barren desert covered with loose sand and gravel, with some low hills and a central limestone plateau.

## 5 🌐 OCEANS AND SEAS

Qatar borders the Persian Gulf on the north, east, and southeast and the Gulf of Bahrain on the west.

### Seacoast and Undersea Features

A notable feature of the coastal area is the prevalence of salt pans, which are shallow depressions made up of salt flats (*sabkhas*). Their presence at the base of the peninsula suggests that Qatar was an island at one time. Coral reefs impede navigation in the coastal seas surrounding Qatar, as does the shallowness of these waters.

# QATAR



## Sea Inlets and Straits

In the southeast there is a jagged inlet of the Persian Gulf that is known as Khōr al-'Udeid (the Inland Sea). Along the southwest coast lies the Dawhat Salwah, an inlet of the Gulf of Bahrain.

## Islands and Archipelagos

Qatar includes a few islands in addition to the main peninsula. The most important island is Halul, which lies about 90 kilometers (60 miles) east of Doha and has an area of only about 1.5 square kilometers (0.6 square miles). It is used for storing oil found in offshore wells and loading it onto ships for trade.

## Coastal Features

The coastline of Qatar is part of a regional low desert plain, and it contains two natural harbors. The capital of Doha is located on a sizable, though shallow, port. Umm Said also provides a commercial harbor. Qatar also has two important capes: Ra's Rakan at its northernmost point and Al-Maṭbakh, which juts into the Persian Gulf just north of Al-Khawr. The inlet known as Khōr al-'Udeid (the Inland Sea) is surrounded by extensive sand dunes.

## 6 🌐 INLAND LAKES

Limited natural freshwater resources have increased Qatar's dependence on large-scale desalination facilities.

## 7 🌐 RIVERS AND WATERFALLS

Though Qatar has no perennial rivers, there are rainwater-draining basins in the north and central areas of the country.

## 8 🌐 DESERTS

Qatar is an extension of the Arabian Peninsula's Rub'al-Khali (Empty Quarter) desert, which reaches northward from Saudi Arabia and the United Arab Emirates. Massive sand dunes surround Khōr al-'Udeid in the south of Qatar.

## 9 🌐 FLAT AND ROLLING TERRAIN

Qatar is mostly flat, with scanty vegetation. Hills and sand dunes reach an altitude of 40 meters (131 feet) in the western and northern parts of the country.

## 10 🌐 MOUNTAINS AND VOLCANOES

There are no mountains in Qatar.

## 11 🌐 CANYONS AND CAVES

Qatar's karst limestone topography includes at least ten large caves. Many of the depressions in Qatar's terrain are actually collapsed caverns.

# QATAR

## 12 🌐 PLATEAUS AND MONOLITHS

A low central limestone plateau, which contains a number of shallow wadis, rises from the east and north. There are elevated limestone formations, called the Dukhān anticline, along the west coast; underneath them lies the Dukhān oil field.

## 13 🌐 MAN-MADE FEATURES

Except for the harbors at Doha and Umm Said, all of Qatar's ports are artificial, created by digging channels to deepen Qatar's shallow coastal waters. Among these man-made ports are those at Al-Khawr and Al-Wakrah.

## 14 🌐 FURTHER READING

### Books

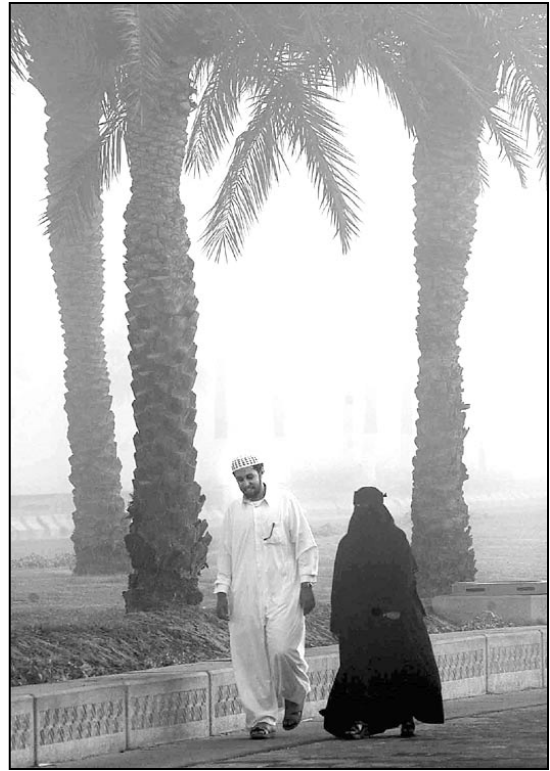
Ferdinand, Klaus. *Bedouins of Qatar*. New York: Thames and Hudson, 1993.

Vine, Peter. *The Heritage of Qatar*. London: IMMEL Publications, 1992.

Winckler, Onn. *Population Growth, Migration and Socio-Demographic Policies in Qatar*. Tel Aviv: Moshe Dayan Center for Middle Eastern and African Studies, 2000.

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AP Photo/Kamran Jebreili

*A couple takes a walk on a foggy morning in Doha.*

*Energy Information: Qatar.*

<http://www.eia.doe.gov/cabs/qatar2.html>  
(accessed May 7, 2003).

*Library of Congress Country Studies: Qatar.*

<http://lcweb2.loc.gov/frd/cs/qatoc.html>  
(accessed May 7, 2003).

# Romania

- **Official name:** Romania
- **Area:** 237,500 square kilometers (91,699 square miles)
- **Highest point on mainland:** Moldoveanu (2,544 meters/8,346 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 789 kilometers (490 miles) from east to west; 475 kilometers (295 miles) from north to south
- **Land boundaries:** 2,508 kilometers (1,558 miles) total boundary length; Bulgaria 608 kilometers (378 miles); Hungary 443 kilometers (275 miles); Moldova 450 kilometers (279 miles); Ukraine (east) 169 kilometers (105 miles); Ukraine (north) 362 kilometers (225 miles); Serbia and Montenegro 476 kilometers (296 miles)
- **Coastline:** 225 kilometers (140 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The southeastern European country of Romania is the largest country on the Balkan Peninsula. It shares borders with Ukraine, Moldova, Bulgaria, Serbia and Montenegro, and Hungary. It also has a very short southeastern coastline on the Black Sea. With a total area of about 237,500 square kilometers (91,699 square miles), the country is slightly smaller than the state of Oregon. Romania is administratively divided into forty counties and one municipality.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Romania has no outside territories or dependencies.

## 3 🌐 CLIMATE

Romania has a transitional continental climate with moderating influences from the Black Sea and variations due to altitude. In general, winters are cold and summers are warm. Temperatures are lower in the more elevated Transylvanian Plateau in the northwest.

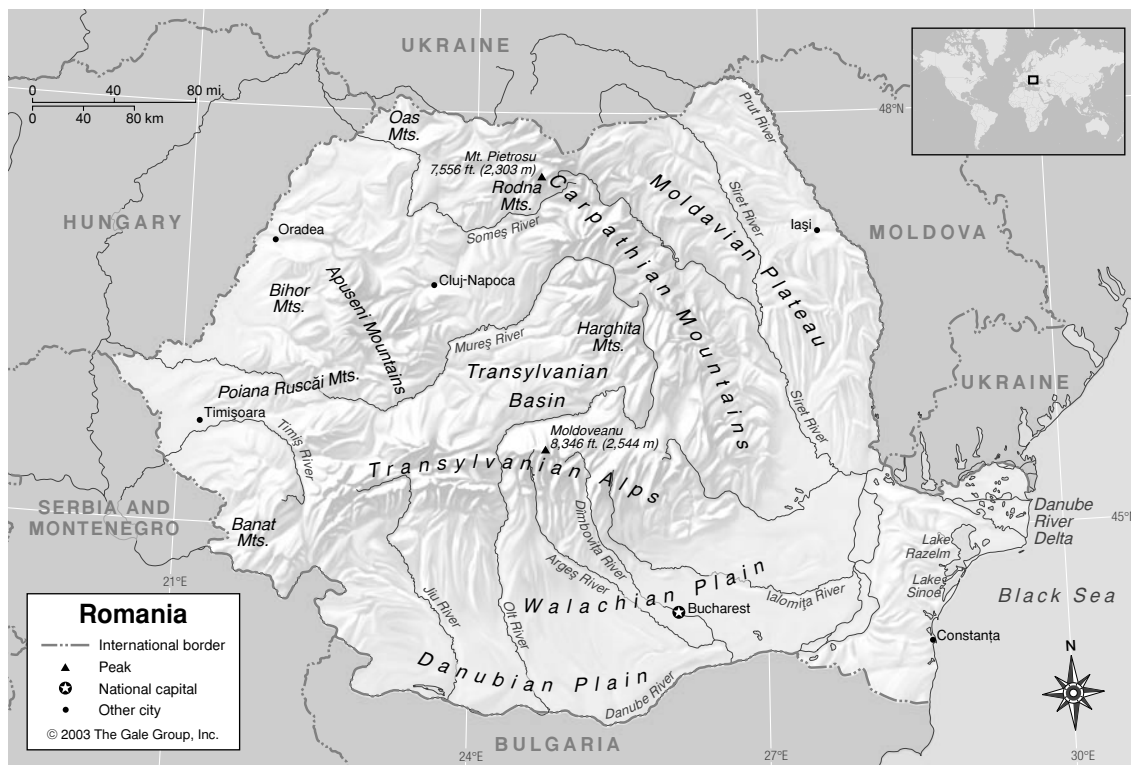
Temperature extremes are greater in the plains of the east and south, where the continental influence is strongest. Average temperatures in the capital city of Bucharest are  $-3^{\circ}\text{C}$  ( $27^{\circ}\text{F}$ ) in January and  $23^{\circ}\text{C}$  ( $73^{\circ}\text{F}$ ) in July. Average annual rainfall ranges from about 38 centimeters (15 inches) in the eastern lowland region of Dobruja to 125 centimeters (50 inches) or more in the Carpathian Mountains.

## 4 🌐 TOPOGRAPHIC REGIONS

The Carpathian Mountains, Romania's major physical feature, define the country's overall topographical pattern. Roughly forming an arc in the center of the country, their various branches separate the Transylvanian Plateau in the center from a wide band of lowlands on the edges, extending to the country's eastern, southern, and western borders.

Romania is traditionally divided into several distinct regions. Transylvania, which forms a large wedge in the north and northwest and makes up one-third of Romania, is by far

# ROMANIA



the largest region. It encompasses the central Transylvanian Plateau, all of the Carpathian Mountains except for the most southeastern section, and the hilly terrain in the northwestern part of the country. Walachia, which curves around Transylvania in the south and southeast, is the country's major lowland region, encompassing the plains of the Danube River to the south of the Transylvanian Alps. The part of Walachia west of the Olt River is a subregion known as Oltenia. Dobruja occupies the southeastern corner of Romania, bounded by the path of the Danube where the river flows northward for about 160 kilometers (100 miles) before it again turns to the east for its final passage to the sea. Moldavia, in the northeast, constitutes about one-fourth of the country's area. Much of this region is hilly or mountainous, and it is heavily forested. To the southwest, in the opposite corner of the country from Dobruja, is the Banat region.

Romania is located on the Eurasian Tectonic Plate.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Romania borders the western end of the Black Sea, which is an inland body of water lying between Europe and Asia. The Black Sea contains calm waters that are free of tides and dangerous marine life. Called the "Hospitable Sea" by the ancient Greeks, the Black Sea is half as saline as the Mediterranean Sea and has gentle sandy slopes, making it ideal for swimming.

The floor of the Black Sea is composed of a shallow shelf that extends about 10 to 11 kilometers (6 to 7 miles) from the coast of Romania. On this shelf, the average sea depth is 100 to 110 meters (330 to 360 feet). This shelf then drops steeply to the sea floor,

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# ROMANIA

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EPD/Saxifraga/Adriaan Dijkse

*Romania's coastal region near the Black Sea is flat and grassy.*

which is unusually flat and reaches depths of 2,195 meters (7,200 feet). Romania claims the continental shelf off its coast to a depth of 200 meters (656 feet).

## Sea Inlets and Straits

At the central part of the coastline, two large saltwater lagoons, Lake Razelm and Lake Sinoe, open onto the sea.

## Coastal Features

The marshy delta of the Danube River makes up the northern third of the coast. To the south, steep cliffs extend to the sea, fringed by white sandy beaches whose popularity with tourists has given this area a reputation as the "Romanian Riviera."

## 6 INLAND LAKES

Romania is said to have 2,500 lakes, but most of them are small and lakes occupy only about 1 percent of the country's total surface area. The largest lakes are along the Danube River

and the Black Sea coast. Some of those, including the largest, the 390-square kilometer (150-square mile) Lake Razelm, are saltwater lakes, or lagoons that are open to the sea. These and a few of the freshwater lakes are commercially important for their fish. The many smaller ones scattered throughout the mountains are usually glacial in origin and add much to the beauty of the resort areas.

## 7 RIVERS AND WATERFALLS

All of Romania's rivers and streams drain to the Black Sea. All of the rivers also join the Danube River, except for the minor streams that rise on the eastern slopes of the hills near the coast and flow directly into the sea. Those flowing southward and southeastward from the Transylvanian Alps drain to the Danube directly. Those flowing northward and eastward from Moldavia and Bukovina reach the Danube by way of the Prut River. Most of the Transylvanian streams draining to the north and west, including the Mureş and Someş Rivers, flow to the

# ROMANIA

Tisza River, which joins the Danube in Serbia and Montenegro, north of Belgrade.

The Danube rises in the southwestern part of Germany and follows a winding, generally eastern course through Austria, Hungary, Serbia and Montenegro, and Romania before finally emptying into the Black Sea, 2,850 kilometers (1,771 miles) from its source. It is the second-longest river in Europe and a vital commercial and transportation route.

As the Danube approaches its delta, it divides into a number of channels. It also forms several lakes, some of which are quite large. At the delta it divides into three major and several minor branches. The delta has an area of about 2,590 square kilometers (1,000 square miles) and grows steadily as the river deposits billions of cubic feet of sediment into the sea annually. Its main tributaries flowing through Romania include the Siret, Ialomița, Argeș, Olt, Jiu, and Timiș. The Argeș has an important tributary of its own: the Dimbovița River.

## DID YOU KNOW?

The Balkan Peninsula, the southernmost peninsula of Europe, lies between the Adriatic and Ionian Seas to the west, the Black and Aegean Seas to the east, and the Mediterranean Sea to the south. The countries of this region are collectively called the Balkan States: Albania, Bulgaria, continental Greece, southeast Romania, European Turkey, Serbia and Montenegro, Slovenia, Croatia, Bosnia and Herzegovina, and Macedonia.

The Dobruja region provides Romania's access to the Black Sea and contains most of the Danube River delta. Much of the Danube River delta, as well as a belt of land up to 32 kilometers (20 miles) wide along most of the river's length, is marshland. The majority of this land is not easily exploited for agricultural purposes, although some of the reeds and natural vegetation have limited commercial value. The delta is a natural wildlife preserve, particularly for waterfowl, and is large enough so that many species can be protected. Willows flourish in parts of the delta and there are a few deciduous forests in the north-central section.

## 8 DESERTS

There are no desert regions in Romania.

## 9 FLAT AND ROLLING TERRAIN

Much of the original grassland vegetation of the steppe-like lowland area in the eastern and southern parts of the country has given way to human settlement and cultivation. Nearly all of the Walachian Plain and Danubian Plain to the south, except for the marshes along the Danube River and the seriously eroded foothills, is cultivated. Where the original vegetation remains, short grasses grow in the drier areas; taller grasses grow closer to the rivers.

Hills cover much of Romania, as parts of both the mountain and plateau regions as well as the transitional regions between the mountain ranges. The hills are mostly rolling plains with well-watered and fertile soil.

## 10 MOUNTAINS AND VOLCANOES

The mountain ranges in the eastern part of the country are referred to as the Moldavian Carpathians. They have maximum elevations of about 2,286 meters (7,500 feet) and are the most extensively forested part

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# ROMANIA

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of the country. Their highest peak, Mount Pietrosu (2,303 meters/7,556 feet), rises in the Rodna Mountains in the far north at the border with Ukraine. Two volcanic ranges, the Oas and Harghita Mountains, extend for about 400 kilometers (250 miles) along the western edge of the Moldavian Carpathians. They contain Romania's only crater lake, the St. Ana Lake, as well as roughly two thousand mineral water springs.

The slightly higher southern ranges, called the Transylvanian Alps, form the southern border of Transylvania and have the highest peaks and the steepest slopes in the country. Romania's highest point, Mount Moldoveanu, rises to a height of 2,544 meters (8,346 feet) about 161 kilometers (100 miles) northwest of Bucharest. Among the alpine features of the Transylvanian Range are glacial lakes, upland meadows and pastures, and bare rock along the higher ridges. Some of the mountains are predominantly limestone, with caves, waterfalls, and underground streams.

The ranges in the west are generally lower and, unlike those in the east and south, they are not an unbroken ridge of mountains. The northernmost group is the Bihor Mountains, originating south of the city of Oradea. The southernmost is the Banat Mountains, in the extreme southwestern corner of the country. In between these two ranges are the perpendicular ranges of the Poiana Ruscai Mountains and the Apuseni Mountains. These four ranges are not as rugged as those found to the south and east, and average elevations run considerably lower. Only a few points in the Bihor Mountains approach 1,828 meters (6,000 feet), compared to maximum elevations of nearly 2,286 meters (7,500 feet) in the Moldavian Carpathians and over 2,438 meters (8,000 feet) in the Transylvanian Alps.

The various mountain groups of the western Carpathians are separated by a series of structural depressions, called "gates" because they provide gateways through the mountains. The best known is the Iron Gate on the Danube, in the southeastern corner of Romania.

On the outer fringes of the eastern and southern Carpathian Mountains is a band of lower, but still elevated, terrain called the Subcarpathians, which rises to elevations between 400 to 1,000 meters (1,300 and 3,300 feet).

## 11 CANYONS AND CAVES

Romania has many mountain caves scattered throughout the country. Two of the most popular show caves (open to tourists) are Bear's Cave and Women's Cave. Bear's Cave (Peștera Urșilor), located in a northwest group of mountains, is best known for the large number of cave bear fossils found there. The particular species of bear (*ursus spelaeus*) that lived there fifteen thousand years ago is now extinct. Researchers believe that a rockslide closed the entrance to the cave thousands of years ago, trapping over one hundred bears inside. Research indicates that these bears, which were generally herbivores, ended up killing and eating one another until the last bear died, either from hunger or from the wounds of a fight.

Women's Cave (Peștera Muierii) is located in an area known as the Getic Depression of Oltenia, on the territory of Baia de Fier village, in Gorj county. The Galbenul River carved the four levels of the cave. Women's Cave was so named because it was an ancient hiding place for the women and children of the region during times of war and invasion. Today, visitors can walk through several large galleries and see wonderful stalactites. There is a cupola-like chamber in one gallery that is called Little Dome. This chamber houses a large colony of bats.



## 12 🌐 PLATEAUS AND MONOLITHS

The Transylvanian Plateau, at elevations averaging 365 meters (1,200 feet), lies in the center of Romania, ringed by the three branches of the Carpathian Mountains.

Its terrain includes valleys and rounded hills, and it is bordered on the west by an area of the eroded limestone known as karst.

The Moldavian Plateau is marked by hills and narrow valleys and extends across the eastern region of Moldavia between the Subcarpathians and the Prut River, rising to between 488 and 610 meters (1,600 and 2,000 feet). Farther south, in the northern inland part of the Dobruja region, is a plateau that rises to a maximum height of 467 meters (1,532 feet).

## 13 🌐 MAN-MADE FEATURES

Hydropower from the rivers flowing down the Carpathian Mountains provides an important energy source.

The two Iron Gate Dams on the Danube, located in the southeastern corner of Romania, were built not only to generate hydroelectric power, but also to supply irrigation waters and to serve as a reservoir site for farm fishing. The Vidraru Dam on the Argeş River provides hydroelectric power as well as water for irrigation and part of the drinking supply for the city of Bucharest. The Gura Apelor Dam on the Raul Mare River, near the town of Hateg, is specifically used for hydroelectric power.

## 14 🌐 FURTHER READING

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## DID YOU KNOW?

**B**ran Castle in the Transylvanian Alps is believed to have been the home of the fifteenth-century Romanian prince Vlad Tepes, who was born in the Transylvanian village of Sighisoara (central Romania, northwest of Bucharest) in 1431. He was known as “The Impaler” because of his cruelty in mass executions. He was also called “Dracula,” which means “Son of a Dragon,” because his father was a member of the Order of the Dragon, a group of knights established by the Holy Roman Emperor Sigismund to fight the Turks. British author Bram Stoker made Transylvania and Dracula famous when he chose the personality of Vlad Tepes as the basis for the vampire in his 1897 Gothic novel *Dracula*.

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# Russia

- **Official name:** Russian Federation
- **Area:** 17,075,200 square kilometers (6,592,771 square miles)
- **Highest point on mainland:** Mount El'brus (5,633 meters/18,481 feet)
- **Lowest point on land:** Caspian Sea (28 meters/92 feet below sea level)
- **Hemispheres:** Northern, Eastern, and Western
- **Time zones:** 3 P.M. Moscow = noon GMT; 12 A.M. Anadyr = noon GMT
- **Longest distances:** 4,000 kilometers (2,400 miles) from north to south; 10,000 kilometers (6,200 miles) from east to west
- **Coastline:** 37,653 kilometers (23,396 miles)
- **Land boundaries:** 19,961 kilometers (12,403 miles) total boundary length; Azerbaijan 284 kilometers (176 miles); Belarus 959 kilometers (596 miles); China 3,605 kilometers (2,265 miles); Estonia 294 kilometers (183 miles); Finland 1,313 kilometers (816 miles); Georgia 723 kilometers (449 miles); Kazakhstan 6,846 kilometers (4,254 miles); Latvia 217 kilometers (135 miles); Lithuania 227 kilometers (141 miles); Mongolia 3,485 kilometers (2,165 miles); North Korea 19 kilometers (12 miles); Norway 167 kilometers (104 miles); Poland 206 kilometers (128 miles); and Ukraine 1,576 kilometers (979 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Russia is the largest country in the world, spreading from northeastern Europe across the entire northern width of the Asian continent. It shares borders with fourteen other countries and has coastlines on the Arctic and Pacific Oceans. With a total area of about 17,075,200 square kilometers (6,592,771 square miles), it is nearly twice the size of the United States. Russia is administratively divided into forty-nine oblasts, twenty-one republics, ten autonomous okrugs, six krais, two federal cities, and one autonomous oblast.

## 2 🌐 TERRITORIES AND DEPENDENCIES

A small portion of Russia, the Kaliningrad Oblast, is located in Eastern Europe between

Poland and Lithuania. There are no overseas dependencies of Russia.

## 3 🌐 CLIMATE

It is said that Russia has only two seasons: summer and winter. Though this is a slight exaggeration, the statement accurately characterizes the country's harsh climate with its long, cold winters and short, cool summers. These conditions are owing to Russia's location in the high northerly latitudes. More than half the country lies above 60° north latitude, with only relatively small areas below 50° north. Furthermore, the high mountains that form Russia's southern border effectively block out warm air masses. The predominant movement of the country's weather systems from east to west essentially nullifies any moderating influence the warm

# RUSSIA

waters of the Pacific Ocean might have on the climate. In winter, Siberia lies under a vast high-pressure cell centered in Mongolia, which keeps the region enveloped in frigid air. The magnitude of this cold is not easy to grasp. Soil in the far northern permafrost can be frozen several hundred meters deep. Even into southern Siberia, the land is covered by snow for more than six months. The annual average temperature for most of Siberia is below freezing. For the majority of European Russia, the average is only somewhat higher.

In summer, warm, moist air from the Atlantic Ocean is able to push east to central Siberia, under the influence of a prevailing low-pressure system. That area thus receives moisture-bearing air that delivers fairly high amounts of precipitation. Russia's short growing season relies heavily upon this rainfall to water its crops; unfortunately, distribution of the moisture in many areas is often irregular and unpredictable. Droughts are not uncommon, especially in early summer. On the other hand, heavy rains in middle and late summer may compromise harvesting. In the east, late-summer Pacific air can bring monsoon-like rainfall, with disastrous effects.

Overall, lack of sunshine characterizes the Russian climate. Overcast skies are the rule, especially in winter. In December, for example, Moscow typically experiences twenty-three days of cloud cover. Sunless winter days are the rule throughout the nation.

Russia's climate zones lie in easily distinguishable belts that run from east to west across the whole country. In the far north, Novaya Zemlya, Severnaya Zemlya, and numerous smaller Arctic islands experience a polar desert climate. Below this, a tundra climate predominates for at least 100 kilometers (60 miles) south, extending up into the steep

mountain slopes far to the east. Next, a broad subarctic zone passes southward as far as St. Petersburg in the west, crosses the Urals, and takes in nearly all the rest of Siberia. Last is a wide belt of cold, dry steppe climate starting at the Black Sea, crossing the North Caucasian Plain, moving through the lower Volga Valley and the southern Urals into Siberia.

## REGIONAL TEMPERATURE RANGES

CITY	JANUARY TEMPERATURE AVERAGES	JULY TEMPERATURE AVERAGES
Moscow	-16°C to -9°C (3°F to 16°F)	13°C to 23°C (55°F to 73°F)
Vladivostok	-18°C to -11°C (0°F to 13°F)	16°C to 22°C (60°F to 71°F)
Verkhoyansk	-32°C (-26°F)	13°C to 37°C (56°F to 98°F)

Most of Russia experiences only modest precipitation, but the averages vary by region. On the Great European Plain, averages decrease from more than 80 centimeters (30 inches) in the west to less than 40 centimeters (16 inches) on the Caspian Sea shoreline. Siberia uniformly sees annual precipitation ranging from 50 to 80 centimeters (20 to 32 inches), although amounts are generally less than 30 centimeters (12 inches) in extreme northeastern Siberia. At high elevations, precipitation totals may reach 100 centimeters (40 inches) or more, but in the valleys they average less than 30 centimeters (12 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Russia can be categorized into several large regions. From west to east, they are the Great European Plain; the Ural Mountains; the mountain systems and ranges along much of Russia's southern border; and Siberia, which includes the West Siberian Plain, the Central Siberian Plateau, and the mountain ranges of northeastern Siberia and the Kamchatka Peninsula.

# RUSSIA



Most of Russia is located on the Eurasian Tectonic Plate, but eastern Russia is on the North American Plate. The exact boundary between the two plates is uncertain. The Pacific Plate is located off of Russia's eastern coastline.

The movement of these three plates against each other is a cause of significant earthquakes and volcanoes in this region, especially on Kamchatka. Seismic activity is also common in the Caucasus Mountains in the southwest.

# RUSSIA



## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The majority of Russia's coastline is on the Arctic Ocean and its seas, including the White

Sea, Barents Sea, Kara Sea, Laptev Sea, East Siberian Sea, and the Chukchi Sea. Located almost entirely north of the Arctic Circle, much of the water here remains frozen for the better part of the year. One exception is the area in

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# RUSSIA

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EPD/Saxifraga/Systske Dijkse

*Animals graze in a valley lying in the mountains west of Lake Baikal.*

the far west, where the Gulf Stream current warms the waters of the Barents Sea near the Kola Peninsula, allowing the port of Murmansk to function year-round. The eastern coastline of Russia lies on the Pacific Ocean and its seas, including the Bering Sea, the Sea of Okhotsk, and a portion of the Sea of Japan. Western Russia has short coastlines along the Baltic Sea (in northern Europe) and the Black Sea (an inland sea between southeastern Europe and Asia), both of which are seas of the Atlantic Ocean.

## **Sea Inlets and Straits**

The Gulf of Ob' and the estuary of the Yenisey River are inlets of the coastline of the Kara Sea. A channel called the Proliv Dmitrya Lapteva connects the Laptev Sea to the East Siberian Sea. Long Strait near the northeast coast connects the East Siberian Sea to the Chukchi Sea and separates the

mainland from Wrangel Island. The Bering Strait separates Siberia and Alaska by a mere 86 kilometers (53 miles) and connects the Chukchi Sea to the Bering Sea. Shelikhova Bay is a deep inlet of the Sea of Okhotsk. The Gulf of Anadyr, near the northeastern tip of Russia, is an inlet of the Bering Sea. Russia's principal Pacific Ocean port, Vladivostok, is found on Peter the Great Bay, within the Sea of Japan. The Tatar Strait connects the Sea of Okhotsk to the Sea of Japan. The Gulf of Finland in the west is an inlet of the Baltic Sea. St. Petersburg is located at its apex. The Sea of Azov is an inlet of the Black Sea, located at the southwestern Russian border.

## **Islands and Archipelagos**

Many islands lie within the Arctic and Pacific Oceans off the shores of Russia. Franz Josef Land is comprised of about one hundred small islands in the Arctic Ocean; it is the northern-

## DID YOU KNOW?

**R**ussia was even larger in the past than it is today. Russia controlled Finland, Alaska, and parts of modern-day Poland at various times in history. After World War I (1914–18), Russia technically ceased to be an independent country, instead becoming part of the Union of Soviet Socialist Republics (U.S.S.R., or the Soviet Union). Russia was by far the largest of the republics that made up the Soviet Union, however, and was considered to be the ruling power of that nation. The Soviet Union started to dissolve in 1991. Eventually, many nations within the Soviet Union became independent of Russia.

most part of Russia and is among the northernmost lands on Earth. Other large Arctic islands are Novaya Zemlya, Vaygach Island, Wrangel Island, and the Severnaya Zemlya and New Siberian Islands groups. Many small islands and island chains are scattered among these larger groups.

In the Pacific, the Kuril Islands curve southwest from the Kamchatka Peninsula to Japan. Although the Kuril Islands are under Russian administration, Japan and Russia dispute ownership of the four southernmost islands. Also

lying in the Pacific is Sakhalin, a large island that separates the Seas of Okhotsk and Japan.

### Coastal Features

No country in the world can surpass Russia's 37,653 kilometers (23,396 miles) of coastline. Yet most of this coastline is so far north that it is frozen for much of the year. Despite the fact that frozen harbors mean Russia has very few outlets to the ocean that remain open all year, Russian shipping and fishing thrives on all its seas.

The coastlines contain many peninsulas and capes. Gydan Peninsula lies between the Gulf of Ob' and the estuary of the Yenisey River. Continuing to the east, the Taymyr Peninsula extends north, reaching mainland Russia's northernmost point at Cape Chelyuskin.

The Chukchi Peninsula stretches out to become Russia's easternmost point, with the Chukchi Sea of the Arctic Ocean to the north and the Bering Sea of the Pacific Ocean to the south. Further south is the large Kamchatka Peninsula. Kamchatka encloses the Sea of Okhotsk to the west.

### 6 INLAND LAKES

The Caspian Sea, on Russia's southern border between Europe and Asia, is not a true sea; it is actually a saltwater lake and the largest inland body of water in the world. The Caspian is held in a vast land depression with no outlet to any ocean. Although many rivers drain into it, water escapes only through evaporation. The Caspian's salinity results from accumulated salts. The sea extends approximately 1,210 kilometers (750 miles) from north to south and 210 to 436 kilometers (130 to 271 miles) from east to west. Its area is 371,000 square kilometers (143,000 square miles). Its mean depth is about 170 meters (550 feet), with the deepest areas in the south.

# RUSSIA

Most other Russian lakes were formed by glaciation. The largest such lakes in European Russia are Ladoga (17,703 square kilometers/6,835 square miles) and Onega (9,609 square kilometers/3,701 square miles), northeast of St. Petersburg. They are also the two largest lakes in all of Europe (since the Caspian Sea is generally not counted as a lake). Other large lakes in western Russia include Lake Peipus on the Estonian border and the reservoirs of the Volga River.

Lake Baikal in southern Siberia is the largest lake in Russia and the largest lake in Asia (excluding the Caspian Sea). It is 632 kilometers (392 miles) long and 59 kilometers (32 miles) wide, with a surface area of 30,510 square kilometers (11,870 square miles). It has a maximum depth of 1,742 meters (5,715 feet), making it the deepest body of freshwater on Earth. Due to its great depth, Lake Baikal also has the greatest volume of any freshwater lake. It is said to contain one-fifth of Earth's fresh surface water. Other large Siberian lakes include Lakes Taymyr, Chany, and Khanka and the Novosibirsk, Bratsk, and Zeya Reservoirs. There also are many smaller lakes.

## 7 RIVERS AND WATERFALLS

Most of Russia's urban population lives along the banks of the nation's many rivers. The most important commercial river in Russia is the Volga, which is also the longest river in Europe. The Volga begins in the hills west of Moscow and flows southeastward for 3,689 kilometers (2,293 miles) to the Caspian Sea. Four of Russia's largest cities are located on its banks: Nizhniy Novgorod, Samara, Kazan', and Volgograd. The Kama River flows west out of the southern Urals and into the Volga. This also is a major waterway for both Russia and Europe.

Also located in European Russia are the Dnieper and the Don Rivers. Although the Dnieper flows mainly through Belarus and



EPD/Saxifraga/Sytske Dijkse

*Aerial view of the Kolyma lowlands,  
a tundra region in eastern Russia.*

Ukraine, it has headwaters in the hills west of Moscow. The Don flows from its origins in the Central Russian Upland south of Moscow for 1,860 kilometers (1,153 miles) before emptying into the Sea of Azov at Rostov-na-Donu.

Further east is the Ural River, which flows south from the Ural Mountains into Kazakhstan before reaching the Caspian Sea. The Ural River is traditionally considered part of the boundary between Europe and Asia.

A number of major rivers drain into the Pacific and Arctic Oceans from the Siberian plateau and mountain areas in the east. The



Irtysch-Ob' river system flows through the West Siberian Plain, emptying into the Arctic at the Gulf of Ob'. The Irtysch is the longer of the two rivers, but is a tributary to the Ob'. Together they have a length of 5,380 kilometers (3,335 miles), making them the longest river system in Russia.

On the far side of the Central Siberian Plateau is the Lena, the longest individual river in Russia at 4,400 kilometers (2,700 miles). It too empties into the Arctic, and it has many large tributaries including the Aldan, Vitim, and Vilyui. The third great Arctic river, the Yenisey (4,000 kilometers/2,480 miles), flows across the Central Siberian Plateau. Its largest tributary, the Lower Tunguska, is itself roughly 3,226 kilometers (2,000 miles) long. Other major tributaries include the Stony Tunguska and Angara.

The same river systems that account for such an enormous flow of water into the Arctic Ocean are also responsible for creating vast swamps in the West Siberian Plain. Snow and ice in the warmer regions, where the rivers have their sources, thaw well before the northern regions, causing great flooding to the north. The Vasyugan'ye Swamp in the center of the West Siberian Plain, for example, covers 48,000 square kilometers (18,500 square feet). The same effect can be observed with other Siberian river systems.

The Amur River (2,874 kilometers/1,768 miles) is the most important Siberian river flowing into the Pacific Ocean. Its major tributaries are the Argun, Ussuri, and Shilka. The Amur River, with its primary tributary the Ussuri River, comprises a significant section of the boundary between Russia and China.

## **8** 🌐 **DESERTS**

There are no desert regions in Russia.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

In all nearly 10 percent of Russian territory can be classified as swampland. Much of this

## **DID YOU KNOW?**

**T**he areas now known as Siberia and Alaska were once connected by a stretch of land that surfaced during the Ice Ages, an area that researchers have called the Bering Land Bridge or Beringia. Archaeologists believe that the first ancestors of the Native Americans crossed this bridge from Asia into North America more than thirteen thousand years ago. Over time, as the Bering and Chukchi Seas rose, they covered Beringia. Remnants of the region can still be seen at the Bering Land Bridge National Preserve on Seward Peninsula in Alaska.

is concentrated in the West Siberian Plain, which lies between the Ural Mountains and the Yenisey River. This plain is a vast area of lowlands, probably the largest expanse of flat land anywhere in the world. It stretches from the steppes of Central Asia in the south to the Arctic Ocean in the north, covering a region nearly 1,800 kilometers (1,100 miles) wide. Flat and poorly drained, these lowlands feature many swamps, marshes, and peat bogs, with significant oil and natural gas deposits in their central and northern regions.

The Ural Mountains separate two vast plains: the Great European Plain and the even larger West Siberian Plain. Both of these so-called plains contain a wide variety of terrain, including vast forests, swamps, and stretches

### DID YOU KNOW?

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of tundra. The plains also contain many areas of grassland and farmland, however, especially the Great European Plain.

The central portion of the Great European Plain between St. Petersburg and the Ukrainian border features a mixed forest of both conifers and deciduous trees. Oak, beech, maple, and hornbeam are the primary broad-leaf tree species. Moving south, the mixed forest passes through a narrow zone of forest steppe, which is 150 kilometers (95 miles) wide, on average, before giving way to a zone of true steppe.

The steppe is a broad band of nearly treeless, grassy plains that extends across Hungary, Ukraine, southern Russia, and Kazakhstan before ending in Manchuria. Although historically presented as the typical Russian landscape, the steppe in Russia proper is in fact quite small, lo-

cated mainly northwest of the Greater Caucasus Mountains and stretching across the southern Volga Valley, the southern Urals, and parts of western Siberia.

Isolated pockets of steppe can also be found in the mountain valleys of southeastern Siberia. Moderate temperatures and normally adequate levels of sunshine and moisture give the steppe zone relatively favorable conditions for agriculture, although precipitation here can be unpredictable, sometimes even catastrophically dry.

Tundra makes up about 10 percent of Russian land, a treeless and marshy plain that lies along Russia's northernmost zone. The tundra stretches from the Finnish border to the Bering Strait, then extends south along the Pacific coast to the Kamchatka Peninsula. The North Siberian and Kolyma lowlands are entirely made up of tundra. Only mosses, lichens, dwarf willows and shrubs can grow on the permafrost and survive the long, harsh, sunless winters. In summer, dusk comes at midnight and dawn follows within minutes. The powerful Siberian rivers that cut across the tundra toward the Arctic Ocean do a poor job of draining the region, due to partial and intermittent thawing. The most important physical process at work in the tundra is frost weathering, a vestige of the glaciation that shaped it during the last Ice Age.

There are many regions of hills and uplands in Russia. The Valdai Hills are the most noteworthy. Although not particularly tall (from 182 to 304 meters/600 to 1000 feet in elevation), they are among the highest summits located in the Great European Plain of western Russia. Many important rivers have their source there, including the Volga.

## 10 🌐 MOUNTAINS AND VOLCANOES

With nine major mountain ranges, Russia can be considered among the most mountainous countries in the world. Eastern Russia is by far more mountainous than the west, while the center section of the country is primarily low plains.

The Urals are perhaps the best known of Russia's mountain ranges, as they define the boundary between Asia to the east and Europe to the west. A lengthy range, the Urals extend 2,100 kilometers (1,300 miles) from the northern border of Kazakhstan all the way to the Arctic Ocean. The highest peak, Mount Narodnaya, is only 1,894 meters (6,212 feet) in elevation, however. The Urals have never offered any significant barrier to travel.

Located between the Black and Caspian Seas, the Caucasus Mountains consist of two major chains separated by lowlands. The northern Greater Caucasus range forms most of the border between Russia, Azerbaijan, and Georgia, as well as marking the boundary between Asia to the south and Europe to the north. These mountain systems are made up of granite, other crystalline rocks, and some volcanic formations. Elevations in the Greater Caucasus reach a maximum of 5,633 meters (18,481 feet) at the extinct volcano Mount El'brus, the highest peak both in Russia and on the continent of Europe.

Russia's other mountains are far to the east. The Altay Shan and Sayan Mountains are found in the area north of Mongolia, west of Lake Baikal. Further east are the Yablonovyy Range and Stanovoy Mountains. They follow much of the southern border of central and eastern Siberia on toward the Pacific Ocean, where they join the other eastern ranges. The Altay Shan are the tallest of these; they include Mount Pelukha (4,619 meters/15,157 feet). The other ranges average less than 3,048 meters (10,000 feet) in height.

## DID YOU KNOW?

In an area known as the Kursk Magnetic Anomaly, near Ukraine, vast iron-ore deposits affect Earth's magnetic field.

The topography east of the Lena River is predominantly mountainous, with the elevations becoming higher and more rugged farther to the east. Major ranges in this region are Verkhoyanskiy, Cherskiy, Kolyma, Koryak, and Sredinnyy. The easternmost ranges feature live volcanoes. As many as 120 volcanoes dot the Kamchatka Peninsula, and no fewer than 23 are active. Klyuchevskaya Sopka, the highest of these, reaches 4,750 meters (15,584 feet).

Moving offshore, these same mountains form the Kuril Islands, where thirty of one hundred volcanoes are active. Across the Sea of Okhotsk, in Russia's southeasternmost area, there are several low mountain ranges, including the Sikhote-Alin' Mountains and the mountains of Sakhalin Island.

## 11 🌐 CANYONS AND CAVES

Though there are many caves throughout the country of Russia, geological information or maps concerning them are not easy to obtain. One of the most famous of the many caves is Kapova Cave, which is known for its Paleolithic paintings of mammoths, rhinos, horses, and bison. Excavations from the two-level cavern uncovered human remains as well as animal bones and charcoal, indicating that people once lived there.

Another famous site is the Kungur Ice Cave, located near the town of Kungur, southeast of Perm. It contains over 6,000 meters (19,685 feet) of passageways. The entire depth of the cavern, however, has not been completely explored. The cave features many large columns of stalagmites and huge icicle stalactites.

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# RUSSIA

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## 12 🌐 PLATEAUS AND MONOLITHS

The Central Siberian Plateau is an enormous stretch of rolling land between the Yenisey and the Lena Rivers. Heights of this vast plateau range from 500 to 700 meters (1,600 to 2,300 feet) on average. Its surface is eroded by the many rivers, some forming deep canyons. Layers of sedimentary rock, subsequently intruded by volcanic lava, were deposited long ago on top of igneous and metamorphic rock. Within the layers of sedimentary rock are rich deposits of coal.

## 13 🌐 MAN-MADE FEATURES

Several canals connect most of European Russia's rivers. These rivers provide a vital transportation system, carrying fully two-thirds of the nation's inland water traffic. Because of one series of canals, it is possible to travel from St. Petersburg to Moscow entirely by boat.

Russia's many rivers give the nation a great potential for hydroelectric power. In fact, Russia already has four of the ten largest hydroelectric plants in the world. The Sayano-Shushensk Dam on the Yenisey River is part of the fourth-largest plant and is also the twelfth-highest dam in the world, with a height of

242 meters (794 feet). The Krasnoyarsk Dam belongs to the fifth-largest hydroelectric plant in the world, while the Bratsk Dam and the Ust-Ilim Dam are eighth and tenth, respectively. The Saratov Dam on the Volga River is also listed as one of the world's largest dams.

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(accessed June 13, 2003).

# Rwanda

- **Official name:** Republic of Rwanda
- **Area:** 26,338 square kilometers (10,169 square miles)
- **Highest point on mainland:** Mount Karisimbi (4,519 meters/14,826 feet)
- **Lowest point on land:** Rusizi River (950 meters/3,117 feet)
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 248 kilometers (154 miles) from northeast to southwest; 166 kilometers (103 miles) from southeast to northwest
- **Land boundaries:** 893 kilometers (555 miles) total boundary length; Burundi 290 kilometers (180 miles); Democratic Republic of the Congo 217 kilometers (135 miles); Tanzania 217 kilometers (135 miles); Uganda 169 kilometers (105 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Rwanda is a small, landlocked country located south of the equator in east-central Africa. With an area of 26,338 square kilometers (10,169 square miles), it is almost as large as the state of Maryland.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Rwanda has no territories or dependencies.

## 3 🌐 CLIMATE

High altitudes keep the climate moderate in much of Rwanda despite its proximity to the equator. In addition, trade winds from the Indian Ocean moderate the temperatures on the Central Plateau, where the annual average is 21°C (70°F). Temperatures in the mountains of the northwest are lower, especially at night, yet they average near 32°C (90°F) in parts of the eastern lowlands. Average annual rainfall can range from as little as 76 centimeters (30

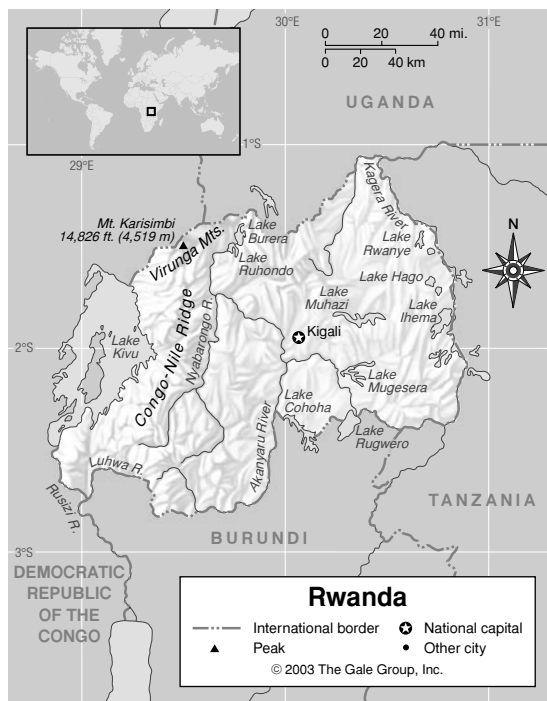
inches) in the eastern lowlands to 179 centimeters (70 inches) in the mountains. The yearly average rainfall on the Central Plateau is about 114 centimeters (45 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

The divide between two of Africa's great watersheds, the Congo and Nile basins, extends from north to south through western Rwanda at an average elevation of almost 2,743 meters (9,000 feet). On the western slopes of this Congo-Nile ridgeline, the land slopes abruptly toward Lake Kivu in the Great Rift Valley on the western border of the country. The eastern slopes are more moderate, with rolling hills extending across the central uplands at gradually reducing altitudes to the plains, swamps, and lakes of the eastern border region.

Rwanda can be divided into five regions from west to east: 1) the narrow Great Rift Valley region along or near Lake Kivu,

# RWANDA



2) the volcanic Virunga Mountains and high lava plains of northwestern Rwanda, 3) the Congo-Nile Ridge, 4) the rolling hills and valleys of the central plateaus, which slope eastward from the Congo-Nile Ridge, and 5) the savannahs and marshlands of the eastern and southeastern border areas, which are lower, warmer, and drier than the central upland plateaus.

## 5 🌐 OCEANS AND SEAS

Rwanda is landlocked and therefore has no oceanic coast.

## 6 🌐 INLAND LAKES

Rwanda has many lakes. The largest, Lake Kivu, is located in the midst of the volcanic peaks in the Virunga Mountains and forms part of the border with the Democratic Republic of the Congo. The lake has a surface area of 2,665 square kilometers (1,025 square miles) and reaches a maximum depth of 475

meters (1,558 feet). Lake Cohoha and Lake Rugwero lie in Rwanda's southeast, partly extending into Burundi. There are also eight sizable lakes that lie entirely within Rwanda: Lakes Rwehikama, Ihema, Muhazi, Mugesera, Hago, and Rwanye in the east, and Lakes Ruhondo and Burera in the north.

## 7 🌐 RIVERS AND WATERFALLS

Most of Rwanda's rivers are in the eastern part of the country. The Kagera River in the east forms the boundary with Tanzania and part of the boundary with Burundi. With a total length of 692 kilometers (430 miles), the Kagera is the longest river in Rwanda. The Nyabarongo River and its tributaries drain much of the Central Plateau. In the west, the Ruzizi flows southward from Lake Kivu along the border with the Democratic Republic of the Congo, into Burundi, and on to Lake Tanganyika. In the south, the Luhwa and Akanyaru Rivers form parts of the boundary with Burundi.

## 8 🌐 DESERTS

There are no deserts in Rwanda.

## 9 🌐 FLAT AND ROLLING TERRAIN

Much of the countryside is covered by grasslands and small farms extending over the rolling hills that cover much of the Central Plateau; this terrain has given Rwanda the nickname "Land of a Thousand Hills."

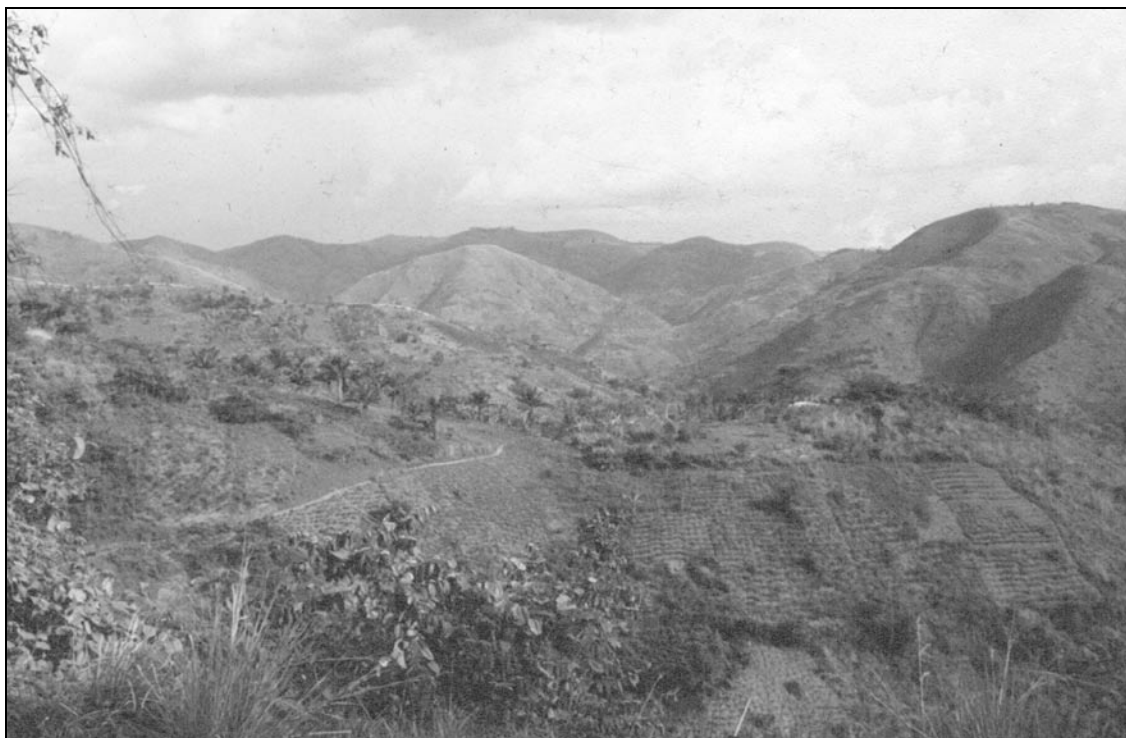
## 10 🌐 MOUNTAINS AND VOLCANOES

Rising from high lava plains in the northwest corner of Rwanda are the Virunga Mountains, Rwanda's only mountain range. They consist of five volcanic peaks, two of which still emit smoke and steam. The highest of these is Mount Karisimbi, which rises to over 4,519 meters (14,826 feet).

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# RWANDA

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EPD/Cynthia Bassett

*The Virunga Mountains are Rwanda's only mountain range.*

## **11** 🌐 **CANYONS AND CAVES**

The system of caves in the Gisenyi region of northwestern Rwanda is infamous for the 1994 massacre of some eight thousand Hutus, an ethnic minority, by the rival Tutsi people.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The Central Plateau has an average altitude of 1,432 meters (4,700 feet); becoming progressively lower in elevation as it extends toward the eastern border.

## **13** 🌐 **MAN-MADE FEATURES**

There are no railways in Rwanda. The capital city of Kigali is connected with nearby towns in Burundi and Uganda by a well-traveled road.

## **14** 🌐 **FURTHER READING**

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*Rwanda Page*. [http://www.sas.upenn.edu/African\\_Studies/Country\\_Specific/Rwanda.html](http://www.sas.upenn.edu/African_Studies/Country_Specific/Rwanda.html) (accessed April 4, 2003).

# Saint Kitts and Nevis

- **Official name:** Federation of Saint Kitts and Nevis
- **Area:** 261 square kilometers (101 square miles)
- **Highest point on mainland:** Mount Misery (1,156 meters/3,793 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 37 kilometers (23 miles) from north to south; 8 kilometers (5 miles) from east to west
- **Land boundaries:** None
- **Coastline:** 135 kilometers (84 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Shaped like an exclamation mark, the popular tourist destinations of Saint Kitts and Nevis lie in the northern part of the Leeward Islands in the Eastern Caribbean, with Barbuda to the northeast and Antigua to the southwest. Covering an area of 261 square kilometers (101 square miles), Saint Kitts and Nevis is over one-and-one-half times the size of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Saint Kitts and Nevis has no territories or dependencies.

## 3 🌐 CLIMATE

The temperatures recorded on Saint Kitts and Nevis change very little during the year, due to their close proximity to the equator. Year-round temperatures average 26°C (79°F) and rarely exceed 32°C (89°F).

Rainfall is greater and more frequent in higher elevations. Most rain falls between May and November, with an average annual rainfall of 109 centimeters (43 inches). The summer months are especially humid; hurricanes are possible in the late summer and early fall months.

## 4 🌐 TOPOGRAPHIC REGIONS

Both Saint Kitts and Nevis are volcanic islands. The larger of the two, Saint Kitts, contains a dormant volcano, a salt lake, and tropical forests. The circular island of Nevis, also home to a dormant volcano, slopes to its highest peak, Nevis Peak, and is home to rich forests and sandy beaches. Both islands are known for their lush vegetation.

## 5 🌐 OCEANS AND SEAS

Saint Kitts and Nevis are located in the Caribbean Sea.

### Seacoast and Undersea Features

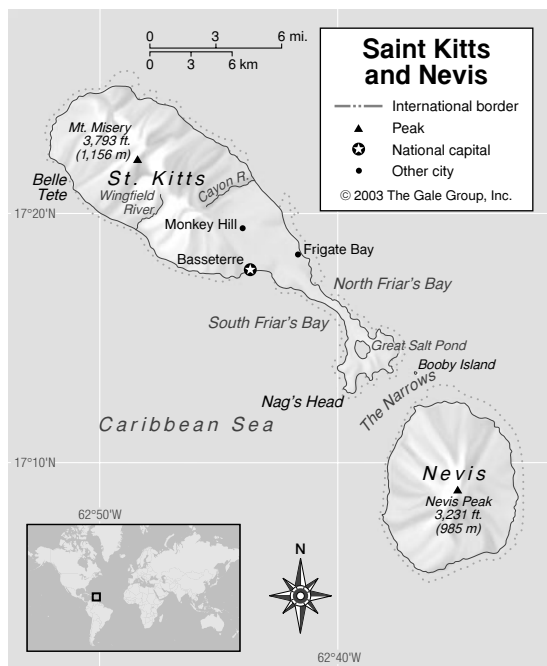
While there are coral reefs throughout the Caribbean, none of the reefs near the islands are of significant size. The highest concentration of these reefs is near Nag's Head and the southwestern coast of Saint Kitts. The coral reefs on Saint Kitts, notably those near Sandy Point Bay, are rich in marine life.

### Sea Inlets and Straits

A two-mile-wide channel, known as the Narrows, separates Saint Kitts from Nevis.



# SAINT KITTS AND NEVIS



AP Photo/David Langford

## Islands and Archipelagos

Located in the channel separating the islands of Saint Kitts and Nevis is the small Booby Island.

## Coastal Features

The coastlines of the islands are rather jagged and indented, with many bay and beach areas. Located on the southern tip of Saint Kitts are Majors Bay, Banana Bay, and Cockleshell Bay. Other bays line the coastline, including Half Moon Bay, Sandy Bay, Frigate and North Frigate Bays, and North and South Friar's Bays. There are two capes of interest: Belle Tete, on the northwestern shore of Saint Kitts, and Nag's Head, at the end of the Frigate Bay Peninsula. The beaches on both islands range from smooth with white sand to coarse with black sand. The northern end of Saint Kitts has numerous black volcanic sand beaches.

## 6 🌐 INLAND LAKES

The Great Salt Pond, located near the southeastern tip of Saint Kitts, is the only lake of significant size on the islands.

*Mount Nevis, a dormant volcano, is often hidden by clouds. It is said that when Christopher Columbus sighted the island in 1493 he named it "Nuestra Senora de las Nieves" (Our Lady of the Snows) because of the white clouds around Mount Nevis.*

## 7 🌐 RIVERS AND WATERFALLS

Most of the rivers on Saint Kitts and Nevis no longer flow year-round. Those that remain are small and drain from the mountain ranges in the wet season, drying up partially or completely in the dry season. Two seasonal rivers of note are the Wingfield and Cayon Rivers, which during the wet seasons will flow almost to the Caribbean.

## 8 🌐 DESERTS

There are no deserts on Saint Kitts and Nevis.

## 9 🌐 FLAT AND ROLLING TERRAIN

Plots of sugarcane cover the foothills of the central mountain range on Saint Kitts. The island's southern peninsula consists of many low hills

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## SAINT KITTS AND NEVIS

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and expansive reaches of flat terrain, which include large swamps and marshes of all kinds.

### 10 🌐 MOUNTAINS AND VOLCANOES

The major mountain range on the island of Saint Kitts runs through the middle of the island from northeast to southwest. Rainforests surround the higher slopes. Mount Misery (also called Mount Liamuiga) is the highest summit on the island at 1,156 meters (3,793 feet). The highest peak on Nevis, called Nevis Peak, has an elevation of 985 meters (3,232 feet); it is often capped in white clouds.

### 11 🌐 CANYONS AND CAVES

Coral grottoes located some 12 meters (40 feet) beneath Nevis's western coast are a popular dive site, providing underwater access to the island's coral reefs.

### 12 🌐 PLATEAUS AND MONOLITHS

There are no plateaus or significant monoliths on Saint Kitts and Nevis.

### 13 🌐 MAN-MADE FEATURES

Once known as "the Gibraltar of the West Indies," Brimstone Hill on the island of Saint

Kitts is home to an eighteenth-century fortress that was restored in the 1960s.

### 14 🌐 FURTHER READING

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#### Web Sites

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[http://www.lonelyplanet.com/destinations/caribbean/saint\\_kitts\\_and\\_nevis/attractions.htm](http://www.lonelyplanet.com/destinations/caribbean/saint_kitts_and_nevis/attractions.htm)  
(accessed March 13, 2003).

*St. Kitts Tourism Authority*. <http://www.stkitts-tourism.com/index2.html>  
(accessed March 13, 2003).

# Saint Lucia

- **Official name:** Saint Lucia
- **Area:** 620 square kilometers (239 square miles)
- **Highest point on mainland:** Mount Gimie (950 meters/3,117 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 43 kilometers (27 miles) from north to south; 23 kilometers (14 miles) from east to west
- **Land boundaries:** None
- **Coastline:** 158 kilometers (98 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Saint Lucia, located in the eastern Caribbean Sea between Martinique and Saint Vincent, is the second-largest of the Windward Islands. With an area of 620 square kilometers (239 square miles), Saint Lucia is almost three-and-a-half times as large as Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Saint Lucia has no territories or dependencies.

## 3 🌐 CLIMATE

Saint Lucia's tropical climate is moderated by trade winds off the Atlantic Ocean. The mean temperature year-round is about 27°C (80°F). Hurricanes are a hazard in the late summer months of June, July, and August.

Average annual rainfall ranges from about 127 centimeters (50 inches) in the coastal areas to as much as 381 centimeters (150 inches) at higher elevations in the interior. The wet season lasts from June to September, and the dry season runs from February to May.

## 4 🌐 TOPOGRAPHIC REGIONS

The volcanically formed island consists of mountains and hills in the interior, surrounded by a coastal strip.

## 5 🌐 OCEANS AND SEAS

Saint Lucia is located between the Atlantic Ocean and the Caribbean Sea.

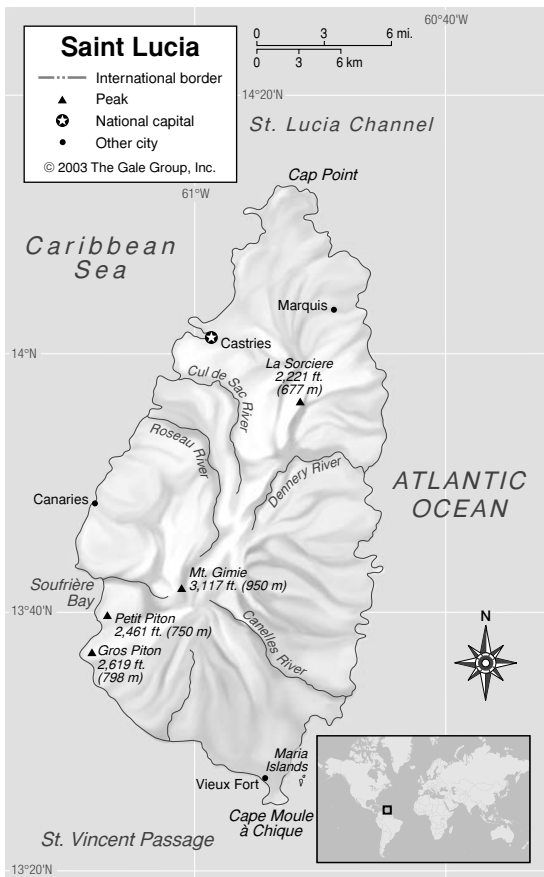
### Seacoast and Undersea Features

The harbor waters at the port of Castries are 8 meters (27 feet) deep, but the underwater geography around the island varies drastically. There are extensive coral reefs, underwater cliffs, walls, and mountains in the waters surrounding Saint Lucia.

### Sea Inlets and Straits

Saint Lucia is separated from Martinique to the north by the Saint Lucia Channel, and from Saint Vincent to the south by the Saint Vincent Passage.

# SAINT LUCIA



## Islands and Archipelagos

Other than the main island, Saint Lucia also includes the Maria Islands, located off the southeast coast. The Maria Islands contain a nature reserve.

## Coastal Features

Saint Lucia has two major ports: Castries and Vieux Fort. The eastern coast has many small indentations, while the western coast is mostly smoother, with major indentations at the port of Castries in the northwest and Soufrière Bay in the southwest, at which the mountain peaks of Gros Piton and Petit Piton are located. The island has two major capes, Cap Point at its northern tip and Cape Moule à Chique at its southern one. Saint Lucia is known for its

many scenic beaches, some of which are covered with black volcanic sand.

## 6 🌐 INLAND LAKES

Saint Lucia has no sizable lakes.

## 7 🌐 RIVERS AND WATERFALLS

A number of small rivers flow outward from the central highlands to the coast. The principal ones are the Cul de Sac, Canelles, Dennery, Fond, Piaye, Doree, Canaries, Roseau, and Marquis Rivers.

## 8 🌐 DESERTS

There are no deserts on Saint Lucia.

## 9 🌐 FLAT AND ROLLING TERRAIN

A narrow strip of coastal plains fringe the exterior perimeter of Saint Lucia, giving way to foothills further inland. The northern half of the island is hillier, while the southern half is more mountainous.

## 10 🌐 MOUNTAINS AND VOLCANOES

The cone-like twin summits of Gros Piton and Petit Piton are Saint Lucia's outstanding natural feature. Mountains occupy much of the country's interior, spanning the island from north to south. Although the highest elevation is in the south-central part of the island, where Mt. Gimie reaches a height of 950 meters (3,117 feet), the country's best-known peaks are Gros Piton and Petit Piton. These pyramids of volcanic rock rise out of the ocean at Soufrière Bay on the southwest coast, at elevations of 798 meters (2,619 feet) and 750 meters (2,461 feet), respectively.

## 11 🌐 CANYONS AND CAVES

There are underwater caves carved out of Saint Lucia's coral reefs, which are a popular site for divers.

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# SAINT LUCIA

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Susan D. Rock

*Bubbling sulfur pools in Saint Lucia.*

## 12 🌐 PLATEAUS AND MONOLITHS

Saint Lucia has no plateaus and no significant monoliths.

## 13 🌐 MAN-MADE FEATURES

The 91-meter- (300-foot-) deep Roseau Dam, completed in 1995, has a capacity of more than 2.6 billion liters (700 million gallons) of water. The Castries/Cul de Sac highway tunnel, completed early in 2000 and nicknamed the Millennium Highway, connects the city of Castries with the valley of the Cul de Sac River.

## 14 🌐 FURTHER READING

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“Saint Lucia: Simply Beautiful.” *Interknowledge Corporation*. <http://www.st-lucia.com> (accessed May 5, 2003).

# Saint Vincent and the Grenadines

- **Official name:** Saint Vincent and the Grenadines
- **Area:** 389 square kilometers (150 square miles)
- **Highest point on mainland:** Soufrière (1,234 meters/4,049 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** Saint Vincent Island: 29 kilometers (18 miles) from north to south; 18 kilometers (11 miles) from east to west
- **Land boundaries:** None
- **Coastline:** 84 kilometers (52 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Saint Vincent and the Grenadines (often simply called Saint Vincent) is part of the Windward Islands group of the Lesser Antilles in the Caribbean Sea, north of the island of Grenada. With an area of about 389 square kilometers (150 square miles), the country is twice the size of Washington, D.C. Saint Vincent is divided into six parishes. The island of Saint Vincent itself is by far the largest of these; with an area of 344 square kilometers (133 square miles), it accounts for almost 90 percent of the country's total area.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Saint Vincent and the Grenadines has no outside territories or dependencies.

## 3 🌐 CLIMATE

Saint Vincent has a tropical climate with an average temperature of 26°C (79°F). September is the warmest month, with an average temperature of 27°C (81°F), and January is the coolest, with an average temperature of 25°C (77°F).

On Saint Vincent, yearly rainfall averages 231 centimeters (91 inches); in the mountainous regions, however, rainfall averages more than 380 centimeters (150 inches). The rainy season occurs from May or June through December. In most of the Grenadines, rainfall is the only source of fresh water.

## 4 🌐 TOPOGRAPHIC REGIONS

Saint Vincent is a volcanic island that still has the active volcano, Soufrière, in its northern mountains. The remainder of the island contains rugged land, except for the lowlands and a valley in the interior, which are home, respectively, to tropical rainforests and Saint Vincent's best farmland. The Grenadines are generally rugged but low-lying.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Saint Vincent and the Grenadines is located between the Caribbean Sea to the west and the Atlantic Ocean to the east. Coral reefs

# SAINT VINCENT AND THE GRENADINES



surround the Grenadines. An underwater depression called the Tobago Basin lies to the east of the islands.

## Sea Inlets and Straits

The Saint Vincent Passage is found north of that island. The Martinique Channel is situated to the south and separates the country from Grenada. The North Mayreau Channel

lies between the Grenadine islands of Mayreau and Canouan.

Greathead Bay is located on the southern coast of Saint Vincent Island. The capital city of Kingstown is located on the shores of Kingstown Bay, also on the southern coast.

## Islands and Archipelagos

The island of Saint Vincent itself is by far the largest in the country, with an area of 344 square kilometers (133 square miles). The Grenadines are a group of low-lying islands south of Saint Vincent, with wide beaches and coral reefs surrounding them. Union Island, Mayreau, Mustique, Canouan, Bequia, and many other uninhabited rocks, reefs, and cays are part of the Grenadines that belong to Saint Vincent. The remaining islands of the Grenadines belong to Grenada.

## Coastal Features

Saint Vincent's eastern and western coasts are comprised of alternating rock cliffs and stretches of black sand beaches. The Grenadines have low-lying land, wide beaches, and shallow harbors and bays.

## 6 🌐 INLAND LAKES

The Soufrière volcano on Saint Vincent contains a crater lake that is 1.6 kilometers (1 mile) wide.

## 7 🌐 RIVERS AND WATERFALLS

Rivers in Saint Vincent tend to be short and straight. The longest river is the Colonarie. It lies slightly northeast of Kingstown and is the site of a hydroelectric power plant.

The Falls of Baleine, located on the northern end of Saint Vincent, can be reached only by boat. These freshwater cascades drop about 18 meters (60 feet) to a natural pool. The area is a designated wildlife reserve.

# SAINT VINCENT AND THE GRENADINES



EPD/Saxifraga

*Bequia lies south of Saint Vincent. Its few inhabitants have built their homes on the rocky hillsides.*

## 8 🌐 DESERTS

There are no desert regions in Saint Vincent.

## 9 🌐 FLAT AND ROLLING TERRAIN

The lowlands on Saint Vincent are covered with coconut and banana trees and arrowroot. Some of the island's most fertile farmland is housed in the Mesopotamia Valley, which is northeast of Kingstown. Forests and woodlands comprise 36 percent of Saint Vincent and the Grenadines, with most of Saint Vincent's interior containing tropical rainforest.

## 10 🌐 MOUNTAINS AND VOLCANOES

Saint Vincent is dominated by a central volcanic range of mountains with four peaks: Soufrière, Richmond, Grand Bonhomme, and Saint Andrew. The Soufrière volcano is the country's highest peak. It is 1,234 meters (4,049 feet) high. A rugged landscape with steep slopes comprises

most of the remaining areas of Saint Vincent. A volcanic ridge between Saint Vincent and Grenada that runs north to south forms the Grenadines. Mount Tobaoi (308 meters/1,010 feet), the highest point in the Grenadines, is found on Union Island.

## 11 🌐 CANYONS AND CAVES

There are no significant caves or canyons in Saint Vincent.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no major plateau regions in Saint Vincent.

## 13 🌐 MAN-MADE FEATURES

Black Point Tunnel is a passage of about 107 meters (350 feet) that links Grand Sable with Byrea Bay. British slaves constructed the tunnel to provide a transportation route for sugar exports.



## DID YOU KNOW?

The Windward and Leeward Islands of the eastern Caribbean are named for their relationship to the prevailing eastern blowing winds. "Windward" is the direction from which the wind blows, or the side that is most exposed to the wind. "Leeward" indicates the direction toward which the wind is blowing.

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www.svgtourism.com](http://www.svgtourism.com) (accessed June 13, 2003).

# Samoa

- **Official name:** Independent State of Samoa
- **Area:** 2,860 square kilometers (1,104 square miles)
- **Highest point on mainland:** Mauga Silisili (1,857 meters/6,093 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Western
- **Time zone:** 1 A.M. = noon GMT
- **Longest distances:** 150 kilometers (93 miles) from east-southeast to west-northwest; 39 kilometers (24 miles) from north-northeast to south-southwest
- **Land boundaries:** None
- **Coastline:** 403 kilometers (250 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Samoa (formerly Western Samoa) is located almost centrally in the Polynesian region of the South Pacific. It consists of the two main islands of Upolu and Savai'i and seven small islets, of which only Manono and Apolima are inhabited. At 2,860 square kilometers (1,104 square miles), the total land area of Samoa is almost as large as the state of Rhode Island.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Samoa has no territories or dependencies.

## 3 🌐 CLIMATE

Samoa has a tropical marine climate. The hottest month is December and the coldest is July. Due to the oceanic surroundings, the temperature ranges on the islands are not appreciable. The mean daily temperature is about 27°C (81°F) year-round. The dry season runs from May to October; the wet season extends from November to April. Rainfall averages 287 centimeters (113 inches) annually, and the average yearly relative humidity is 83 percent. Because the interior of the islands is mountainous, there is also a considerable difference between

the rainfall on the coast and that of the inland jungle. Average annual rainfall varies from 500 to 700 centimeters (200 to 280 inches) on the southern windward side to 250 to 300 centimeters (100 to 120 inches) on the leeward side. Trade winds from the southeast are fairly constant throughout the dry season.

## 4 🌐 TOPOGRAPHIC REGIONS

Samoa's islands are volcanic, with coral reefs surrounding most of them. They have narrow coastal plains with rocky volcanic mountains in the interior.

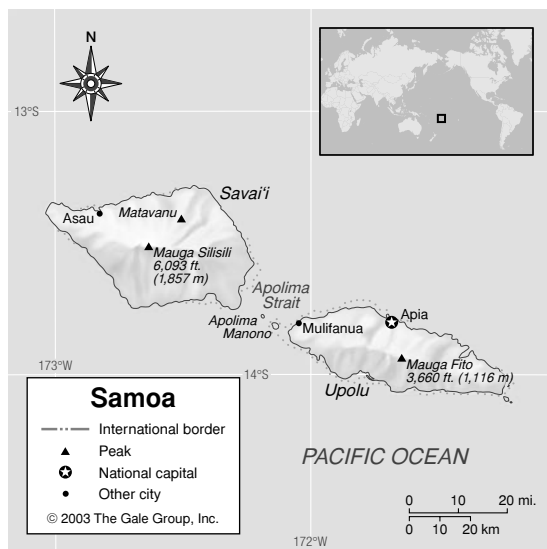
## 5 🌐 OCEANS AND SEAS

Samoa lies in the central Pacific Ocean.

## Seacoast and Undersea Features

Coral reefs nearly surround the Samoan island, broken in only a few places by constant wave action or by lava flow. The total reef area is 1,269 square kilometers (490 square miles). The southern coast of Savai'i island is known for its blow holes, places where ocean waves create geyser-like spouts as they crash through

# SAMOA



EPD/Peter Langer

*Falefa Falls on Upolu Island.*

underground lava tubes (hollow tubes left by the flow of molten lava).

## Sea Inlets and Straits

The Apolima Strait separates Upolu and Savai'i.

## Coastal Features

The Fagaloa and Safata Bays are located on the north and south coasts of Upolu, respectively. There are ports and harbors at Apia and Mulifanua on Upolu, and at Asau and Salelologa on Savai'i. The southern shore of Upolu has a series of beaches. Toward the eastern end of the island are Aganoa Black Sand Beach and Salamuma Beach, both of which draw snorkelers to their coves and shallow waters. At the extreme eastern end of Upolu are spectacular turquoise reefs.

## 6 🌐 INLAND LAKES

Crater lakes are fed by rainfall that averages 300 centimeters (118 inches) annually at Apia. On Upolu, there is a very deep lake, Lake Lanoto'o (Goldfish Lake), in the center of a volcanic crater. There is also a freshwater

pool at Piula that extends from a cave nearly all the way to the shore.

## 7 🌐 RIVERS AND WATERFALLS

Both islands have numerous, swiftly flowing rivers with plenty of rapids and waterfalls. Most of the rivers, however, flow only during the wet season. Sinaloa Falls on Savai'i is 183 meters (600 feet) high.

## 8 🌐 DESERTS

There are no deserts in Samoa.

## 9 🌐 FLAT AND ROLLING TERRAIN

Both Savai'i and Upolu have narrow coastal plains. Upolu's central volcanic range slopes down on both sides to hills and coastal plains. The island's south coast is particularly known for its scenic beaches, which have picturesque coves, rock pools, and palm trees.

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# SAMOA

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EPD/Peter Langer

*These palm trees thrive on a volcanic ridge near Apia.*

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Rugged ranges are prevalent on both major islands, reaching 1,100 meters (3,608 feet) on Upolu and 1,857 meters (6,093 feet) on Savai'i. The significant peaks are Mauga Silisili—at 1,857 meters (6,093 feet) the highest point in Samoa—Mauga Loa (1,176 meters/3,857 feet), and Mauga Fito (Va'aifetu) (1,116 meters/3,660 feet). The islands are in an area of active volcanism that has recently progressed westward. Savai'i, geologically the youngest island, last experienced eruptions from MATAVANU from 1905 through 1910 and Mauga Mu in 1902. Other volcanoes on Savai'i are Mauga Afi and Mauga Silisili. The volcanoes on Upolu are Mauga Ali'i and Mauga-o-Savai'i.

## **11** 🌐 **CANYONS AND CAVES**

The numerous caves on the Samoan islands are located within lava tubes, places where molten lava flowed under existing fields of solidified lava.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Savai'i's central volcanoes are surrounded by lava plateaus that descend to hills and coastal plains.

## **13** 🌐 **MAN-MADE FEATURES**

A unique star-shaped formation on Savai'i, called the Pulemelei Mound, is thought to be the oldest man-made structure in Polynesia. It consists of a central pyramid 12 meters (39 feet) high, surrounded by four smaller mounds.

## DID YOU KNOW?

**V**ailima, a house built by Robert Louis Stevenson, author of the classic adventure tale *Treasure Island*, is located on Upolu at Apia. He named the place Vailima, meaning “five waters,” for the small streams that ran across the property. Stevenson is buried on the island, and tourists often visit his gravesite.

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### Web Sites

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# San Marino

- **Official name:** The Most Serene Republic of San Marino
- **Area:** 61 square kilometers (24 square miles)
- **Highest point on mainland:** Monte Titano (755 meters/2,477 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 13 kilometers (8 miles) northeast to southwest; 9 kilometers (6 miles) southeast to northwest
- **Land boundaries:** 39 kilometers (24 miles) total boundary length, all with Italy
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

San Marino is a tiny, landlocked country located entirely within Italy, about 24 kilometers (15 miles) southwest of the city of Rimini, in the Apennine Mountains between Italy's Marche and Romagna regions. It is Europe's third-smallest independent state (only Vatican City and Monaco are smaller) and the world's second-smallest republic (after Nauru). With an area of 61 square kilometers (24 square miles), San Marino is about one-third the size of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

San Marino has no territories or dependencies.

## 3 🌐 CLIMATE

San Marino has the mild, temperate climate typical of northeastern Italy. Summer highs rarely rise above 26°C (79°F), and winter lows rarely fall below 7°C (44°F). Annual rainfall averages between 56 centimeters (22 inches) and 80 centimeters (32 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Mount Titano dominates the landscape of San Marino; most of the irregularly shaped country is situated on its slopes and crest. There is enough level land at the base of the mountain for agriculture, however.

## 5 🌐 OCEANS AND SEAS

San Marino is landlocked.

## 6 🌐 INLAND LAKES

There are no sizable lakes in San Marino.

## 7 🌐 RIVERS AND WATERFALLS

San Marino lies largely within the basin of Italy's Marecchia River, into which the San Marino River drains, flowing northward and forming part of the republic's border with Italy. The Marano and Ausa Rivers drain into the Adriatic Sea.

## 8 🌐 DESERTS

There are no deserts in San Marino.

# SAN MARINO



## 11 🌐 CANYONS AND CAVES

There are no well-known caves in San Marino. The famous Frasassi Caves, which are among the largest and most scenic in Europe, are located within 100 kilometers (62 miles) of the country, however, in the Apennines between Ancona and Assisi.

## 12 🌐 PLATEAUS AND MONOLITHS

San Marino's mountains rise steeply from its lower elevations, with no plateaus among them.

## 13 🌐 MAN-MADE FEATURES

San Marino's most famous man-made features are the three medieval fortresses that sit atop the three peaks of Mt. Titano, on steep cliffs overlooking both the Italian town of Rimini and the Adriatic Sea.

## 14 🌐 FURTHER READING

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"Now, After 1,600 Years, Time to Join the World (San Marino to Become Member of the United Nations)." *New York Times*: February 26, 1992.

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## 9 🌐 FLAT AND ROLLING TERRAIN

Mt. Titano is bordered by hills to the southwest, and there is also some level land at its base that has been cultivated.

## 10 🌐 MOUNTAINS AND VOLCANOES

The limestone peaks of Mt. Titano occupy the central part of the republic. There are three major peaks, each of which houses ruins of ancient fortifications. The summit of Mt. Titano (755 meters/2,477 feet) commands a panoramic view of the Adriatic Sea, which is only 19 kilometers (12 miles) away.

# São Tomé and Príncipe

- **Official name:** Democratic Republic of São Tomé and Príncipe
- **Area:** 1,001 square kilometers (386 square miles)
- **Highest point on mainland:** São Tomé Peak (2,024 meters/6,640 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** Noon = noon GMT
- **Coastline:** 209 kilometers (130 miles)
- **Longest distances:** São Tomé: 49 kilometers (30 miles) from north-northeast to south-southwest; 29 kilometers (18 miles) from east-southeast to west-northwest. Príncipe: 21 kilometers (13 miles) from south-southeast to north-northwest, 15 kilometers (9 miles) from east-northeast to west-southwest
- **Land boundaries:** None
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

São Tomé and Príncipe, the smallest country in Africa, is a group of islands located in the Gulf of Guinea off the coast of Gabon, just barely north of the equator. With a total area of about 1,001 square kilometers (386 square miles), the country is about five times the size of Washington, D.C. São Tomé and Príncipe is divided into two provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

São Tomé and Príncipe has no territories or dependencies.

## 3 🌐 CLIMATE

Lying near the equator, the islands' climate is tropical and temperatures vary with the different altitudes. Temperatures in the coastal regions average 27°C (81°F), while the mountain areas average 20°C (68°F). Precipitation changes differentiate the seasons, rather than temperature fluctuations.

The northern regions of São Tomé and Príncipe receive approximately 100 to 150 centimeters (40 to 60 inches) of rain during the rainy season from October through May, while most of the southern regions receive between 380 and 510 centimeters (150 and 200 inches). The dry season occurs from early June through September.

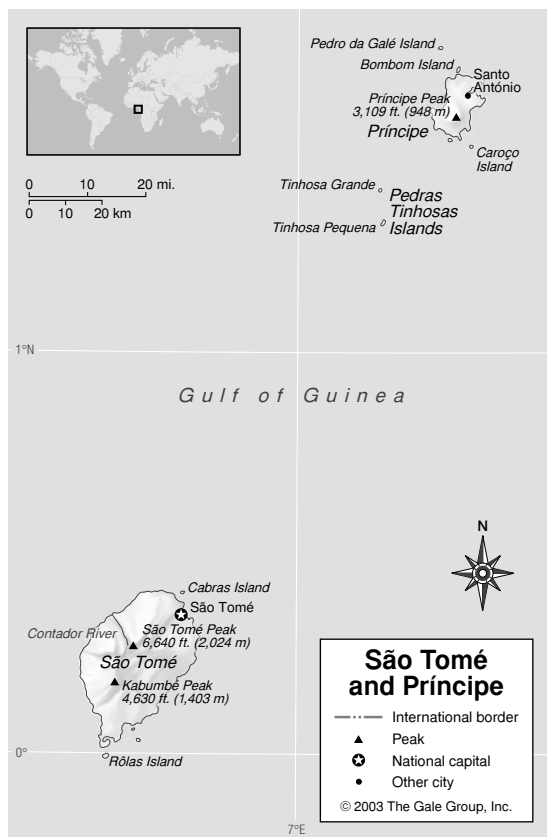
## 4 🌐 TOPOGRAPHIC REGIONS

São Tomé and Príncipe is part of a chain of extinct volcanoes. The two main islands are São Tomé (855 square kilometers/330 square miles) and Príncipe (109 square kilometers/42 square miles). The country also includes the tiny Ilhéu Bombom, Ilhéu Caroço, and Ilhéu das Rôlas.

São Tomé and Príncipe's landscape is mostly mountainous. Rainforest covers other large areas of land, most of which give way to cloud forests at higher elevations. Most of the coastline is comprised of white sand beaches.



# SÃO TOMÉ AND PRÍNCIPE



Almost all of the population lives on the island of São Tomé.

The islands of São Tomé and Príncipe are located on the African Tectonic Plate.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

São Tomé and Príncipe is surrounded by the Gulf of Guinea, an extension of the Atlantic Ocean that lies along the coast of West Africa.

### Islands and Archipelagoes

São Tomé and Príncipe comprise an island nation. Small islets that lie around the two main islands include Ilhéu das Rôlas, straddling the equator off the southern tip of São Tomé; Ilhéu Carvão, off the southern tip of Príncipe; and Bombom, off the northern coast of Príncipe.

In the waters between the two main islands are Tinhosa Pequena, Pedras Tinhosas, and Tinhosa Grande. These islets are uninhabited.

## Coastal Features

Untouched white sand beaches line most of the coasts and the country is attempting to develop a tourist industry around them. São Tomé on the island of the same name and Santo António on Príncipe are the main ports.

## 6 INLAND LAKES

There are no significant lakes on São Tomé and Príncipe.

## 7 RIVERS AND WATERFALLS

The Contador River is located in the northwest of São Tomé and its river valley is possibly the deepest in the country. Several streams run down from the volcanic highlands into the Gulf of Guinea.

## 8 DESERTS

There are no deserts in São Tomé and Príncipe.

## 9 FLAT AND ROLLING TERRAIN

In the northern region of São Tomé, there is a dry area where the climate resembles that of savannah grasslands. Forest covers most of the islands. Tropical rainforest changes to cloud forest above elevations of 1,370 meters (4,500 feet). Cloud forests are so named because they tend to be continually covered in clouds throughout the entire year.

## 10 MOUNTAINS AND VOLCANOES

The islands of São Tomé and Príncipe were once part of a chain of ocean volcanoes that are now extinct. As a result, both São Tomé and Príncipe are mountainous. São Tomé's highest peaks are São Tomé Peak (Pico de São Tomé) at 2,024 meters (6,640 feet) and Kabumbé Peak (Pico Kabumbé) at 1,403 meters (4,630 feet). While there are ten peaks that rise over 1,067 meters (3,500 feet), many of the

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## SÃO TOMÉ AND PRÍNCIPE

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island's other peaks reach only a little more than half that height. Príncipe's highest elevation is Príncipe Peak (Pico de Príncipe) at 948 meters (3,109 feet).

### 11 🌐 CANYONS AND CAVES

There are no major caves or canyons in São Tomé and Príncipe.

### 12 🌐 PLATEAUS AND MONOLITHS

Príncipe features a large plateau that extends along the northwestern coast at elevations that reach 948 meters (3,109 feet). The terrain of São Tomé also features a plateau, although it is smaller.

### 13 🌐 MAN-MADE FEATURES

There are no major man-made structures affecting the geography of the country.

### 14 🌐 FURTHER READING

#### Books

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<http://www.africa.iafrica.com/countryinfo/saotome/geography> (Accessed June 12, 2003).

# Saudi Arabia

- **Official name:** Kingdom of Saudi Arabia
- **Area:** 1,960,582 square kilometers (756,984 square miles)
- **Highest point on mainland:** Jabal Sawdā' (3,133 meters/10,279 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 2,295 kilometers (1,426 miles) from east-southeast to west-northwest; 1,423 kilometers (884 miles) from north-northeast to south-southwest
- **Land boundaries:** 4,415 kilometers (2,743 miles) total boundary length; Iraq 814 kilometers (506 miles); Jordan 728 kilometers (452 miles); Kuwait 222 kilometers (138 miles); Oman 676 kilometers (420 miles); Qatar 60 kilometers (37.3 miles); United Arab Emirates 457 kilometers (284 miles); Yemen 1,458 kilometers (906 miles)
- **Coastline:** 2,640 kilometers (1,640 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The Kingdom of Saudi Arabia covers about four-fifths of the Arabian Peninsula and constitutes a land bridge connecting Africa with the Middle East. It is about three times as large as the state of Texas, and the third-largest country in Asia, after China and India. Because several of its borders are incompletely demarcated, however, its precise area is difficult to specify. Saudi Arabia has the largest oil reserves in the world, and the nation ranks as the largest petroleum exporter. Its extensive coastlines on the Persian Gulf and the Red Sea provide abundant shipping access through the Persian Gulf and the Suez Canal.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Saudi Arabia has no territories or dependencies.

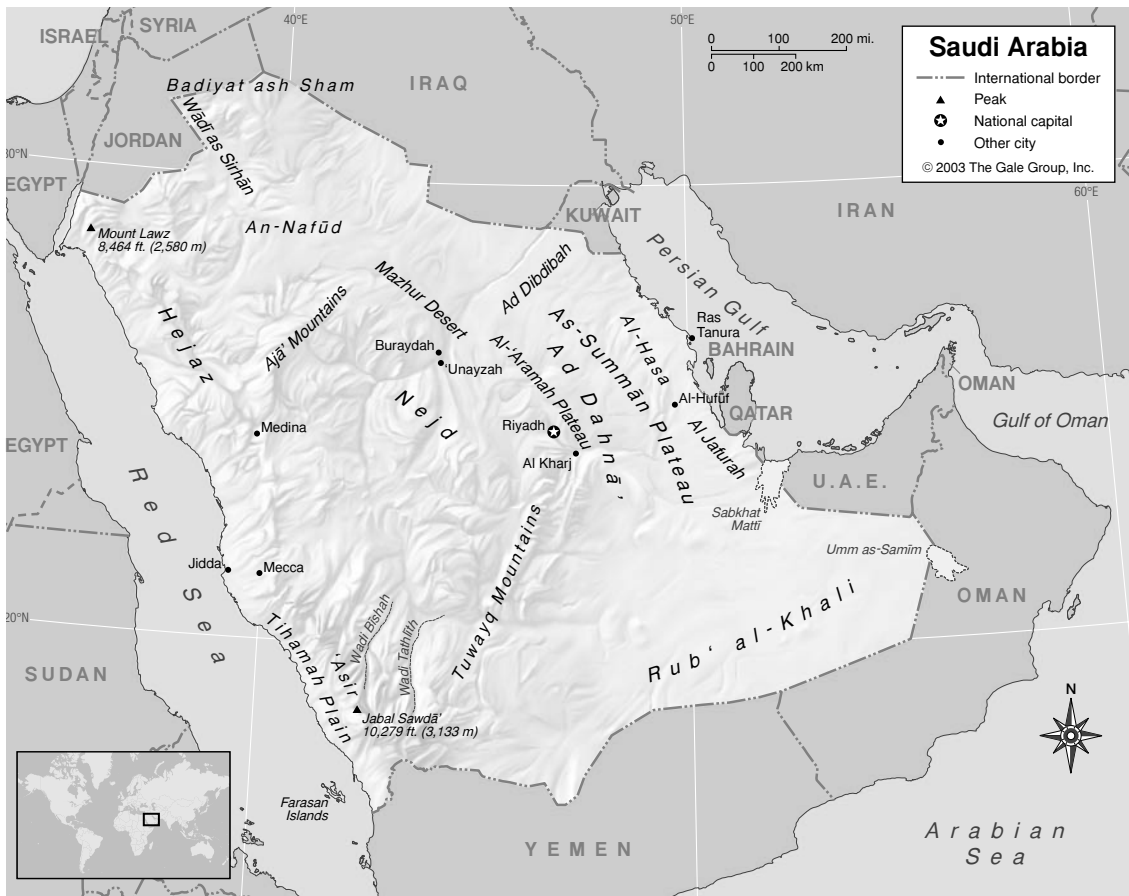
## 3 🌐 CLIMATE

Saudi Arabia's desert climate is generally very dry and very hot. In winter, however, there can be frost and freezing temperatures. Day

and night temperatures vary greatly. Two main climate extremes are the coastal lands and the interior. Coastal regions along the Red Sea and the Persian Gulf encounter high humidity and high temperatures, hot mists during the day, and a warm fog at night. In the interior, daytime temperatures from May to September can reach 54°C (129°F) and are among the highest recorded anywhere in the world. The climate is more moderate from October through April, with evening temperatures between 16°C and 21°C (61°F and 70°F). The prevailing winds are from the north. A southerly wind brings an increase in temperature and humidity, along with a Gulf storm known as *kauf*. A strong northwesterly wind, the *shamal*, blows in late spring and early summer.

Average annual rainfall is only 9 centimeters (3.5 inches). A year's rainfall may consist of one or two torrential outbursts that flood the wadis and quickly disappear into the sand. Most rain falls from November to May.

# SAUDI ARABIA



The eastern coast is noted for heavy fogs, and humidity there can reach 90 percent. Between 3 and 5 centimeters (10 and 20 inches) of rain falls in the mountainous 'Asir area, where there is a summer monsoon. Much of the Rub' al-Khali is considered "hyper-arid," often going without rainfall for more than twelve consecutive months.

## 4 🌐 TOPOGRAPHIC REGIONS

The country can be divided into six geographical regions: the Red Sea escarpment, from Hejaz in the north to 'Asir in the south; the Tihamah, a coastal plain that rises gradually from the sea to the mountains in the southeast; Nejd, the central plateau, which extends to the

Tuwayq Mountains and further; and three sand deserts: the Ad Dahnā, the An-Nafūd, and, south of Nejd, the Rub' al-Khali Desert, one of the largest sand deserts in the world.

## 5 🌐 OCEANS AND SEAS

Two bodies of water border Saudi Arabia: the Persian (Arabian) Gulf to the east, and the Red Sea to the west. The Red Sea is the warmest and saltiest sea in the world. The Persian Gulf is the marginal offshoot of the Indian Ocean that lies between the Arabian Peninsula and Iran, extending about 970 kilometers (600 miles) from the Shatt al Arab delta to the Strait of Hormuz. The gulf's width varies from a maximum of 338 kilometers (210 miles) to a

# SAUDI ARABIA



ARAMCO/Tor Eigeland

*Bulldozers build a new road to Jabal Sawdā'.*

minimum of 55 kilometers (34 miles) in the Strait of Hormuz, which links the Arabian Sea to the Gulf of Oman.

## **Seacoast and Undersea Features**

The shallow gulf waters have very slow currents and a limited tidal range. There are practically no natural harbors along the Red Sea. The Red Sea eco-region is best known for the spectacular corals that live in the central and northern areas. Fewer coral species thrive in the Persian Gulf than in the Red Sea. Nevertheless, the entire Arabian Peninsula is fringed by some of the most beautiful coral reefs in the world

## **Sea Inlets and Straits**

The southeastern portion of Saudi Arabia's coast borders the Gulf of Bahrain and the

Dawhat Salwa, an inlet of this gulf. The sea border between Saudi Arabia and Qatar is an imaginary line drawn down the middle of the Dawhat Salwa.

## **Islands and Archipelagos**

The Farasān Islands, in an archipelago in the Red Sea, are fringed by pristine coral reefs, sea-grass beds, and mangroves. Of the more than 120 islands, the largest are Farasān al Kabir, at 395 square kilometers (152 square miles); Sajid, at 156 square kilometers (60 square miles); and Zufaf, at 33 square kilometers (13 square miles). All are uninhabited.

Tarut Island in the Persian Gulf near Ras Tanura has the oldest town on the Arabian peninsula.

# SAUDI ARABIA



ARAMCO/Tor Eigeland

*Desert sands on Tarut Island near Ras Tanura in eastern Saudi Arabia.*

## Coastal Features

Saudi Arabia's coast has no significant bays or capes. The Persian Gulf coast is extremely irregular and the shoreline is unstable. The Tihamah Plain borders the Red Sea; Jidda, which is located on this plain, is the chief port of entry for Muslim pilgrims traveling to Mecca. A flat, lowland coastal plain borders the Persian Gulf.

## 6 🌐 INLAND LAKES

Except for artesian wells in the eastern oases, Saudi Arabia has no perennially existing freshwater, either pooled in lakes or flowing in rivers. Medina is the site of the largest and most important oasis in the Hejaz region. In the southern 'Asir, fertile wadis such as Wadi Bishah and Wadi Tathlith support oasis ag-

riculture. Eastern Arabia is also known as Al Ahsa, or Al-Hasa, after the largest oasis in the country, which actually encompasses two neighboring oases and the town of Al-Hufuf.

## 7 🌐 RIVERS AND WATERFALLS

In the northern Hejaz region, dry riverbeds (wadis) trace the courses of ancient rivers and contain water for a brief period following significant rainfall. The only consistent sources of inland water are oases, however. Oases are fertile areas of otherwise unfertile land.

## 8 🌐 DESERTS

At least one-third of the total area of Saudi Arabia is sandy desert. The Rub'al-Khali (the Empty Quarter) in the south is the largest desert region in the country. It consists of sand overlying gravel or gypsum plains, with a surface elevation that varies from 800 meters (2,624 feet) in the far southwest to near sea level in the northeast. Types of dunes include longitudinal dunes more than 160 kilometers (100 miles) long, moving dunes, crescent-shaped dunes (barchan), and enormous mountainous dunes. The northern counterpart of the Rub'al-Khali, the An-Nafud, covers an area of about 57,000 square kilometers (2,000 square miles) with an elevation of about 1,000 meters (3,280 feet). Longitudinal dunes here can reach heights of 90 meters (300 feet). The dunes are separated by valleys up to 16 kilometers (10 miles) wide. Connecting the Rub'al-Khali and An-Nafud deserts is the Ad Dahnā' Desert, also called "the river of sand." The Ad Dahnā' connects to the An-Nafud Desert by way of the Mazhur Desert.

## 9 🌐 FLAT AND ROLLING TERRAIN

The Tihamah Plain bordering the Red Sea is a salty tidal plain with an average width of only about 65 kilometers (40 miles). The flat, lowland coastal plain along the Persian Gulf is about 60 kilometers (37 miles) wide. The northern part is the Ad Dibdibah gravel plain;

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# SAUDI ARABIA

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the southern section is a sandy desert called Al Jafurah. The salt flats of the Rub' al-Khali can harbor quicksand.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Hejaz Mountains (with elevations from 910 to 2,740 meters/3,000 to 9,000 feet) rise sharply from the Red Sea and run parallel to the seacoast from north to south. Mount Lawz, at 2,580 meters (8,464 feet), rises in the far north of the Hejaz near the Red Sea and the neighboring country of Jordan. The northern range in the Hejaz seldom exceeds 2,100 meters (6,888 feet) and gradually decreases to about 600 meters (1,968 feet) around Mecca. Close to Mecca, the Hejaz coastal escarpment is separated by a gap. In the plateau region of Nejd, the Ajā' Mountains are just south of the An-Nafūd desert. The highest mountains (over 2,740 meters/9,000 feet) are in 'Asir in the south. This region extends along the Red Sea for 370 kilometers (230 miles) and inland about 290 to 320 kilometers (180 to 200 miles). Saudi Arabia's highest peak, Jabal Sawdā', is found here; this summit reaches 3,133 meters (10,276 feet).

## 11 🌐 CANYONS AND CAVES

The Tuwayq escarpment—800 kilometers (496 miles) of spectacular limestone cliffs, plateaus, and canyons eroded by wind and sand—cuts across the Ad Dahnā' Desert. Its steep west face rises anywhere from 100 to 250 meters (328 to 820 feet) above the Nejd Plateau.

## 12 🌐 PLATEAUS AND MONOLITHS

East of Hejaz and 'Asir lie the central uplands of the Nejd, a large, mainly rocky plateau with widths ranging from about 1,520 meters (5,000 feet) in the west to about 610 meters (2,000 feet) in the east. The Nejd is scarred by extensive lava beds (*harrat*), which are evidence of fairly recent volcanic activity. Al-Hasa, a low plateau to the east, gives way to the low-lying gulf region. The area north of the An-Nafūd, Badiyah ash Sham, is an upland plateau that is geo-

graphically part of the Syrian Desert. The Wādī as Sirhān, a large basin that lies 984 feet (300 meters) below the surrounding plateau, is a vestige of an ancient inland sea. East of the Ad Dahnā' lies the rocky, barren As-Summān Plateau, about 120 kilometers (74 miles) wide and descending in elevation from about 400 meters (1,312 feet) in the west to about 240 meters (787 feet) in the east. Separated from the As-Summān Plateau by the Ad Dahnā' is the Al-'Aramah Plateau, which runs right up to Riyadh.

## 13 🌐 MAN-MADE FEATURES

More than 40 percent of Saudi Arabia's Persian Gulf coastline consists of land reclaimed by dredging and sedimentation. The completion of the breakwater, or mole, at the port of Ras Tanura in 1945 allowed tankers to dock on the gulf coast. This site is still the largest oil port in the world. Over two hundred dams capture water from seasonal flooding for drinking and irrigation. Among the largest are those at the following wadis: Jizan, Fatima, Bisha, and Najran. In fact, the dam at Wadi Bisha is one of the largest in the Middle East.

## 14 🌐 FURTHER READING

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# Senegal

- **Official name:** Republic of Senegal
- **Area:** 196,190 square kilometers (75,749 square miles)
- **Highest point on mainland:** Unnamed feature near Nepen Diakha (581 meters/1,906 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 690 kilometers (429 miles) from southeast to northwest; 406 kilometers (252 miles) from northeast to southwest
- **Land boundaries:** 3,101 kilometers (1,927 miles) total boundary length; The Gambia 740 kilometers (460 miles); Guinea 330 kilometers (205 miles); Guinea-Bissau 338 kilometers (210 miles); Mali 419 kilometers (260 miles); Mauritania 813 kilometers (505 miles)
- **Coastline:** 531 kilometers (330 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Senegal is located on the western bulge of Africa between the countries of Mauritania and Guinea-Bissau. It shares borders with a total of five countries, including The Gambia, which is entirely surrounded by Senegalese territory. With a total area of about 196,190 square kilometers (75,749 square miles), the country is slightly smaller than the state of South Dakota. Senegal is divided into ten regions.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Senegal has no outside territories or dependencies.

## 3 🌐 CLIMATE

Senegal has a tropical climate. Temperatures are lowest along the coast. At Dakar they vary from 26°C (79°F) to 17°C (63°F) from December to April, and from 30°C (86°F) to 20°C (68°F) from May to November.

The rainy season generally lasts from June through October. The southern Casamance River region, however, has a longer rainy season than the area north of The Gambia. In the semi-arid extreme north, for example, Podor has an average rainfall of 34 centimeters (13 inches); while Ziguinchor, near the Guinea-Bissau border, receives an average of 155 centimeters (61 inches). Dakar averages 57 centimeters (22 inches) of rain each year.

## 4 🌐 TOPOGRAPHIC REGIONS

Senegal is the westernmost part of a broad savannah extending across the Sahel. Most of the country lies upon a low sedimentary basin characterized by an expanse of flat and undulating plains with sparse grasses and woody shrubs. There are no significant natural landmarks or major changes in elevation. Broken terrain and steep slopes are found only in the extreme southeast.



# SENEGAL



Extensive riverine areas have been converted to farmland, especially in the Siné and Saloum River basins; the lowlands between Thiès and Kaolack yield significant peanut and other food crops. Beyond these areas, most of the land has little potential except as pasturage. Volcanic action created the Cap Vert promontory, which is the westernmost point in Africa, and the nearby islets. Senegal lies on the African Tectonic Plate.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The western coast of Senegal faces the North Atlantic Ocean. The North Atlantic provides Senegal with a great deal of rich fishing ground, which is a major component of Senegal's economy. The goblin shark, an animal with a peculiarly shaped body of which little is known, is prevalent in the ocean waters near Senegal.

### Sea Inlets and Straits

There are many ports and harbors along the Atlantic coast, the largest of which is the capital city of Dakar. Other harbors up and down the coast are Kaolack, Matam, Podor, Richard Toll, Saint-Louis, and Ziguinchor.

### Islands and Archipelagos

Saint-Louis, the former capital of colonial French West Africa, is located on an island near the mouth of the Senegal River. Ile de Gorée, once a slave transshipment point, is situated between the Cap Vert peninsula and the Petite Côte of the mainland. In the Senegal River valley above Dagana is the Ile à Morfil, a narrow island several hundred miles long between the river's main channel and the Doué channel on the opposite side. Senegal's estuaries contain many flat islands dividing numerous river channels

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# SENEGAL

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Credit: EPD/Cory Langley

*The waters of the North Atlantic provide rich fishing grounds.*

## Coastal Features

North of the Cap Vert promontory, the pounding of heavy surf, northeast trade winds, and the southwest-flowing Canary Current formed the coastal belt. It is covered by small swamps or pools separated by very old dunes as high as 30 meters (100 feet). The peninsula of Cap Vert itself is the westernmost point in Africa. South of Dakar, the coastal strip of sand beach narrows and is interrupted by a rocky promontory at Popenguine. Just above The Gambia, the coast is broken by the channels and islands of the Saloum River estuary. South of the Casamance River, silt and sand clog various creeks and estuaries in an area of salt flats.

## 6 INLAND LAKES

The largest lake in Senegal is the artificially controlled Lac de Guiers (Guiers Lake). This shallow lake is fed by the Senegal River and extends for an average length of about 80 kilometers (50 miles), averaging about 12 kilometers (8 miles) in width. A dam, as well as a gate on what is known as the Taoué channel, control water flow into this lake. At the highest level, the lake waters reach another 64 to 80 kilometers (40 to 50 miles) southeastward into the Ferlo Valley.

To the north of the Cap Vert peninsula lies Lac Rose (Pink Lake), a shallow saltwater lake occupying a depression behind the coastal dunes. Organisms that live in the lake give it a pinkish color, and villagers extract its salt for commercial purposes.

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# SENEGAL

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## 7 RIVERS AND WATERFALLS

Senegal's largest rivers—the Senegal, Siné, Saloum, Gambia, and Casamance—are sluggish, marsh-lined streams emptying into broad estuaries along the Atlantic Ocean. The Senegal River is the longest at 4,023 kilometers (2,500 miles). It rises in Guinea from the Bafing River, which is joined in eastern Mali by the Bakoye River. As it enters Senegal, the Falémé River joins it from the south. At high flood stage, water from the Senegal River spreads through a system of channels, sloughs, and adjacent lowlands until most of the valley is a sheet of water, from which the tops of trees appear as green patches and villages stand out as isolated islands. At the onset of the long dry season, ocean tides extend nearly 483 kilometers (300 miles) upstream. During the rainy season, however, the salty water is forced seaward and the system is refilled with fresh water.

The Gambia River, which rises in Guinea, receives the flow of a perennial river, the Koulountou, which also runs north from Guinea to join it near the Gambian border. Between The Gambia and Guinea-Bissau, the Casamance River drains a narrow basin less than 32 kilometers (20 miles) wide, becoming a broad estuary 104 kilometers (65 miles) from the sea, 10 kilometers (6 miles) wide at the mouth.

The Saloum River and its major tributary, the Siné River, feed into an extensive tidal swamp just north of The Gambia. Only the lower reaches carry water all year, and these are brackish, as the tides penetrate far up the various channels through the swamp.

## 8 DESERTS

Senegal lies at the edge of the region known as the Sahel. Sahel is an Arabic word that means “shore.” It refers to the 5,000-kilometer (3,125-mile) stretch of savannah that is the

shore, or edge, of the Sahara desert. The Sahel spreads west to east from Mauritania and Senegal to Somalia.

## 9 FLAT AND ROLLING TERRAIN

The terrain of Senegal is primarily low, rolling plains. Mangroves, thick forest, and oil palms characterize the coastal area of the Casamance River. This vegetation changes to wooded or open savannah in the central and eastern parts of the Casamance and throughout the Siné-Saloum River area. From Mauritania to The Gambia lies the Ferlo Valley, a featureless expanse of savannah in which dried tufts of grass, scrub, and thorn trees dominate over the long, dry season.

Except for the dunes in the coastal belt and several minor hills northwest of Thiès, the southeast is the only area with elevations of more than 91 meters (300 feet) above sea level; and even there, only a few ridges exceed 396 meters (1,300 feet). The country reaches its highest point, 581 meters (1,906 feet), at an unnamed point near Nepen Diakha.

## 10 MOUNTAINS AND VOLCANOES

There are no mountain regions or volcanoes in Senegal.

## 11 CANYONS AND CAVES

There are no significant caves or canyons in Senegal.

## 12 PLATEAUS AND MONOLITHS

In the extreme southeast, the Fouta Djallon plateau extends into Senegal from Guinea.

## 13 MAN-MADE FEATURES

The ebb and flow of the Senegal River is checked at some points by dikes; these are opened to admit the fresh water and are later closed to impound it for use during the dry season and to exclude advancing salt water.

## DID YOU KNOW?

There are two sites in Senegal that have been designated as UNESCO World Heritage Sites. In the Senegal River delta, the Djoudj Sanctuary is a wetland that serves as home to over one million birds, including the white pelican, the purple heron, the African spoonbill, the great egret, and the cormorant.

Along the banks of the Gambia River, Niokolo-Koba National Park is a protected area that is home to the Derby eland (largest of the antelopes), chimpanzees, lions, leopards, and a large population of elephants, as well as many birds, reptiles, and amphibians.

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# Serbia and Montenegro

- **Official name:** Serbia and Montenegro
- **Area:** 102,350 square kilometers (39,518 square miles)
- **Highest point on mainland:** Mount Daravica (2,656 meters/8,714 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 492 kilometers (306 miles) from north to south; 378 kilometers (235 miles) from east to west
- **Land boundaries:** 2,246 kilometers (1,396 miles) total boundary length; Albania 287 kilometers (178 miles), Bosnia and Herzegovina 527 kilometers (327 miles), Bulgaria 318 kilometers (198 miles), Croatia 266 kilometers (166 miles), Hungary 151 kilometers (94 miles), Macedonia 221 kilometers (137 miles), Romania 476 kilometers (296 miles)
- **Coastline:** 199 kilometers (124 miles)
- **Territorial sea limits:** Not available

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## 1 🌐 LOCATION AND SIZE

Serbia and Montenegro is located in south-eastern Europe, sharing borders with Hungary, Romania, Bulgaria, Macedonia, Albania, Croatia, and Bosnia and Herzegovina. It has a southwest coastline on the Adriatic Sea. With a total area of about 102,350 square kilometers (39,518 square miles), the country is slightly smaller than the state of Kentucky. Serbia and Montenegro has two nominally autonomous provinces (Kosovo and Vojvodina).

## 2 🌐 TERRITORIES AND DEPENDENCIES

Serbia and Montenegro has no outside territories or dependencies.

## 3 🌐 CLIMATE

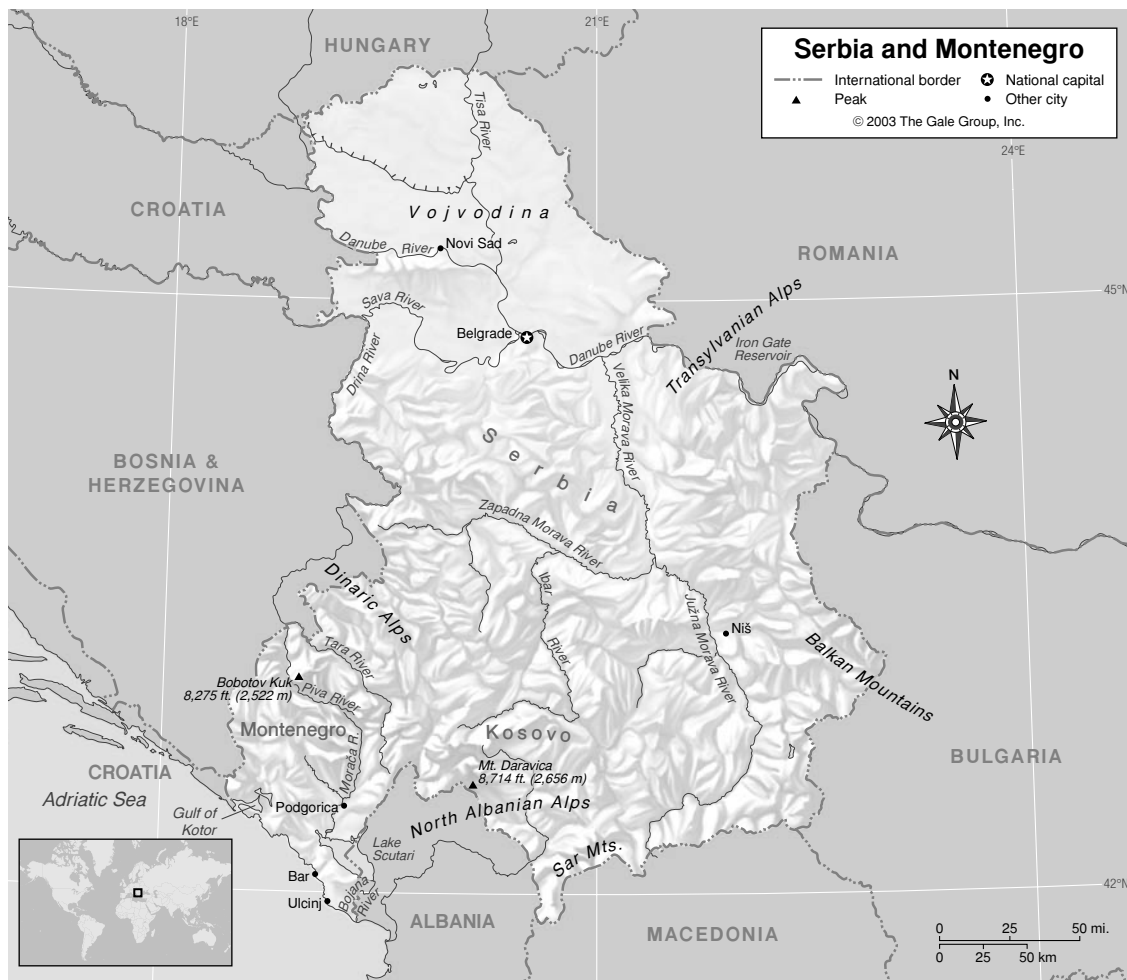
Serbia and Montenegro's climate varies greatly from one part of the country to another, due to the many mountain ranges. Most of Serbia's climate is continental, with cold, dry winters and warm, humid summers. The Pannonian Plains have cold winters with hot and dry

summers. In Vojvodina, July temperatures average 21°C (70°F) while temperatures in January average about 0°C (32°F).

The Adriatic coast has a more temperate Mediterranean climate, but the Dinaric Mountains prevent the Mediterranean weather from penetrating to inland Montenegro. The average seaside July temperatures are between 23°C (74°F) and 25°C (78°F). Summers are usually long and dry while winters are short and mild. Intense summer heat penetrates the Bojana River Valley over the Lake Scutari basin and upstream along the Morača River. Podgorica, on the Morača River, is the warmest city in Serbia and Montenegro, with July temperatures averaging 26°C (80°F), with highs sometimes reaching 40°C (104°F). January temperatures average around 5°C (41°F), with lows reaching -10°C (14°F).

Annual precipitation in Serbia ranges from 56 to 190 centimeters (22 to 75 inches), depending on elevation and exposure. Heavy

# SERBIA AND MONTENEGRO



rains in spring and autumn frequently cause floods. Snow is rare along the Montenegrin coast and in the Lake Scutari basin. In the inland regions, however, near elevated limestone mountain ranges, the climate is typically sub-alpine, with cold, snowy winters and mild summers. In some of these areas, snow lingers into the summer months; the highest mountain peaks are covered with snow year-round.

## 4 TOPOGRAPHIC REGIONS

Serbia and Montenegro covers the middle of the Balkan Peninsula and extends westward to meet the Adriatic Sea. The southern half,

made up of Montenegro and Kosovo, is rugged and mountainous; the northern half, Serbia, contains the Danube River basin and the southern extent of the Pannonian Plain.

Serbia and Montenegro was known as Yugoslavia from 1992 to March 2003, when it became Serbia and Montenegro. It consists of two republics: Serbia, comprising the eastern 86 percent of the country; and coastal Montenegro, which occupies the southwestern 14 percent. Within Serbia are two nominally autonomous provinces: Kosovo (10,887 square kilometers/4,203 square miles), in the south;

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# SERBIA AND MONTENEGRO

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and Vojvodina (21,506 square kilometers/8,303 square miles), in the north.

Located on the Eurasian Tectonic Plate, Serbia and Montenegro is seismically active. Two parallel fault lines extend from northwest to southeast Montenegro. Serbia has thrust fault lines on either side of the river basins surrounding the Velika Morava and Južna Morava Rivers. There is also a tectonic contact line along the eastern border with Romania. These structural seams in the earth's crust periodically shift, causing tremors and occasional destructive earthquakes.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Serbia and Montenegro has a short southwestern coastline on the Adriatic Sea, which is an extension of the Mediterranean Sea. The Adriatic Sea is at its widest between Serbia and Montenegro and southern Italy, with a width of about 200 kilometers (125 miles). This portion of the Adriatic is also the deepest, reaching some 1,330 meters (4,360 feet) at a point about 120 kilometers (75 miles) southwest of the Gulf of Kotor.

### Sea Inlets and Straits

The coast is indented with numerous bays and coves. The largest and most impressive is the Gulf of Kotor, the world's southernmost fjord.

### Coastal Features

The slopes of the Dinaric Alps rise very close to the water in most places. Only 52 kilometers (32 miles) of coast can be considered beach. Velika Plaza (Long Beach) at Ulcinj has the longest continuous stretch of sandy beach, at 13 kilometers (8 miles). Since the coastline is so rugged, access to the sea is limited. The port of Bar and the Gulf of Kotor are the main access points.

## 6 INLAND LAKES

Lake Scutari (Skadar) is only 7 kilometers (4 miles) from the Adriatic coast in Montenegro. One of forty lakes in Montenegro, it is by far the largest lake in Serbia and Montenegro (as well as in the entire Balkan region). Covering approximately 400 square kilometers (150 square miles), about two-thirds of the lake lies within Serbia and Montenegro's borders, with the rest extending into Albania. Although its surface area is large, its average depth is only 5 meters (16 feet).

High mountains rise to the southwest of the lake, while to the northeast is a wide swamp. Although Lake Scutari is adjacent to the Adriatic Sea, there are about thirty spots, known as *oke* (singular: *oko*) where its bed is under sea level and groundwater springs forth from the bottom of the lake. The Morača River is the largest stream that flows into Lake Scutari.

## 7 RIVERS AND WATERFALLS

Most of Serbia and Montenegro's rivers travel eastward towards the Black Sea basin. Serbia and Montenegro's most important river is the Danube, which forms part of the country's border with Croatia, then flows across northern Serbia and along the border with Romania. The Danube rises in the southwestern part of Germany and follows a winding, generally eastern course, traversing over 2,850 kilometers (1,771 miles) through Austria, Hungary, Serbia and Montenegro, and Romania before finally emptying into the Black Sea. Only 588 kilometers (365 miles) of the river's length is located in Serbia and Montenegro, however. As the second-longest river in Europe, the Danube serves as a vital commercial and transportation route.

Along Serbia and Montenegro's northeastern border with Romania, the Danube flows through the Iron Gate. This is a gorge with rapids where the Danube cuts through the Transylvanian Alps.

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## SERBIA AND MONTENEGRO

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AP/Darko Vojinovic

*Fishing at dusk in the Adriatic Sea south of Podgorica in Montenegro.*

The Danube's main tributaries in Serbia and Montenegro are the Tisa, Sava, and Morava Rivers. The Tisa River is 966 kilometers (600 miles) long; 168 kilometers (103 miles) of the river's length flows through Serbia and Montenegro. It enters the country from Hungary and travels south across the Pannonian Plain to the Danube.

The Sava River is 945 kilometers (587 miles) long, entering the country from Bosnia and Herzegovina and flowing east for 206 kilometers (128 miles) before meeting the Danube at Belgrade (Beograd). The Drina is a major tributary of the Sava and makes up part of Serbia and Montenegro's border with Bosnia and Herzegovina.

The Zapadna Morava (308 kilometers/191 miles), flowing eastward, and the Južna

Morava (295 kilometers/183 miles), flowing towards the north, merge to form the Velika Morava (185 kilometers/115 miles) near the center of the country. The Morava Rivers and their tributary, the Ibar, drain the mountainous areas of central and southern Serbia and flow northward to join the Danube east of Belgrade.

### **8** 🌐 **DESERTS**

There are no desert regions in Serbia and Montenegro.

### **9** 🌐 **FLAT AND ROLLING TERRAIN**

Occupying northern Serbia is the Pannonian Plain and the low-lying plains of Vojvodina, where the Danube River is joined by two of its major tributaries, the Sava and Tisa Rivers. The region is mostly flat, with some low hills, and it contains fertile soils used for farmland



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# SERBIA AND MONTENEGRO

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and grazing. The Pannonian Plain is situated within an ancient dry seabed. It is filled with rich alluvial deposits, forming fertile farmland and rolling hills. Kosovo, at the southern end of the country, covers a montane basin with high plains.

## 10 🌐 MOUNTAINS AND VOLCANOES

Mountains cover about half of Serbia. Serbia is ringed by the Dinaric Alps on the west, the Sar Mountains and the North Albanian Alps (or Prokletije) on the south, and the Balkan Mountains and the Transylvanian Alps on the east. Many peaks exceed 1,800 meters (6,000 feet) above sea level, including thirteen summits that top 2,400 meters (7,870 feet).

Nearly all of Montenegro is mountainous. The name Montenegro (which means Black Mountain) is believed to come from the thick “black” forests that once covered the area. The high Dinaric Alps of Montenegro rise steeply from the Adriatic coastline, framing a narrow ribbon of coastal plain only 2 to 10 kilometers (1 to 6 miles) wide.

The four highest peaks in Serbia and Montenegro are all in Serbia: Daravica, at 2,656 meters (8,714 feet); Crni Vrh, at 2,585 meters (8,481 feet); Gusan, at 2,539 meters (8,330 feet); and Bogdaš, at 2,533 meters (8,311 feet). Bobotov Kuk, which at an elevation of 2,522 meters (8,275 feet) is the fifth-highest mountain in the country, lies in Montenegro. This is the highest point in the Dinaric Alps.

## 11 🌐 CANYONS AND CAVES

Tara Canyon follows the Tara River along Montenegro’s northwestern border with Bosnia and Herzegovina. At a maximum depth of 1,300 meters (4,265 feet), Tara Canyon is Europe’s deepest canyon. The Piva and Morača River Basins of Montenegro contain canyons that are about 1,200 meters (3,940 feet) deep.

The Zlotske Caves in eastern Serbia consist of two separate cave systems: the Vernjikica and the Lazareva. The Vernjikica has eleven large chambers. The largest in floor area is Vilingrad (about 29,950 square meters/322,379 square miles), which features a large number of stalagmites shaped like humans and animals. The Gothic Cathedral Hall chamber, also in the Vernjikica, has fine, lace-like carvings in its rock formations. The Coliseum Hall, the largest cavern in the Vernjikica, is so named for its circular shape and column-like formations. The Lazareva has an underground river flowing through the lower of its two levels.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no major plateau regions in Serbia and Montenegro.

## 13 🌐 MAN-MADE FEATURES

In 1972, the joint Yugoslav-Romanian Iron Gate Dam, with its two hydroelectric plants, was completed at the gorge of the same name. Because of this dam and other engineering feats, the Danube River is now navigable throughout Serbia and Montenegro. The large reservoir also serves to supply irrigation waters and as a site for farm fishing.

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# Seychelles

- **Official name:** Republic of Seychelles
- **Area:** 455 square kilometers (176 square miles)
- **Highest point on mainland:** Mount Seychelles (Morne Seychellois) (912 meters/2,992 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 4 P.M. = noon GMT
- **Longest distances:** 27 kilometers (17 miles) from north to south; 11 kilometers (7 miles) from east to west; stretching 1,200 kilometers (100 miles) from northeast to southwest
- **Land boundaries:** None
- **Coastline:** 491 kilometers (305 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Seychelles is an archipelago in the Indian Ocean, off the eastern coast of Africa and northeast of Madagascar. With an area of about 455 square kilometers (176 square miles), the country is about two-and-one-half times the size of Washington, D.C. Seychelles is divided into twenty-three districts.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Seychelles has no outside territories or dependencies.

## 3 🌐 CLIMATE

Despite lying close to the equator, trade winds keep the country's climate temperate. Coastal temperatures remain fairly constant at 27°C (81°F) throughout the year. Temperatures are generally lower at the higher altitudes, especially at night. Humidity tends to be high, particularly in the coastal regions.

Average annual rainfall varies markedly across the islands of the Seychelles. The coastal regions on Mahé experience an annual rainfall of 236 centimeters (93 inches), while the areas

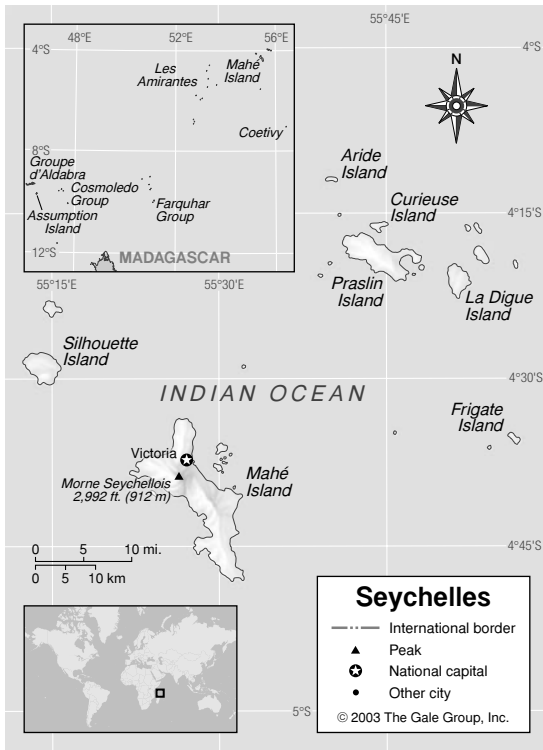
at higher elevations receive about 356 centimeters (140 inches). The coral islands of the southwest, such as Aldabra and Assumption, experience much less rainfall, averaging about 50 centimeters (20 inches) annually.

Generally, the period from May through October is slightly drier, although southeasterly winds bring brief rains every two to three days even during these months of the year. The northeasterly winds prevail from December through March, bringing heavier and more frequent rains.

## 4 🌐 TOPOGRAPHIC REGIONS

There are more than one hundred islands that make up the country of Seychelles. Generally they fall into two categories: the core group of high-rising granite islands, and a group of low coralline atolls in the southwest part of the country. Seychelles is located on the African Tectonic Plate.

# SEYCHELLES



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The Seychelles archipelago is spread over approximately 388,498 square kilometers (150,000 square miles) of the Indian Ocean east of Africa. Surrounding the islands are coral reefs.

### Sea Inlets and Straits

Baie Ternay and Port Launay, both on Mahé Island, are adjacent marine parks edged in stunning coral reefs.

### Islands and Archipelagos

The total number of islands varies depending upon what is considered an island. Some are merely sand cays and shoals barely above the high tide mark. There are thirty-two granitic Seychelles islands; the remaining seventy to

ninety islands are coralline. The total land area of the granitic group is about 259 square kilometers (100 square miles).

The largest granitic island is Mahé (144 square kilometers/56 square miles). It is surrounded by coral reefs and ringed by beaches featuring fine white sand. Praslin, the second-largest island, is located north-east of Mahé. The United Nations' Educational, Scientific, and Cultural Organization (UNESCO) has designated Vallée de Mai near the center of the island as a World Heritage Site. It is the only place in the world where the coco-de-mer palm tree is found. It is also home to three of the world's rarest birds: the Seychelles bulbul, the fruit pigeon, and the black parrot.

Other inhabited (or tourist destination) islands include La Digue (east of Praslin); Frigate (directly east of Mahé and south of La Digue); and Silhouette (northwest of Mahé). The most northerly of the granitic islands is Aride, home to a bird sanctuary.

The Cosmoledo Group makes up the most southwesterly of the Seychelles. The coralline Aldabra, part of the Aldabra Group (Groupe d'Aldabra), is the world's largest atoll. The group includes a ring of four islands with a central lagoon that fills and empties twice each day through four channels. The diversity of wildlife, including giant tortoises and the Aldabran Rail (a species of flightless bird), have also earned the island a designation as a UNESCO World Heritage Site.

### Coastal Features

White, sandy beaches surround the granitic islands with flats of corals and shells behind them. Tar balls have washed up on the beaches for decades, indicating the possibility of undersea oil reserves.

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# SEYCHELLES

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Susan D. Rock

*Reefs and islets lie along the shores of Seychelles.*

## **6** 🌐 **INLAND LAKES**

There are no major lakes in Seychelles, but there are small ponds and marshes on some of the islands.

## **7** 🌐 **RIVERS AND WATERFALLS**

There are no major rivers in Seychelles. There are, however, many small streams that drain the mountain slopes.

## **8** 🌐 **DESERTS**

There are no desert regions in Seychelles.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Seychelles has no permanent pastures and only 13 percent of its land is used for crops. Only 11 percent of Seychelles is considered forest land. Primary forests exist only on Praslin and Curieuse Islands, both of which lie north of Mahé. These native forests of the coco-de-mer

palm tree are now protected in small reserves. Coconut plantations have virtually replaced all broadleaf evergreen rain forests. Other native tree species on Seychelles have adapted to the local conditions. Many forests are planted with fruit and spice plants, making good use of scarce land resources.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Mascarene Ridge, a granite ridge that runs from north to south mostly underwater in the Indian Ocean, formed most of the islands of the Seychelles. On Mahé, Mount Seychelles (Morne Seychellois) reaches the highest point in the nation at 912 meters (2,992 feet). The mountainous characteristics of the granitic islands are among the notable characteristics that appeal to tourists.

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# SEYCHELLES

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Susan D. Rock

*A tea plantation on Mahé Island, Seychelles.*

## 11 🌐 CANYONS AND CAVES

There are no major land caves in Seychelles. Several underwater caves surround the coastlines of the islands, however; these provide homes to a variety of marine life.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no major plateau regions in Seychelles.

## 13 🌐 MAN-MADE FEATURES

There are no major man-made structures affecting the geography of Seychelles.

## 14 🌐 FURTHER READING

### Books

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# Sierra Leone

- **Official name:** Republic of Sierra Leone
- **Area:** 71,740 square kilometers (27,699 square miles)
- **Highest point on mainland:** Loma Mansa (1,948 meters/6,391 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** Noon = noon GMT
- **Longest distances:** 338 kilometers (210 miles) from north to south; 304 kilometers (189 miles) from east to west
- **Land boundaries:** 958 kilometers (595 miles) total boundary length; Guinea 652 kilometers (405 miles); Liberia 306 kilometers (190 miles)
- **Coastline:** 402 kilometers (250 miles)
- **Territorial sea limits:** 370 kilometers (200 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Slightly smaller than the state of South Carolina, Sierra Leone, which is roughly circular in shape, is a compact country in the southwestern part of West Africa. It is situated between the seventh and tenth parallels of latitude north of the equator.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Sierra Leone has no territories or dependencies.

## 3 🌐 CLIMATE

Because it is so close to the equator, Sierra Leone has a tropical climate; temperatures stay fairly constant throughout the year. The mean temperature is about 27°C (81°F) on the coast and almost as high on the eastern plateau. The dry season lasts from November to April, with a wet season occurring during the rest of the year. The prevailing winds from the southwest monsoon characterize the rainy season. Rainfall is greatest along the coast, especially in the mountains, which receive more than

580 centimeters (230 inches) of rainfall annually, compared to an average of approximately 315 centimeters (125 inches) in the rest of the country. During the dry season, *harmattan* winds blow from the Sahara Desert, bringing sandstorms but little rain.

## 4 🌐 TOPOGRAPHIC REGIONS

Sierra Leone's varied terrain includes the striking, mountainous Sierra Leone Peninsula; a zone of low-lying coastal marshland along the Atlantic Ocean; and a wide plains area extending inland to about the middle of the country. East of the plains, the land rises to a broad, moderately elevated plateau interspersed with occasional hills and mountains.

## 5 🌐 OCEANS AND SEAS

Sierra Leone is bounded on the southwest and west by the Atlantic Ocean; the country is located northwest of that part of the Atlantic Coast known as the Grain Coast, which borders Liberia.

# SIERRA LEONE



## Seacoast and Undersea Features

There are oil and gas reserves under the ocean floor off the coast of Sierra Leone.

## Sea Inlets and Straits

Sherbro Island is separated from the mainland by Sherbro River on the north and Sherbro Strait on the east.

## Islands and Archipelagos

There are three major island groups off the coast of Sierra Leone: the Banana Islands, the Turtle Islands, and Sherbro Island. Sherbro Island is by far the largest. The city of Bonthe is located on this island.

## Coastal Features

The coast is very irregular, forming many bays, inlets, and peninsulas. The most significant features are the Sierra Leone Peninsula, where Freetown is located, and Yawri Bay, which is located in the center of the coast just south of the peninsula. The coastal plain has numerous estuaries whose river channels, like that of the Sierra Leone River, continue to flow under the sea. Mangrove swamps line much of the coast, and behind the trees, marine and freshwater swamps occupy large areas.

## 6 INLAND LAKES

Most of the small lakes in Sierra Leone are located in the south. The three largest and most important are Lake Sonfon, Lake Mabesi, and Lake Mape.

## 7 RIVERS AND WATERFALLS

Most of the rivers of Sierra Leone drain into the Atlantic Ocean; a few, however, terminate at inland lakes. Of the numerous rivers, the most important ones are the Great and Little Scarcies in the north and the Rokel in the central region. The Great Scarcies forms part of the northern border with Guinea. The Rokel River originates in the Loma Mountains and flows west to the Atlantic Ocean near Freetown. At 440 kilometers (270 miles), the Rokel is the longest river in the country. Also important are the Mano and Moro Rivers, which form the southern border with Liberia. Other major rivers include the Jong, Sewa, Soa, and Moa.

## 8 DESERTS

There are no deserts in Sierra Leone.

## 9 FLAT AND ROLLING TERRAIN

The coastal plain covers a zone varying in width from about 8 to 40 kilometers (5 to 25 miles). In the southern section of the plateau region, erosion has formed a large area

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# SIERRA LEONE

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AP Photo/Peter Macdiarmid/POOL

*A British soldier helps the Sierra Leone government patrol the coastal area near Freetown. Over 17,000 peacekeeping troops make up the United Nations Mission in Sierra Leone (UNAMSIL).*

of rolling terrain, which is 64 kilometers (40 miles) wide at certain points and reaches elevations between 152 and 304 meters (500 and 1,000 feet).

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The mountainous Sierra Leone Peninsula, on which Freetown is located, is 40 kilometers (25 miles) long and about 16 kilometers (10 miles) wide. The highest point in Sierra Leone, Mount Loma Mansa (Bintimani), rises to a height of 1,948 meters (6,391 feet) in the Loma Mountains, which span the northeastern part of the country.

## **11** 🌐 **CANYONS AND CAVES**

There are no well-known named caves or canyons in Sierra Leone.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The plateau region, which encompasses roughly the eastern half of the country, has elevations ranging from roughly 304 meters (1,000 feet) to about 608 meters (2,000 feet).

## **13** 🌐 **MAN-MADE FEATURES**

The most significant dam in Sierra Leone is the Guma Valley Dam, which is 68 meters (223 feet) high and supplies water to an area that includes the capital city of Freetown.

## **14** 🌐 **FURTHER READING**

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## SIERRA LEONE

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# Singapore

- **Official name:** Republic of Singapore
- **Area:** 648 square kilometers (250 square miles)
- **Highest point on mainland:** Bukit Timah (166 meters/545 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 8 P.M. = noon GMT
- **Longest distances:** 42 kilometers (26 miles) from east-northeast to west-southwest; 23 kilometers (14 miles) from south-southeast to north-northwest
- **Land boundaries:** None
- **Coastline:** 193 kilometers (120 miles)
- **Territorial sea limits:** 5.6 kilometers (3 nautical miles)

## 1 🌐 LOCATION AND SIZE

The Republic of Singapore consists of a main island and sixty-three islets just south of the tip of the Malay Peninsula in Southeast Asia. Singapore, the second smallest country in Asia, is often described as a city-state. The diamond-shaped main island, which accounts for all but about 38 square kilometers (15 square miles) of the republic's area, is almost entirely urban. With a total area of 648 square kilometers (250 square miles), Singapore is nearly 3.5 times the size of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Singapore has no territories or dependencies.

## 3 🌐 CLIMATE

Singapore has a humid, rainy, tropical climate, with temperatures moderated by the seas surrounding the islands. Temperatures are nearly uniform throughout the year, averaging 25°C (77°F) in January and 27°C (81°F) in June. Although the island lies between 1 and 2 degrees north of the equator, the maritime influences moderate the heat of the region. The highest temperature ever recorded in Singapore is only 36°C (97°F).

Singapore is very humid, with heavy rainfall all year. Annual rainfall averages 237 centimeters (93 inches). The northeast monsoon that occurs between November and March brings the heaviest rainfall of the year.

## 4 🌐 TOPOGRAPHIC REGIONS

The main island has three major geographic divisions: an elevated, hilly area in the center; a section of lower, rolling land to the west; and flatlands to the east. Singapore's smaller islands are low-lying with coastal beaches.

## 5 🌐 OCEANS AND SEAS

Singapore is located between the Indian Ocean and the South China Sea.

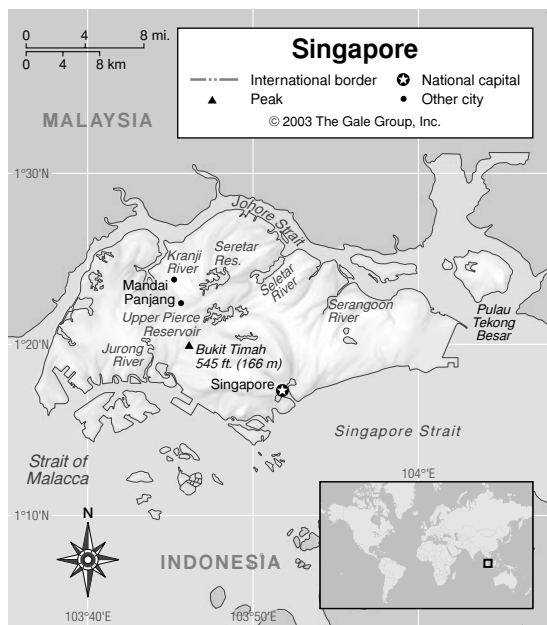
### Seacoast and Undersea Features

The coastal waters surrounding Singapore are generally less than 30 meters (100 feet) deep.

### Sea Inlets and Straits

Singapore is bordered on the north by the Johore Strait, which separates it from the Malay Peninsula, on the southeast by the Singapore Strait, and on the southwest by the Strait of Malacca.

# SINGAPORE



## Islands and Archipelagos

After Singapore Island, the next-largest island in the country is Pulau Tekong Besar to the northeast, with an area of only 18 square kilometers (7 square miles).

## Coastal Features

The easternmost part of the coastline is smooth, but the rest has many indentations; the most important of these is the deep natural harbor at the mouth of the Singapore River on the southern coast.

## 6 🌐 INLAND LAKES

Singapore has no significant natural lakes, but it has fourteen artificial bodies of water that were created by the construction of reservoirs.

## 7 🌐 RIVERS AND WATERFALLS

Singapore's rivers are all short, including its main river, which has the same name as the island itself. The Singapore River flows into the wide harbor on the island's southeastern coast. Other rivers include the Seletar (at 14

kilometers/9 miles, the longest on the island), Jurong, Kalang, Kranji, and Serangoon.

## 8 🌐 DESERTS

There are no deserts in Singapore.

## 9 🌐 FLAT AND ROLLING TERRAIN

Aside from Bukit Timah Hill, the main island's highest point, Singapore's central hills include Mandai and Panjang. Lower ridges extend northwest-to-southeast in the western and southern parts of the island.

## 10 🌐 MOUNTAINS AND VOLCANOES

The highest land on Singapore is a ridge of rugged hills in the center of the island. The highest is Bukit Timah Hill, at 165 meters (545 feet).

## 11 🌐 CANYONS AND CAVES

Singapore has no significant caves or canyons.

## 12 🌐 PLATEAUS AND MONOLITHS

The eastern part of the main island is a low, eroded plateau.

## 13 🌐 MAN-MADE FEATURES

The Johore Causeway, built in the 1920s, is fewer than 3 kilometers (1 mile) long. It bridges the Johore Strait, connecting Singapore to the Malaysian state of Johore. A second causeway opened in 1999. Land reclamation has added almost 15 square kilometers (6 square miles) to Singapore's total territory since 1966, mostly along the southeast coast, including reclamation on nearby islands.

Fourteen reservoirs have been built on Singapore's rivers for flood control as well as for private and industrial water use. Almost all the reservoirs are located in the center of the island or at the mouths of rivers on the northeastern or western coasts. Among the largest are Seretar and Upper Pierce, both of which are situated in the center of the island.

# SINGAPORE



UNESCO/Dominique Roger

*High rise buildings fill much of Singapore's land area.*

## 14 FURTHER READING

### Books

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*Singapore Tourism Board: North America site*. <http://www.tourismsingapore.com/> (accessed April 15, 2003).

# Slovakia

- **Official name:** Slovak Republic
- **Area:** 48,845 square kilometers (18,859 square miles)
- **Highest point on mainland:** Gerlachovsky Peak (2,655 meters/8,711 feet)
- **Lowest point on land:** Bodrok River (94 meters/308 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** 1,355 kilometers (842 miles) total boundary length; Austria 91 kilometers (57 miles); Czech Republic 215 kilometers (134 miles); Hungary 515 kilometers (320 miles); Poland 444 kilometers (276 miles); Ukraine 90 kilometers (56 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Slovakia (or Slovak Republic) occupies an area of Central Europe that constituted the eastern part of Czechoslovakia from 1918 to 1993. With an area of 48,845 square kilometers (18,859 square miles), it is about two times as large as the state of New Hampshire.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Slovakia has no territories or dependencies.

## 3 🌐 CLIMATE

Slovakia has a continental climate with sharp seasonal contrasts. Mean temperatures are -1°C (30°F) in January and 21°C (70°F) in July. Weather can vary considerably with elevation, however. The January average can be as low as -5°C (23°F) in the mountains, where temperatures are colder than in the lowlands.

Rainfall also varies with elevation. The annual average precipitation in the lowlands is about 64 centimeters (25 inches); in the High Tatras, however, it can be more than twice as high.

## 4 🌐 TOPOGRAPHIC REGIONS

The western Carpathian Mountains, which extend over Slovakia's northern and central regions, dominate the landscape. To the south are subsidiary mountain ranges, with distinct lowland areas in the southwest and east. The capital city of Bratislava is located on the Danube River, which flows through the country for a short distance in the west and along part of its southern border.

## 5 🌐 OCEANS AND SEAS

Slovakia is landlocked.

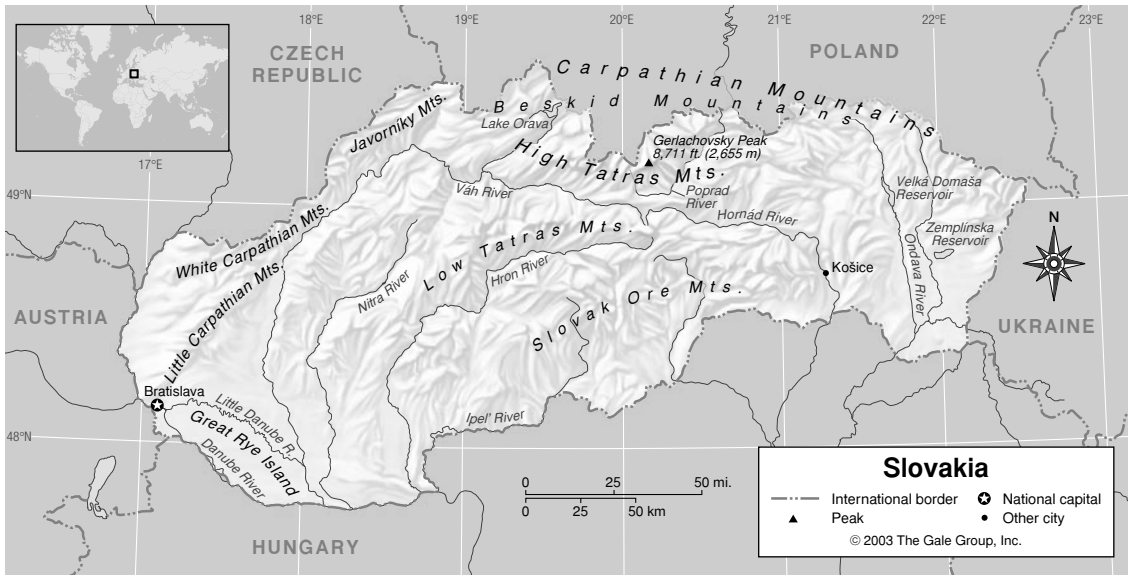
## 6 🌐 INLAND LAKES

Clear lakes dot the mountains of Slovakia. Many of them, such as Lake Orava and Lake Popradské, are associated with rivers of the same names. In addition to the natural lakes, there are several artificial ones. Slovakia is known for its thermal springs and mineral waters; its spas are a major attraction for visitors.

## 7 🌐 RIVERS AND WATERFALLS

Most of Slovakia's rivers flow south into the Danube, which, together with the Morava,

# SLOVAKIA



forms the country's southwestern border. From a point a few kilometers south of the Slovakian capital of Bratislava, the main channel of the Danube River demarcates the border between Slovakia and Hungary for about 175 kilometers (108 miles). As it leaves Bratislava, the Danube divides into two channels. The main channel, the Danube proper, continues southward along the border with Hungary. The smaller channel, called the Little Danube, branches eastward and then southeast to meet the Váh River. The Váh continues south and converges with the Nitra and with the main branch of the Danube at Komárno. The Hron and Ipeľ Rivers also flow south and enter the Danube before the latter turns south into Hungary. Slovakia's eastern rivers also tend to flow to the south, eventually entering the Danube. Among them are the Hornád and the Ondava. The Poprad, also in the east, is the only sizable river that flows northward, into Poland.

## 8 🌐 DESERTS

There are no deserts in Slovakia.

## 9 🌐 FLAT AND ROLLING TERRAIN

The corner of southeastern Slovakia between the Little Danube and the Danube, known as the Great Rye Island (Velky Litny Ostrov), is a marshland that supports some agriculture. The lowlands in southwestern Slovakia belong to the Danube Basin, while the lowlands in the east are part of the Carpathian Depression. The mountains of central Slovakia give way to hills in the south-central part of the country.

## 10 🌐 MOUNTAINS AND VOLCANOES

The portion of the Carpathian mountain system within Slovakia consists of a number of different ranges separated by valleys and river basins. The highest range is the High Tatras (or Vysoké Tatry); these mountains extend in a narrow ridge along the border with Poland and have traditionally been a popular summer resort area. They include Slovakia's highest peak, Gerlachovsky (2,655 meters/8,711 feet). Snow persists at the higher elevations well into the summer months and all year long in some sheltered pockets. To the south, across the Váh River, the Low Tatras (Nízke Tatry)

# SLOVAKIA



EPD/Saxifraga/Mihaly Végh

*The High Tatras are the highest mountains in Slovakia.*

rise to elevations of 1,981 meters (6,500 feet). Still farther south, across the Hron River, are the Slovak Ore (Slovenské Rudohrie) Mountains. In addition to the three major ranges in the center of the country, there are several smaller ones. In the west, the Little Carpathian (Maľe Karpaty) range rises near Bratislava. Several ranges, including the Biéle Karpaty, Javorníky, and Beskid Mountains, extend into the western part of the Czech Republic and southern Poland.

## **11** 🌐 **CANYONS AND CAVES**

There are a dozen caves open to the public in Slovakia. The Belian Cave in Tatra National Park is 5,778 feet (1,752 meters) long.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Slovakia's southwestern lowland includes some original steppe grassland.

## **13** 🌐 **MAN-MADE FEATURES**

Dikes and artificial drainage have made it possible to cultivate grain in the former marshlands of the Great Rye Island (Velky Litny Ostrov) in the southeast. Slovakia's largest artificial lake is the Orava Reservoir. Others include the Zemplínska, Velká Domaša, and Liptovská Reservoirs. The country's largest hydroelectric plant is located on the Danube River at Gabčíkovo.

## **DID YOU KNOW?**

**T**he Belian Cave in Tatra National Park is home to a natural auditorium where musical performances are staged; the cave also provides a habitat for eight distinct bat species.

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# SLOVAKIA

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## 14 FURTHER READING

### Books

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# APPENDIX A

## A CONTINENTS BY AREA, FROM LARGEST TO SMALLEST

RANK	CONTINENT	AREA (SQ MI)	AREA (SQ KM)
1	Asia	17,139,445	44,391,162
2	Africa	11,677,239	30,244,049
3	North America	9,361,791	24,247,039
4	South America	6,880,706	17,821,029
5	Antarctica	5,500,000	14,245,000
6	Europe	3,997,929	10,345,636
7	Australia	2,967,909	7,686,884

## B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
1	Russia	6,592,735	17,075,200	11.0
2	Antarctica	5,405,000	14,000,000	9.4
3	Canada	3,851,788	9,976,140	6.7
4	United States of America	3,717,792	9,629,091	6.4
5	China	3,705,386	9,596,960	6.4
6	Brazil	3,286,470	8,511,965	5.7
7	Australia	2,967,893	7,686,850	5.1
8	India	1,269,338	3,287,590	2.3
9	Argentina	1,072,157	2,776,890	1.9
10	Kazakhstan	1,049,150	2,717,300	1.8
11	Sudan	967,493	2,505,810	1.7
12	Algeria	919,590	2,381,740	1.6
13	Congo, Democratic Republic of the	905,563	2,345,410	1.6
15	Mexico	761,606	1,972,550	1.3
16	Saudi Arabia	756,984	1,960,582	1.3
17	Indonesia	741,096	1,919,440	1.3
18	Libya	679,358	1,759,540	1.2
19	Iran	636,293	1,648,000	1.1
20	Mongolia	604,247	1,565,000	1.0
21	Peru	496,223	1,285,220	0.9
22	Chad	495,755	1,284,000	0.9
23	Niger	489,189	1,267,000	0.8
24	Angola	481,350	1,246,700	0.8
25	Mali	478,764	1,240,000	0.8

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
26	South Africa	471,008	1,219,912	0.8
27	Colombia	439,733	1,138,910	0.8
28	Ethiopia	435,184	1,127,127	0.8
29	Bolivia	424,162	1,098,580	0.7
30	Mauritania	397,953	1,030,700	0.7
31	Egypt	386,660	1,001,450	0.7
32	Tanzania	364,879	945,037	0.6
33	Nigeria	356,667	923,768	0.6
34	Venezuela	352,143	912,050	0.6
35	Namibia	318,694	825,418	0.6
36	Pakistan	310,401	803,940	0.5
37	Mozambique	309,494	801,590	0.5
38	Turkey	301,382	780,580	0.5
39	Chile	292,258	756,950	0.5
40	Zambia	290,584	752,614	0.5
41	Myanmar	261,969	678,500	0.5
42	Afghanistan	250,000	647,500	0.4
43	Somalia	246,199	637,657	0.4
44	Central African Republic	240,534	622,984	0.4
45	Ukraine	233,089	603,700	0.4
46	Botswana	231,803	600,370	0.4
47	Madagascar	226,656	587,040	0.4
48	Kenya	224,961	582,650	0.4
49	France	211,208	547,030	0.4
50	Yemen	203,849	527,970	0.4
51	Thailand	198,455	514,000	0.3
52	Spain	194,896	504,782	0.3
53	Turkmenistan	188,455	488,100	0.3
54	Cameroon	183,567	475,440	0.3
55	Papua New Guinea	178,703	462,840	0.3
56	Sweden	173,731	449,964	0.3
57	Uzbekistan	172,741	447,400	0.3
58	Morocco	172,413	446,550	0.3
59	Iraq	168,753	437,072	0.3

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
60	Paraguay	157,046	406,750	0.3
61	Zimbabwe	150,803	390,580	0.3
62	Japan	145,882	377,835	0.3
63	Germany	137,846	357,021	0.2
64	Congo, Republic of	132,047	342,000	0.2
65	Finland	130,127	337,030	0.2
66	Malaysia	127,316	329,750	0.2
67	Vietnam	127,243	329,560	0.2
68	Norway	125,181	324,220	0.2
69	Côte d'Ivoire	124,502	322,460	0.2
70	Poland	120,728	312,685	0.2
71	Italy	116,305	301,230	0.2
72	Philippines	115,830	300,000	0.2
73	Ecuador	109,483	283,560	0.2
74	Burkina Faso	105,869	274,200	0.2
75	New Zealand	103,737	268,680	0.2
76	Gabon	103,347	267,667	0.2
77	Guinea	94,926	245,857	0.2
78	United Kingdom	94,525	244,820	0.2
79	Ghana	92,100	238,540	0.2
80	Romania	91,699	237,500	0.2
81	Laos	91,428	236,800	0.2
82	Uganda	91,135	236,040	0.2
83	Guyana	83,000	214,970	0.1
84	Oman	82,031	212,460	0.1
85	Belarus	80,154	207,600	0.1
86	Kyrgyzstan	76,640	198,500	0.1
87	Senegal	75,749	196,190	0.1
88	Syria	71,498	185,180	0.1
89	Cambodia	69,900	181,040	0.1
90	Uruguay	68,039	176,220	0.1
91	Tunisia	63,170	163,610	0.1
92	Suriname	63,039	163,270	0.1
93	Bangladesh	55,598	144,000	0.1

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
94	Tajikistan	55,251	143,100	0.1
95	Nepal	54,363	140,800	0.1
96	Greece	50,942	131,940	0.1
97	Nicaragua	49,998	129,494	0.1
98	Eritrea	46,842	121,320	0.1
99	Korea, North (Democratic People's Republic of)	46,540	120,540	0.1
100	Malawi	45,745	118,480	0.1
101	Benin	43,483	112,620	0.1
102	Honduras	43,278	112,090	0.1
103	Liberia	43,000	111,370	0.1
104	Bulgaria	42,822	110,910	0.1
105	Cuba	42,803	110,860	0.1
106	Guatemala	42,042	108,890	0.1
107	Iceland	39,769	103,000	0.1
108	Serbia and Montenegro	39,517	102,350	0.1
109	Korea, South (Republic of)	38,023	98,480	0.1
110	Hungary	35,919	93,030	0.1
111	Portugal	35,672	92,391	0.1
112	Jordan	35,637	92,300	0.1
114	Azerbaijan	33,436	86,600	0.1
115	Austria	32,378	83,858	0.1
116	United Arab Emirates	32,000	82,880	0.1
117	Czech Republic	30,450	78,866	0.1
118	Panama	30,193	78,200	0.1
119	Sierra Leone	27,699	71,740	0.05
120	Ireland	27,135	70,280	0.05
121	Georgia	26,911	69,700	0.05
122	Sri Lanka	25,332	65,610	0.04
123	Lithuania	25,174	65,200	0.04
124	Latvia	24,938	64,589	0.04
125	Togo	21,925	56,785	0.04
126	Croatia	21,831	56,542	0.04
127	Bosnia and Herzegovina	19,741	51,129	0.03

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
128	Costa Rica	19,730	51,100	0.03
129	Slovakia	18,859	48,845	0.03
130	Dominican Republic	18,815	48,730	0.03
131	Bhutan	18,147	47,000	0.03
132	Estonia	17,462	45,226	0.03
133	Denmark	16,638	43,094	0.03
134	Netherlands	16,033	41,526	0.03
135	Switzerland	15,942	41,290	0.03
136	Guinea-Bissau	13,946	36,120	0.02
137	Moldova	13,067	33,843	0.02
137	Taiwan	13,892	35,980	0.02
138	Belgium	11,780	30,510	0.02
139	Lesotho	11,720	30,355	0.02
140	Armenia	11,506	29,800	0.02
141	Albania	11,100	28,748	0.02
142	Solomon Islands	10,985	28,450	0.02
143	Equatorial Guinea	10,831	28,051	0.02
144	Burundi	10,745	27,830	0.02
145	Haiti	10,714	27,750	0.02
146	Rwanda	10,169	26,338	0.02
147	Macedonia	9,781	25,333	0.02
148	Belize	8,867	22,966	0.02
149	Djibouti	8,494	22,000	0.01
150	El Salvador	8,124	21,040	0.01
151	Israel	8,019	20,770	0.01
152	Slovenia	7,820	20,253	0.01
153	Fiji	7,054	18,270	0.01
154	Kuwait	6,880	17,820	0.01
155	Swaziland	6,704	17,363	0.01
156	East Timor	5,640	14,609	0.01
157	Bahamas	5,382	13,940	0.01
158	Vanuatu	4,710	12,200	0.01
159	Qatar	4,416	11,437	0.01
160	Gambia, The	4,363	11,300	0.01

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
161	Jamaica	4,243	10,990	0.01
162	Lebanon	4,015	10,400	0.01
163	Cyprus	3,571	9,250	0.01
164	Brunei	2,228	5,770	0.004
164	Puerto Rico	3,515	9,104	0.01
165	Trinidad and Tobago	1,980	5,128	0.003
166	Cape Verde	1,557	4,033	0.003
167	Samoa	1,104	2,860	0.002
168	Luxembourg	998	2,586	0.002
169	Comoros	838	2,170	0.001
170	Mauritius	718	1,860	0.001
171	São Tomé and Príncipe	386	1,001	0.0007
172	Dominica	291	754	0.0005
173	Tonga	289	748	0.0005
174	Kiribati	277	717	0.0005
175	Micronesia	271	702	0.0005
176	Palau	177	458	0.0003
177	Bahrain	239	620	0.0004
178	Saint Lucia	239	620	0.0004
179	Andorra	181	468	0.0003
181	Singapore	250	647.5	0.0004
181	Seychelles	176	455	0.0003
182	Antigua and Barbuda	171	442	0.0003
183	Barbados	166	430	0.0003
184	Saint Vincent and the Grenadines	150	389	0.0003
185	Malta	122	316	0.0002
186	Maldives	115	300	0.0002
187	Saint Kitts and Nevis	101	261	0.0002
188	Marshall Islands	70	181.3	0.0001
189	Liechtenstein	62	160	0.0001
190	San Marino	24	61.2	--
191	Tuvalu	10	26	--
192	Nauru	8.1	21	--
193	Monaco	0.7	1.95	--
194	Vatican City	0.17	0.44	--

# APPENDIX C

## C COUNTRIES OF THE WORLD, BY POPULATION

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
1	China	Asia	1,284,303,705
2	India	Asia	1,045,845,226
3	United States of America	North America	280,562,489
4	Indonesia	Asia	231,328,092
5	Brazil	South America	176,029,560
6	Pakistan	Asia	147,663,429
7	Russia	Europe	144,978,573
8	Bangladesh	Asia	133,376,684
9	Nigeria	Africa	129,934,911
10	Japan	Asia	126,974,628
11	Mexico	North America	103,400,165
12	Philippines	Asia	84,525,639
13	Germany	Europe	83,251,851
14	Vietnam	Asia	81,098,416
15	Egypt	Africa	70,712,345
16	Ethiopia	Africa	67,673,031
17	Turkey	Asia	67,308,928
18	Iran	Asia	66,622,704
19	Thailand	Asia	62,354,402
20	United Kingdom	Europe	59,778,002
21	France	Europe	59,765,983
22	Italy	Europe	57,715,625
23	Congo, Democratic Republic of the	Africa	55,225,478
24	Ukraine	Europe	48,396,470
25	Korea, South (Republic of)	Asia	48,324,000
26	South Africa	Africa	43,647,658
27	Myanmar	Asia	42,238,224
28	Colombia	South America	41,008,227
29	Spain	Europe	40,077,100
30	Poland	Europe	38,625,478
31	Argentina	South America	37,812,817
32	Tanzania	Africa	37,187,939
33	Sudan	Africa	37,090,298

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION (continued)

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
34	Algeria	Africa	32,277,942
35	Canada	North America	31,902,268
36	Morocco	Africa	31,167,783
37	Kenya	Africa	31,138,735
38	Peru	South America	27,949,639
39	Afghanistan	Asia	27,755,775
40	Nepal	Asia	25,873,917
41	Uzbekistan	Asia	25,563,441
42	Uganda	Africa	24,699,073
43	Venezuela	South America	24,287,670
44	Iraq	Asia	24,001,816
45	Saudi Arabia	Asia	23,513,330
46	Malaysia	Asia	22,662,365
47	Taiwan	Asia	22,548,009
48	Romania	Europe	22,317,730
49	Korea, North (Democratic People's Republic of)	Asia	22,224,195
50	Ghana	Africa	20,244,154
51	Mozambique	Africa	19,607,519
52	Sri Lanka	Asia	19,576,783
53	Australia	Australia	19,546,792
54	Yemen	Asia	18,701,257
55	Syria	Asia	17,155,814
56	Côte d'Ivoire	Africa	16,804,784
57	Kazakhstan	Asia	16,741,519
58	Madagascar	Africa	16,473,477
59	Cameroon	Africa	16,184,748
60	Netherlands	Europe	16,067,754
61	Chile	South America	15,498,930
62	Ecuador	South America	13,447,494
63	Guatemala	North America	13,314,079
64	Cambodia	Asia	12,775,324
65	Burkina Faso	Africa	12,603,185



## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
66	Zimbabwe	Africa	11,376,676
67	Mali	Africa	11,340,480
68	Cuba	North America	11,224,321
69	Malawi	Africa	10,701,824
70	Serbia and Montenegro	Europe	10,656,929
71	Greece	Europe	10,645,343
72	Niger	Africa	10,639,744
73	Angola	Africa	10,593,171
74	Senegal	Africa	10,589,571
75	Belarus	Europe	10,335,382
76	Belgium	Europe	10,274,595
77	Czech Republic	Europe	10,256,760
78	Portugal	Europe	10,084,245
79	Hungary	Europe	10,075,034
80	Zambia	Africa	9,959,037
81	Tunisia	Africa	9,815,644
82	Chad	Africa	8,997,237
83	Sweden	Europe	8,876,744
84	Dominican Republic	North America	8,721,594
85	Bolivia	South America	8,445,134
86	Austria	Europe	8,169,929
87	Azerbaijan	Asia	7,798,497
88	Guinea	Africa	7,775,065
89	Somalia	Africa	7,753,310
90	Bulgaria	Europe	7,621,337
91	Rwanda	Africa	7,398,074
92	Switzerland	Europe	7,301,994
93	Haiti	North America	7,063,722
94	Benin	Africa	6,787,625
95	Tajikistan	Asia	6,719,567
96	Honduras	North America	6,560,608
97	El Salvador	North America	6,353,681
98	Burundi	Africa	6,373,002

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
99	Israel	Asia	6,029,529
100	Paraguay	South America	5,884,491
101	Laos	Asia	5,777,180
102	Sierra Leone	Africa	5,614,743
103	Slovakia	Europe	5,422,366
104	Denmark	Europe	5,368,854
105	Libya	Africa	5,368,585
106	Jordan	Asia	5,307,470
107	Togo	Africa	5,285,501
108	Finland	Europe	5,183,545
109	Papua New Guinea	Asia	5,172,033
110	Nicaragua	North America	5,023,818
111	Georgia	Asia	4,960,951
112	Kyrgyzstan	Asia	4,822,166
113	Turkmenistan	Asia	4,688,963
114	Norway	Europe	4,525,116
115	Eritrea	Africa	4,465,651
116	Singapore	Asia	4,452,732
117	Moldova	Europe	4,434,547
118	Croatia	Europe	4,390,751
119	Bosnia and Herzegovina	Europe	3,964,388
120	Puerto Rico	North America	3,957,988
121	New Zealand	Asia	3,908,037
122	Ireland	Europe	3,883,159
123	Costa Rica	North America	3,834,934
124	Lebanon	Asia	3,677,780
125	Central African Republic	Africa	3,642,739
126	Lithuania	Europe	3,601,138
127	Albania	Europe	3,544,841
128	Uruguay	South America	3,386,575
129	Armenia	Europe	3,330,099
130	Liberia	Africa	3,288,198
131	Congo, Republic of the	Africa	2,958,448

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
132	Panama	North America	2,882,329
133	Mauritania	Africa	2,828,858
134	Mongolia	Asia	2,694,432
135	Jamaica	North America	2,680,029
136	Oman	Asia	2,713,462
137	United Arab Emirates	Asia	2,445,989
138	Latvia	Europe	2,366,515
139	Kuwait	Asia	2,111,561
140	Lesotho	Africa	2,207,954
141	Bhutan	Asia	2,094,176
142	Macedonia, The Former Yugoslav Republic of	Europe	2,054,800
143	Slovenia	Europe	1,932,917
144	Namibia	Africa	1,820,916
145	Botswana	Africa	1,591,232
146	Estonia	Europe	1,415,681
147	Gambia, The	Africa	1,455,842
148	Guinea-Bissau	Africa	1,345,479
149	Gabon	Africa	1,233,353
150	Mauritius	Africa	1,200,206
151	Trinidad and Tobago	South America	1,163,724
152	Swaziland	Africa	1,123,605
153	East Timor	Asia	952,618
154	Fiji	Asia	856,346
155	Qatar	Asia	793,341
156	Cyprus	Asia	767,314
157	Guyana	South America	698,209
158	Bahrain	Asia	656,397
159	Comoros	Africa	614,382
160	Equatorial Guinea	Africa	498,144
161	Solomon Islands	Asia	494,786
162	Djibouti	Africa	472,810
163	Luxembourg	Europe	448,569
164	Suriname	South America	436,494

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
165	Cape Verde	Africa	408,760
166	Malta	Europe	397,499
167	Brunei Darussalam	Asia	350,898
168	Maldives	Asia	320,165
169	Bahamas, The	North America	300,529
170	Iceland	Europe	279,384
171	Barbados	North America	276,607
172	Belize	North America	262,999
173	Vanuatu	Asia	196,178
174	Samoa	Asia	178,631
175	São Tomé and Príncipe	Africa	170,372
176	Saint Lucia	North America	160,145
177	Micronesia, Federated States of	Asia	135,869
178	Saint Vincent and the Grenadines	North America	116,394
179	Tonga	Asia	106,137
180	Kiribati	Asia	96,335
181	Grenada	North America	89,211
182	Seychelles	Africa	80,098
183	Marshall Islands	Asia	73,630
184	Dominica	North America	70,158
185	Andorra	Europe	68,403
186	Antigua and Barbuda	North America	67,448
187	Saint Kitts and Nevis	North America	38,736
188	Liechtenstein	Europe	32,842
189	Monaco	Europe	31,987
190	San Marino	Europe	27,730
191	Palau	Asia	19,409
192	Nauru	Asia	12,329
193	Tuvalu	Asia	11,146
194	Holy See	Europe	900
195	Antarctica	Antarctica	No permanent population

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA

All measurements are approximate and are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
1	Pacific Ocean	60,060,000	155,557,000
2	Atlantic Ocean	29,638,000	76,762,000
3	Indian Ocean	26,469,000	68,556,000
4	Southern Ocean	7,848,000	20,327,000
5	Arctic Ocean	5,427,000	14,056,000
6	Coral Sea	1,850,000	4,791,000
7	Arabian Sea	1,492,000	3,864,000
8	South China Sea (Nan Hai)	1,423,000	3,685,000
9	Weddell Sea	1,080,000	2,796,000
10	Caribbean Sea	1,063,000	2,753,000
11	Mediterranean Sea	971,000	2,515,000
12	Tasman Sea	900,000	2,331,000
13	Bering Sea	890,000	2,305,000
14	Bay of Bengal	839,000	2,173,000
15	Sea of Okhotsk	614,000	1,590,000
16	Gulf of Mexico	596,000	1,544,000
17	Gulf of Guinea	592,000	1,533,000
18	Barents Sea	542,000	1,405,000
19	Norwegian Sea	534,000	1,383,000
20	Gulf of Alaska	512,000	1,327,000
21	Hudson Bay	476,000	1,233,000
22	Greenland Sea	465,000	1,205,000
23	Bellinghausen Sea	430,000	1,110,000
24	Amundsen Sea	400,000	1,036,000
25	Arafura Sea	400,000	1,036,000
26	Philippine Sea	400,000	1,036,000
27	Sea of Japan	378,000	979,000
28	Mozambique Channel	376,000	975,000
29	Ross Sea	370,000	958,000
30	East Siberian Sea	361,000	936,000
31	Scotia Sea	347,000	900,000

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA *(continued)*

All measurements are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
32	Kara Sea	341,000	883,000
33	Labrador Sea	309,000	800,000
34	East China Sea (Dong Hai / Tung Hai)	290,000	752,000
35	Solomon Sea	278,000	720,000
36	Laptev Sea	270,000	700,000
37	Baffin Bay	268,000	695,000
38	Banda Sea	268,000	695,000
39	Drake Passage	240,000	620,000
40	Timor Sea	237,000	615,000
41	Andaman Sea	232,000	601,000
42	North Sea	232,000	601,000
43	Davis Strait	230,000	596,000
44	Chukchi Sea	225,000	582,000
45	Great Australian Bight	187,000	484,000
46	Beaufort Sea	184,000	476,000
47	Celebes Sea	182,000	472,000
48	Black Sea	178,000	461,000
49	Red Sea	175,000	453,000
50	Java Sea	167,000	433,000
51	Sulu Sea	162,000	420,000
52	Yellow Sea (Huang Hai)	161,000	417,000
53	Baltic Sea	147,000	382,000
54	Gulf of Carpentaria	120,000	310,000
55	Molucca Sea	119,000	307,000
56	Persian Gulf	93,000	241,000
57	Gulf of Thailand	92,000	239,000
58	Gulf of St. Lawrence	92,000	239,000
59	Bismarck Sea	87,000	225,000
60	Gulf of Aden	85,000	220,000
61	Makassar Strait	75,000	194,000
62	Ceram Sea	72,000	187,000

# APPENDIX E

## E OCEAN DEPTH

All measurements are approximate.

RANK	NAME	OCEAN	DEPTH (FT)	DEPTH (M)
1	Mariana Trench	Pacific	38,635	11,784
2	Philippine Trench	Pacific	37,720	11,505
3	Tonga Trench	Pacific	37,166	11,336
4	Izu Trench	Pacific	36,850	11,239
5	Kermadec Trench	Pacific	34,728	10,592
6	Kuril Trench	Pacific	34,678	10,577
7	New Britain Trench	Pacific	31,657	9,655
8	Puerto Rico Trench	Atlantic	31,037	9,466
9	Bonin Trench	Pacific	29,816	9,094
10	Japan Trench	Pacific	29,157	8,893
11	South Sandwich Trench	Atlantic	28,406	8,664
12	Palau Trench	Pacific	27,972	8,531
13	Peru-Chile Trench	Pacific	27,687	8,445
14	Yap Trench	Pacific	27,552	8,403
15	Aleutian Trench	Pacific	26,775	8,166
16	Roanche Gap	Atlantic	26,542	8,095
17	Cayman Trench	Atlantic	26,519	8,088
18	New Hebrides Trench	Pacific	25,971	7,921
19	Ryukyu Trench	Pacific	25,597	7,807
20	Java Trench	Indian	24,744	7,547
21	Diamantina Trench	Indian	24,249	7,396
22	Mid America Trench	Pacific	22,297	6,801
23	Brazil Basin	Atlantic	22,274	6,794
24	Ob Trench	Indian	21,785	6,644
25	Vema Trench	Indian	19,482	5,942
26	Agulhas Basin	Indian	19,380	5,911
27	Ionian Basin	Mediterranean Sea	17,306	5,278
28	Eurasia Basin	Arctic	16,122	4,917

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
1	Greenland	North America	Atlantic Ocean	840,000	2,175,600
2	New Guinea	Oceania	Pacific Ocean	305,000	790,000
3	Borneo	Asia	South China Sea	285,000	737,000
4	Madagascar	Africa	Indian Ocean	226,657	587,040
5	Baffin	North America	Baffin Bay	196,000	507,000
6	Sumatra	Asia	Andaman Sea	164,000	425,000
7	Honshu	Asia	Pacific Ocean	88,000	228,000
8	Great Britain	Europe	North Sea	84,400	219,000
9	Victoria	North America	Viscount Melville Sound	83,900	217,000
10	Ellesmere	North America	Arctic Ocean	75,800	196,000
11	Sulawesi (Celebes)	Asia	Celebes Sea	67,400	174,000
12	South Island (New Zealand)	Oceania	Pacific Ocean	58,200	151,000
13	Java	Asia	Indian Ocean	50,000	129,000
14	North Island (New Zealand)	Oceania	Pacific Ocean	44,200	114,000
15	Newfoundland	North America	Atlantic Ocean	42,000	109,000
16	Cuba	North America	Caribbean Sea	40,500	105,000
17	Luzon	Asia	Pacific Ocean	40,400	105,000
18	Iceland	Europe	Atlantic Ocean	39,769	103,000
19	Mindanao	Asia	Pacific Ocean	36,500	94,600
20	Ireland	Europe	Atlantic Ocean	32,500	84,100
21	Hokkaido	Asia	Pacific Ocean	30,100	78,000
22	Sakhalin	Asia	Sea of Okhotsk	29,500	76,400
23	Hispaniola	North America	Atlantic Ocean	29,200	75,600
24	Banks	North America	Arctic Ocean	27,000	70,000
25	Sri Lanka	Asia	Indian Ocean	25,332	65,610
26	Tasmania	Australia	Indian Ocean	24,900	64,400
27	Devon	North America	Baffin Bay	21,300	55,200
28	Novaya Zemlya	Europe	North Kara Sea	18,900	48,900
29	Grande de Tierra del Fuego	South America	Atlantic Ocean	18,700	48,400
30	Marajo	South America	Atlantic Ocean	18,500	48,000
31	Alexander	Antarctica	Bellingshausen Sea	16,700	43,200
32	Axel Heiberg	North America	Arctic Ocean	16,700	43,200
33	Melville	North America	Viscount Melville Sound	16,300	42,100



## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
34	Southampton	North America	Hudson Bay	15,900	41,200
35	West Spitsbergen	Europe	Arctic Ocean	15,300	39,500
36	New Britain	Oceania	Bismarck Sea	14,600	37,800
37	Taiwan	Asia	Pacific Ocean	13,892	35,980
38	Kyushu	Asia	Pacific Ocean	13,800	35,700
39	Hainan	Asia	South China Sea	13,100	34,000
40	Prince of Wales	North America	Viscount Melville Sound	12,900	33,300
41	Novaya Zemlya	Europe	Barents Sea	12,800	33,300
42	Vancouver	North America	Pacific Ocean	12,100	31,300
43	Timor	Asia	Timor Sea	10,200	26,300
44	Sicily	Europe	Mediterranean	9,810	25,400
45	Somerset	North America	Lancaster Sound	9,570	24,800
46	Sardinia	Europe	Mediterranean	9,190	23,800
47	Bananal	South America	Araguaia River	7,720	20,000
48	Halmahera	Asia	Molucca Sea	6,950	18,000
49	Shikoku	Asia	Pacific Ocean	6,860	17,800
50	Ceram	Asia	Banda Sea	6,620	17,200
51	New Caledonia	Oceania	Coral Sea	6,470	16,700
52	Bathurst	North America	Viscount Melville Sound	6,190	16,000
53	Prince Patrick	North America	Arctic Ocean	6,120	15,800
54	North East Land	Europe	Barents Sea	5,790	15,000
55	Flores	Asia	Flores Sea	5,520	14,300
56	Oktyabrskoy Revolyutsii	Asia	Arctic Ocean	5,470	14,170
57	Sumbawa	Asia	Indian Ocean	5,160	13,400
58	King William	North America	Queen Maud Gulf	5,060	13,100
59	Samar	Asia	Pacific Ocean	5,050	13,100
60	Negros	Asia	Sulu Sea	4,900	12,700
61	Palawan	Asia	South China Sea	4,550	11,800
62	Kotelnyy	Asia	Arctic Ocean	4,500	11,700
63	Panay	Asia	Sulu Sea	4,450	11,500
64	Bangka	Asia	Java Sea	4,370	11,320
65	Ellef Ringnes	North America	Arctic Ocean	4,360	11,300
66	Bolshevik	Asia	Arctic Ocean	4,350	11,270
67	Sumba	Asia	Indian Ocean	4,310	11,200

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
68	Bylot	North America	Baffin Bay	4,270	11,100
69	Jamaica	North America	Caribbean Sea	4,243	10,990
70	Dolak	Asia	Arafura Sea	4,160	10,800
71	Hawaii	Oceania	Pacific Ocean	4,040	10,500
72	Viti Levu	Oceania	Pacific Ocean	4,010	10,400
73	Cape Breton	North America	Atlantic Ocean	3,980	10,300
74	Bougainville	Oceania	Pacific Ocean	3,880	10,000
75	Mindoro	Asia	South China Sea	3,760	9,730
76	Prince Charles	North America	Foxe Basin	3,680	9,520
77	Kodiak	North America	Pacific Ocean	3,670	9,510
78	Cyprus	Asia	Mediterranean	3,571	9,250
79	Komsomolets	Asia	Arctic Ocean	3,480	9,010
80	Buru	Asia	Banda Sea	3,470	9,000
81	Corsica	Europe	Mediterranean	3,370	8,720
82	Puerto Rico	North America	Atlantic Ocean	3,350	8,680
83	New Ireland	Oceania	Pacific Ocean	3,340	8,650
84	Disco	North America	Davis Strait	3,310	8,580
85	Chiloe	South America	Pacific Ocean	3,240	8,390
86	Crete	Europe	Mediterranean	3,190	8,260
87	Anticosti	North America	Gulf of St. Lawrence	3,070	7,940
88	Wrangel	Asia	Chukchi Sea	2,820	7,300
89	Leyte	Asia	Visayan Sea	2,780	7,210
90	Zealand	Europe	Baltic Sea	2,710	7,020
91	Cornwallis	North America	Barrow Strait	2,700	7,000
92	Wellington	South America	Trinidad Gulf	2,610	6,750
93	Iturup (Etorofu)	Asia	Pacific Ocean	2,600	6,720
94	Prince of Wales	North America	Pacific Ocean	2,590	6,700
95	Graham	North America	Pacific Ocean	2,460	6,360
96	East Falkland	South America	Atlantic Ocean	2,440	6,310
97	Melville	Asia	Timor Sea	2,400	6,220
98	Novaya Sibir	Asia	East Siberian Sea	2,390	6,200
99	Kerguelen	Antarctica	Indian Ocean	2,320	6,000
100	Andros	North America	Grand Bahama Bank	2,300	5,960

## APPENDIX G

### G DESERTS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (SQ MI)	AREA (SQ KM)
1	Sahara	Africa	Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Sudan, and Tunisia	3,475,000	9,000,000
2	Arabian*	Asia	Saudi Arabia, Kuwait, Qatar, the United Arab Emirates, Oman, Yemen, Jordan, Syria, Iraq	900,000	2,330,000
3	Gobi	Asia	China, Mongolia	500,000	1,300,000
4	Kalahari	Africa	Botswana, Namibia, South Africa	360,000	930,000
5	Great Victoria	Australia	Australia	134,652	348,750
6	Taklimakan (Takla Makan)	Asia	China	125,000	320,000
7	Sonoran	North America	United States of America, Mexico	120,000	310,000
8	Kara-Kum	Asia	Kazakhstan, Turkmenistan	115,830	300,000
9	Kyzyl Kum	Asia	Kazakhstan, Uzbekistan	115,000	297,850
10	Namib	Africa	Namibia, South Africa	110,000	285,000
11	Great Sandy	Australia	Australia	103,185	267,250
12	Somali	Africa	Somalia	100,000	260,000
13	Thar	Asia	India, Pakistan	90,000	233,000
14	Tanami	Australia	Australia	71,235	184,500
15	Atacama	South America	Chile, Peru	70,000	180,000
16	Simpson	Australia	Australia	68,150	176,500
17	Gibson	Australia	Australia	60,230	156,000
18	Little Sandy	Australia	Australia	43,050	111,500

\* Two deserts are commonly referred to by this name. This entry refers to the deserts of the Arabian Peninsula and not the Arabian Desert of Egypt, which is part of the Sahara.

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT

All measurements are approximate.  
Note that many mountains have multiple peaks, which will appear separately in the table.

#### AFRICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Kibo (Mt. Kilimanjaro)	Tanzania	19,341	5,895
2	Mawensi (Mt. Kilimanjaro)	Tanzania	17,100	5,210
3	Batian (Mt. Kenya)	Kenya	17,058	5,203
4	Nelion (Mt. Kenya)	Kenya	17,020	5,190
5	Margherita Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,756	5,110
6	Alexandra Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,700	5,094
7	Albert Peak (Mt. Stanley)	Dem. Rep. of the Congo	16,690	5,090
8	Savoia Peak (Mt. Stanley)	Uganda	16,330	4,981
9	Elena Peak (Mt. Stanley)	Uganda	16,300	4,972
10	Elizabeth Peak (Mt. Stanley)	Uganda	16,170	4,932
11	Phillip Peak (Mt. Stanley)	Uganda	16,140	4,923
12	Moebius Peak (Mt. Stanley)	Uganda	16,130	4,920
13	Vittorio Emanuele (Mt. Speke)	Uganda	16,040	4,892
14	Ensonga (Mt. Speke)	Uganda	15,960	4,868
15	Johnston (Mt. Speke)	Uganda	15,860	4,834
16	Edward (Mt. Baker)	Uganda	15,890	4,846
17	Umberto (Mt. Emin)	Dem. Rep. of the Congo	15,740	4,798
18	Semper (Mt. Baker)	Uganda	15,730	4,795
19	Kraepelin (Mt. Emin)	Dem. Rep. of the Congo	15,720	4,791
20	Iolanda (Mt. Gessi)	Dem. Rep. of the Congo	15,470	4,751
21	Bottego (Mt. Gesi)	Dem. Rep. of the Congo	15,418	4,699
22	Sella (Mt. Luigi)	Dem. Rep. of the Congo	15,178	4,626
23	Ras Deshen	Ethiopia	15,157	4,620
24	Weismann (Mt. Luigi)	Dem. Rep. of the Congo	15,157	4,620
25	Okusoma (Mt. Luigi)	Dem. Rep. of the Congo	15,020	4,578

#### ANTARCTICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Vinson	Antarctica	16,860	5,142
2	Tyree	Antarctica	16,290	4,968
3	Shinn	Antarctica	15,750	4,800
4	Gardner	Antarctica	15,370	4,690
5	Epperly	Antarctica	15,100	4,600

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Everest (Zhumulangma Feng)	Nepal, China	29,030	8,850
2	K2	China, Pakistan	28,251	8,611
3	Kanchenjunga	India, Nepal	28,169	8,586
4	Lhotse	China, Nepal	27,890	8,500
5	Makalu	China, Nepal	27,824	8,481
6	Kanchenjunga, south peak	India, Nepal	27,800	8,479
7	Kanchenjunga, west peak	India, Nepal	27,620	8,424
8	Lhotse Shar	China, Nepal	27,500	8,388
9	Dhaulagiri	Nepal	26,813	8,172
10	Man slu	Nepal	26,775	8,155
11	Cho Oyu	China, Nepal	26,750	8,150
12	Nanga Parbat I	Pakistan	26,660	8,130
13	Masherbrum I	Pakistan	26,610	7,810
14	Annapurna I	Nepal	26,500	8,080
15	Gasherbrum I	Pakistan	26,470	8,070
16	Broad, highest peak	Pakistan	26,400	8,050
17	Gasherbrum II	Pakistan	26,360	8,030
18	Gosainthan	China	26,290	8,010
19	Broad, middle peak	Pakistan	26,250	8,000
20	Gasherbrum III	Pakistan	26,090	7,950
21	Annapurna II	Nepal	26,040	7,940
22	Gasherbrum IV	Pakistan	26,000	7,930
23	Gyachung Kang	China, Nepal	25,990	7,927
24	Nanga Parbat II	Pakistan	25,950	7,910
25	Kangbachen	India, Nepal	25,930	7,909
26	Man slu, east pinnacle	Nepal	25,900	7,900
27	Distaghil Sar	Pakistan	25,870	7,890
28	Nuptse	Nepal	25,850	7,880
29	Himachuh	Nepal	25,800	7,860
30	Khiangyang Kish	Pakistan	25,760	7,850

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
31	Ngojumba Ri	China, Nepal	25,720	7,847
32	Dakura	Nepal	25,710	7,842
33	Masherbrum II	Pakistan	25,660	7,826
34	Nanda Devi, west peak	India	25,650	7,823
35	Nanga Parbat III	Pakistan	25,650	7,823
36	Rakaposhi	Pakistan	25,550	7,793
37	Batura Mustagh I	Pakistan	25,540	7,790
38	GasherbrumV	Pakistan	25,500	7,770
39	Kamet	China, India	25,440	7,760

#### EUROPE

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	El'brus (Elborus), west peak	Russia	18,481	5,633
2	El'brus (Elborus), east peak	Russia	18,360	5,590
3	Shkhara	Georgia, Russia	17,064	5,205
4	Dykh, west peak	Russia	17,050	5,200
5	Dykh, east peak	Russia	16,900	5,150
6	Koshtan	Russia	16,880	5,148
7	Pushkina	Russia	16,730	5,100
8	Kazbek, east peak	Georgia	16,526	5,040
9	Dzhangj	Georgia	16,520	5,039
10	Katyn	Georgia, Russia	16,310	4,975
11	Shota Rustaveli	Georgia, Russia	16,270	4,962
12	Mizhirgi, west peak	Russia	16,170	4,932
13	Mizhirgi, east peak	Russia	16,140	4,923
14	Kundyum-Mizhirgi	Russia	16,010	4,880
15	Gestola	Georgia, Russia	15,930	4,860
16	Tetnuld	Georgia, Russia	15,920	4,850
17	Mont Blanc, main peak	France, Italy	15,772	4,810
18	Dzhimariy	Georgia	15,680	4,780
19	Adish	Georgia, Russia	15,570	4,749
20	Courmayer (Mont Blanc)	France, Italy	15,577	4,748
21	Ushba	Georgia	15,450	4,710

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### NORTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	McKinley (Denali), south peak	U.S.A.	20,323	6,194
2	Logan, central peak	Canada	19,550	5,959
3	Logan, west peak	Canada	19,470	5,930
4	McKinley (Denali), north peak	U.S.A.	19,470	5,930
5	Logan, east peak	Canada	19,420	5,920
6	Pico de Orizaba	Mexico	18,701	5,700
7	Logan, north peak	Canada	18,270	5,570
8	Saint Elias	U.S.A., Canada	18,010	5,490
9	Popocatepetl	Mexico	17,887	5,452
10	Foraker	U.S.A.	17,400	5,300
11	Ixtacihuatl	Mexico	17,342	5,286
12	Queen	Canada	17,300	5,270
13	Lucania	Canada	17,150	5,230
14	King	Canada	16,970	5,170
15	Steele	Canada	16,640	5,070
16	Bona	U.S.A.	16,500	5,033
17	Blackburn, highest peak	U.S.A.	16,390	5,000
18	Blackburn, southeast peak	U.S.A.	16,290	4,968
19	Sanford	U.S.A.	16,240	4,950
20	Wood	Canada	15,880	4,840

#### OCEANIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Puncak Jaya	Indonesia	16,503	5,033
2	Daam	Indonesia	16,150	4,926
3	Pilimsit	Indonesia	15,750	4,800
4	Trikora	Indonesia	15,580	4,752
5	Mandala	Indonesia	15,420	4,700

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### OCEANIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
6	Wisnumurti	Indonesia	15,080	4,590
7	Yamin	Indonesia	14,860	4,530
8	Wilhelm	Papua New Guinea	14,793	4,509
9	Kubor	Papua New Guinea	14,300	4,360
10	Herbert	Papua New Guinea	14,000	4,270

#### SOUTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Aconcagua	Argentina	22,835	6,960
2	Ojos del Salado, southeast peak	Argentina, Chile	22,573	6,880
3	Bonete	Argentina	22,550	6,870
4	Tupungato	Argentina, Chile	22,310	6,800
5	Pissis	Argentina	22,240	6,780
6	Mercedario	Argentina	22,210	6,770
7	Huascarán, south peak	Peru	22,204	6,768
8	Llullaillaco	Argentina, Chile	22,100	6,730
9	Libertador	Argentina	22,050	6,720
10	Ojos del Salado, northwest peak	Argentina, Chile	22,050	6,720
11	Gonzalez, highest peak	Argentina, Chile	21,850	6,664
12	Huascarán, north peak	Peru	21,840	6,661
13	Muerto	Argentina, Chile	21,820	6,655
14	Yerupaja, north peak	Peru	21,760	6,630
15	Incahuasi	Argentina, Chile	21,700	6,610
16	Galan	Argentina	21,650	6,600
17	Tres Cruces	Argentina, Chile	21,540	6,560
18	Gonzalez, north peak	Argentina, Chile	21,490	6,550
19	Sajama	Bolivia	21,463	6,542
20	Yerupaja, south peak	Peru	21,380	6,510
21	Chimborazo	Ecuador	20,681	6,267



# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Tupungato	South America	Chile	22,310	6,800
2	Tipas	South America	Argentina	21,845	6,660
3	Cerro el Condor	South America	Argentina	21,425	6,532
4	Antofalfo	South America	Argentina	20,008	6,100
5	Guallatiri	South America	Chile	19,882	6,060
6	Lascar	South America	Chile	19,652	5,990
7	Cotopaxi	South America	Ecuador	19,344	5,896
8	Kilimanjaro	Africa	Tanzania	19,341	5,895
9	El Misti	South America	Peru	19,031	5,801
10	Pico de Orizaba	North America	Mexico	18,701	5,700
11	Tolima	South America	Colombia	18,425	5,616
12	Popocatepetl	North America	Mexico	17,887	5,452
13	Yucamani	South America	Peru	17,860	5,444
14	Sangay	South America	Ecuador	17,159	5,230
15	Tungurahua	South America	Ecuador	16,684	5,085
16	Cotacachi	South America	Ecuador	16,250	4,939
17	Purace	South America	Colombia	15,604	4,756
18	Klyuchevskaya	Asia	Russia	15,584	4,750
19	Kronotskaya	Asia	Russia	15,580	4,749
20	Shiveluch	Asia	Russia	15,580	4,749
21	Pichincha	South America	Ecuador	15,173	4,625
22	Karasimbi	Africa	Dem. Rep. of the Congo	14,873	4,507
23	Rainier	North America	USA	14,410	4,395
24	Wrangell	North America	USA (Alaska)	14,163	4,317
25	Colima	North America	Mexico	13,993	4,265
26	Tajumulco	North America	Guatemala	13,845	4,220
27	Mauna Kea	North America	USA (Hawaii)	13,796	4,205
28	Mauna Loa	North America	USA (Hawaii)	13,680	4,170
29	Cameroon	Africa	Cameroon	13,353	4,070
30	Tacana	North America	Guatemala	13,300	4,053
31	Kerintji	Asia	Indonesia	12,483	3,805
32	Erebus	Antarctica	Antarctica	12,448	3,794
33	Fuji	Asia	Japan	12,388	3,776
34	Fuego	North America	Guatemala	12,346	3,763

## APPENDIX I

### I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
35	Agua	North America	Guatemala	12,307	3,751
36	Rindjani	Asia	Indonesia	12,224	3,726
37	Pico de Teide	Africa	Spain (Canary Is.)	12,198	3,718
38	Tolbachik	Asia	Russia	12,077	3,682
39	Semeru	Asia	Indonesia	12,060	3,676
40	Ichinskaya	Asia	Russia	11,800	3,621
41	Atitlan	North America	Guatemala	11,650	3,551
42	Torbert	North America	USA (Alaska)	11,450	3,480
43	Nyirangongo	Africa	Dem. Rep. of the Congo	11,365	3,465
44	Kroyaks kaya	Asia	Russia	11,336	3,456
45	Irazu	South America	Costa Rica	11,260	3,432
46	Slamet	Asia	Indonesia	11,247	3,428
47	Spurr	North America	USA (Alaska)	11,137	3,385
48	Lautaro	South America	Chile	11,120	3,380
49	Sumbing	Asia	Indonesia	11,060	3,371
50	Raung	Asia	Indonesia	10,932	3,332
51	Etna	Europe	Italy	10,902	3,323
52	Baker	North America	USA	10,778	3,285
53	Lassen	North America	USA	10,492	3,187
54	Dempo	Asia	Indonesia	10,390	3,158
55	Sundoro	Asia	Indonesia	10,367	3,151
56	Agung	Asia	Indonesia	10,337	3,142
57	Prahu	Asia	Indonesia	10,285	3,137
58	Llaima	South America	Chile	10,245	3,125
59	Redoubt	North America	USA (Alaska)	10,197	3,108
60	Tjiremai	Asia	Indonesia	10,098	3,078
61	One-Take	Asia	Japan	10,056	3,067
62	Nyamulagira	Africa	Dem. Rep. of the Congo	10,026	3,056
63	Iliamna	North America	USA (Alaska)	10,016	3,053
64	Ardjuno-Welirang	Asia	Indonesia	9,968	3,038
65	San Pedro	North America	Guatemala	9,902	3,020
66	Gede	Asia	Indonesia	9,705	2,958
67	Zhupanovsky	Asia	Russia	9,705	2,958
68	Apo	Asia	Philippines	9,692	2,954

## APPENDIX I

### I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
69	Merapi	Asia	Indonesia	9,551	2,911
70	Marapi	Asia	Indonesia	9,479	2,891
71	Geureudong	Asia	Indonesia	9,459	2,885
72	Bezymianny	Asia	Russia	9,449	2,882
73	Shishaldin	North America	USA (Alaska)	9,372	2,856
74	Tambora	Asia	Indonesia	9,350	2,850
75	Villarrica	South America	Chile	9,318	2,840
76	Fogo	Africa	Cape Verde	9,281	2,829
77	Ruapehu	Oceania	New Zealand	9,175	2,796
78	Peuetsagoe	Asia	Indonesia	9,115	2,780
79	Paricutin	North America	Mexico	9,100	2,775
80	Big Ben	Antarctica	Heard Island (dependency of Australia)	9,006	2,745
81	Balbi	Oceania	Papua New Guinea	8,999	2,743
82	Avachinskaya	Asia	Russia	8,987	2,741
83	Melbourne	Antarctica	Antarctica	8,957	2,732
84	Poas	North America	Costa Rica	8,872	2,704
85	Papandajan	Asia	Indonesia	8,744	2,665
86	Piton de la Faournaise	Africa	Reunion (dependency of France)	8,626	2,631
87	Pacaya	North America	Guatemala	8,367	2,552
88	Mt. St. Helens	North America	USA	8,366	2,550
89	Asama	Asia	Japan	8,300	2,530
90	Pavlof	North America	USA (Alaska)	8,261	2,518
91	Veniaminof	North America	USA (Alaska)	8,220	2,507
92	Mayon	Asia	Philippines	8,077	2,462
93	Sinabung	Asia	Indonesia	8,066	2,460
94	Yake Dake	Asia	Japan	8,049	2,455
95	Tandikat	Asia	Indonesia	7,993	2,438
96	Canalaon	Asia	Philippines	7,984	2,435
97	Shoshuenco	South America	Chile	7,941	2,422
98	Idjen	Asia	Indonesia	7,823	2,386
99	Izalco	North America	El Salvador	7,828	2,386
100	Karthala	Africa	Comoros	7,746	2,361

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
1	Nile	Africa	Egypt, Sudan, Uganda	4,160	6,693
2	Amazon	South America	Brazil, Colombia, Peru, Venezuela	3,900	6,280
3	Mississippi-Missouri	North America	U.S.A.	3,860	6,211
4	Chang Jiang (Yangtze or Yangtse)	Asia	China	3,434	5,525
5	Ob'-Irtysh	Asia	Kazakhstan, Russia	3,335	5,380
6	Paraná	South America	Argentina, Brazil, Paraguay	3,030	4,870
7	Huang He (Huang-ho or Yellow)	Asia	China	2,903	4,671
8	Irtysh	Asia	Kazakhstan, Russia	2,760	4,441
9	Lena	Asia	Russia	2,734	4,400
10	Amur	Asia	China, Russia	2,719	4,350
11	Congo (Zaire)	Africa	Angola, Dem. Rep. of the Congo, Rep. of the Congo	2,700	4,344
12	Mackenzie	North America	Canada	2,635	4,290
13	Mekong River (Lan ts'ang Chiang or Lancang Jiang)	Asia	Cambodia, China, Laos, Myanmar, Thailand, Vietnam	2,600	4,200
14	Niger	Africa	Benin, Guinea, Mali, Niger, Nigeria	2,594	4,184
15	Yenisey	Asia	Russia	2,566	4,129
16	Missouri	North America	U.S.A.	2,466	3,968
17	Mississippi	North America	U.S.A.	2,348	3,787
18	Volga	Europe	Russia	2,293	3,689
19	Ob'	Asia	Russia	2,270	3,650
20	Euphrates	Asia	Iraq, Syria, Turkey	2,235	3,596
21	Purus	South America	Brazil, Peru	2,100	3,380
22	Madeira	South America	Brazil	2,013	3,241
23	Lower Tunguska	Asia	Russia	2,000	3,220
24	Indus	Asia	Pakistan	1,988	3,200
25	São Francisco	South America	Brazil	1,988	3,199
26	Yukon	North America	Canada, U.S.A.	1,980	3,180
27	Rio Grande	North America	Mexico, U.S.A.	1,885	3,034

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
28	Brahmaputra (Jamuna)	Asia	Bangladesh, China, India	1,800	2,900
29	Danube	Europe	Austria, Bulgaria, Croatia, Germany, Hungary, Romania, Ukraine, Slovakia, Serbia-Montenegro	1,775	2,857
30	Salween	Asia	China, Myanmar	1,770	2,849
31	Darling	Australia	Australia	1,702	2,739
32	Tocantins	South America	Brazil	1,677	2,698
33	Nelson	North America	Canada	1,660	2,671
34	Vilyuy	Asia	Russia	1,650	2,650
35	Zambezi	Africa	Angola, Mozambique, Namibia, Zambia, Zimbabwe	1,650	2,650
36	Murray	Australia	Australia	1,609	2,589
37	Paraguay	South America	Argentina, Brazil, Paraguay	1,584	2,549
38	Amu Dar'ya	Asia	Afghanistan, Tajikistan, Turkmenistan, Uzbekistan	1,580	2,540
39	Kolyma	Asia	Russia	1,562	2,513
40	Ganges	Asia	Bangladesh, India	1,560	2,510
41	Ishim	Asia	Kazakhstan, Russia	1,520	2,450
42	Ural	Asia	Kazakhstan, Russia	1,510	2,430
43	Japurá	South America	Brazil, Colombia	1,500	2,414
44	Arkansas	North America	U.S.A.	1,460	2,350
45	Colorado	North America	U.S.A.	1,450	2,330
46	Dnieper	Europe	Belarus, Russia, Ukraine	1,420	2,290
47	Negro	South America	Brazil, Colombia, Venezuela	1,400	2,250
48	Ubangi	Africa	Central African Rep., Dem. Rep. of the Congo, Rep. of the Congo	1,400	2,253
49	Aldan	Asia	Russia	1,390	2,240
50	Columbia-Snake	North America	Canada, U.S.A.	1,390	2,240
51	Syr Dar'ya	Asia	Kazakhstan, Kyrgyzstan, Uzbekistan	1,370	2,200

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
52	Araguaia	South America	Brazil	1,366	2,198
53	Olenek	Asia	Russia	1,350	2,170
54	Irrawaddy	Asia	Myanmar	1,350	2,170
55	Kasai	Africa	Angola, Dem. Rep of the Congo	1,338	2,153
56	Ohio-Allegheny	North America	U.S.A.	1,310	2,109
57	Tarim	Asia	China	1,300	2,090
58	Orange	Africa	Lesotho, Namibia, South Africa	1,300	2,090
59	Orinoco	South America	Venezuela	1,281	2,061
60	Shabeelle	Africa	Ethiopia, Somalia	1,250	2,011
61	Xingu	South America	Brazil	1,230	1,979
62	Columbia	North America	Canada, U.S.A.	1,214	1,953
63	Mamoré	South America	Bolivia	1,200	1,931
64	Tigris	Asia	Iraq, Turkey	1,180	1,900
65	Northern Dvina	Europe	Russia	1,160	1,870
66	Don	Europe	Russia	1,153	1,860
67	Angara	Asia	Russia	1,151	1,852
68	Kama	Europe	Russia	1,120	1,800
69	Indigirka	Asia	Russia	1,112	1,789
70	Pechora	Europe	Russia	1,112	1,789
71	Limpopo	Africa	Botswana, South Africa, Mozambique	1,100	1,770
72	Sénégal	Africa	Guinea, Mali, Mauritania, Senegal	1,015	1,663
73	Salado	South America	Argentina	1,110	1,770
74	Guaporé	South America	Bolivia, Brazil	1,087	1,749
75	Tobol	Asia	Kazakhstan, Russia	1,042	1,677
76	Snake	North America	U.S.A.	1,038	1,670
77	Red	North America	U.S.A.	1,018	1,638
78	Churchill	North America	Canada	1,000	1,613
79	Jubba	Africa	Ethiopia, Somalia	1,000	1,613
80	Okavango	Africa	Angola, Botswana	1,000	1,613
81	Pilcomayo	South America	Argentina, Bolivia, Paraguay	1,000	1,613
82	Uruguay	South America	Uruguay	1,000	1,613

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
1	Angel (upper falls)	South America	Venezuela	2,648	807
2	Utigord	Europe	Norway	2,625	800
3	Monge	Europe	Norway	2,539	774
4	Mtarazi (Mutarazi)	Africa	Mozambique, Zimbabwe	2,500	760
5	Itatinga	South America	Brazil	2,060	628
6	Cuquenán (Kukenaam)	South America	Guyana, Venezuela	2,000	610
7	Kahiwa	North America	U.S.A. (Hawaii)	1,750	533
8	Tysse (Tusse)	Europe	Norway	1,749	533
9	Maradalsfos	Europe	Norway	1,696	517
10	Ribbon	North America	U.S.A.	1,612	491
11	Roraima	South America	Guyana	1,500	457
12	Della	North America	Canada	1,445	440
13	Yosemite, Upper	North America	U.S.A.	1,430	436
14	Gavarnie	Europe	France	1,385	422
15	Tugela (highest falls in chain)	Africa	South Africa	1,350	411
16	Krimml	Europe	Austria	1,250	380
17	Silver Strand	North America	U.S.A.	1,170	357
18	Basaseachic	North America	Mexico	1,020	311
19	Staubbach	Europe	Switzerland	980	299
20	Vettis	Europe	Norway	902	275
21	King George VI	South America	Guyana	850	260
22	Wallaman	Oceania	Australia	850	260
23	Takakkaw	North America	Canada	838	254
24	Hunlen	North America	Canada	830	253
25	Jog (Gersoppa)	Asia	India	830	253

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
26	Skykje	Europe	Norway	820	250
27	Sutherland, Upper	Oceania	New Zealand	815	248
28	Sutherland, Middle	Oceania	New Zealand	751	229
29	Kaieteur	South America	Guyana	741	226
30	Wollomombi	Oceania	Australia	726	220
31	Kalambo	Africa	Tanzania, Zambia	704	215
32	Fairy	North America	U.S.A.	700	213
33	Feather	North America	U.S.A.	640	195
34	Maletsunyane	Africa	Lesotho	630	192
35	Bridalveil	North America	U.S.A.	620	189
36	Multnomah	North America	U.S.A.	620	189
37	Panther	North America	Canada	600	183
38	Voringfoss	Europe	Norway	597	182
39	Nevada	North America	U.S.A.	594	181
40	Angel, Lower	South America	Venezuela	564	172
41	Augrabies (Aughrabies)	Africa	South Africa	480	146
42	Tully	Oceania	Australia	450	137
43	Helmcken	North America	Canada	450	137
44	Nachi	Asia	Japan	430	131
45	Tequendama	South America	Colombia	427	130
46	Bridal Veil	North America	U.S.A.	400	122
47	Illilouette	North America	U.S.A.	370	113
48	Yosemite, Lower	North America	U.S.A.	320	98
49	Twin	North America	Canada	260	80



## APPENDIX L

### L LAKES OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
1	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	143,000	371,000
2	Superior	North America	Canada, U.S.A.	31,820	82,732
3	Victoria	Africa	Uganda, Tanzania, Kenya	26,828	69,484
4	Aral Sea	Asia	Kazakhstan, Uzbekistan	24,900	64,500
5	Huron	North America	Canada, U.S.A.	23,000	59,570
6	Michigan	North America	U.S.A.	22,400	58,020
7	Tanganyika	Africa	Burundi, Dem. Republic of the Congo, Tanzania, Zambia	12,700	32,020
8	Baikal	Asia	Russia	12,160	31,500
9	Great Bear	North America	Canada	12,095	31,328
10	Great Slave	North America	Canada	11,030	28,570
11	Erie	North America	Canada, U.S.A.	9,920	25,690
12	Winnipeg	North America	Canada	9,420	24,390
13	Malawi	Africa	Malawi, Mozambique, Tanzania,	8,680	22,490
14	Ontario	North America	Canada, U.S.A.	7,440	19,240
15	Balkhash	Asia	Kazakhstan	7,030	18,200
16	Ladoga	Russia	Russia	7,000	18,130
17	Maracaibo	South America	Venezuela	5,020	13,010
18	Chad	Africa	Cameroon, Chad, Niger, Nigeria	4,000–10,000	10,360–25,900
19	Embalse del Río Negro	South America	Uruguay	4,000	10,360
20	Patos	South America	Brazil	3,920	10,153
21	Onega	Europe	Russia	3,750	9,720
22	Eyre	Australia	Australia	3,668	9,500
23	Volta	Africa	Ghana	3,276	8,485
24	Titicaca	South America	Bolivia, Peru	3,200	8,288
25	Nicaragua	South America	Nicaragua	3,150	8,160
26	Athabasca	North America	Canada	3,060	7,940
27	Reindeer	North America	Canada	2,570	6,650

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
28	Smallwood Reservoir	North America	Canada	2,500	6,460
29	Turkana (Rudolf)	Africa	Ethiopia, Kenya	2,473	6,405
30	Issyk Kul	Asia	Kyrgyzstan	2,360	6,100
31	Torrens	Australia	Australia	2,230	5,780
32	Albert	Africa	Dem. Republic of the Congo, Uganda	2,160	5,590
33	Vanern	Europe	Sweden	2,160	5,580
34	Netilling	North America	Canada	2,140	5,540
35	Winnipegosis	North America	Canada	2,070	5,370
36	Nasser	Africa	Egypt, Sudan	2,026	5,248
37	Bangweulu	Africa	Zambia	1,930	5,000
38	Chott el Djerid	Africa	Tunisia	1,930	5,000
39	Urmia	Asia	Iran	1,879	4,868
40	Nipigon	North America	Canada	1,870	4,850
41	Gairdner	Australia	Australia	1,840	4,770
42	Manitoba	North America	Canada	1,800	4,660
43	Kyoga	Africa	Uganda	1,710	4,430
44	Khanka	Asia	China, Russia	1,700	4,400
45	Saimaa	Europe	Finland	1,700	4,403
46	Mweru	Africa	Dem. Republic of the Congo	1,680	4,350
47	Great Salt	North America	U.S.A.	1,680	4,350
48	Qinghai (Koko)	Asia	China	1,625	4,209
49	Woods	North America	Canada	1,580	4,100
50	Taymyr	Asia	Russia	1,540	3,990
51	Nasser	Africa	Egypt	1,522	3,942
52	Orumiyeh	Asia	Iran	1,500	3,880
53	Dubawnt	North America	Canada	1,480	3,830
54	Van	Asia	Turkey	1,430	3,710
55	Tana	Africa	Ethiopia	1,390	3,600
56	Peipus	Europe	Estonia, Russia	1,386	3,555
57	Uvs	Asia	Mongolia	1,300	3,366

## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
1	Baikal	Asia	Russia	5,315	1,621
2	Tanganyika	Africa	Burundi, Tanzania, Dem. Congo (ROC), Zambia	4,825	1,471
3	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	3,363	1,025
4	Malawi	Africa	Malawi, Tanzania, Mozambique	2,316	706
5	Issyk Kul	Asia	Kyrgyzstan	2,303	702
6	Great Slave	North America	Canada	2,015	614
7	Matana	Asia	Indonesia	1,936	590
8	Crater	North America	U.S.A.	1,932	589
9	Toba	Asia	Indonesia	1,736	529
10	Hornindals	Europe	Norway	1,686	514
11	Sarez	Asia	Tajikistan	1,657	505
12	Tahoe	North America	U.S.A.	1,645	501
13	Chelan	North America	U.S.A.	1,605	489
14	Kivu	Africa	Rwanda, Congo (DROC)	1,575	480
15	Quesnel	North America	Canada	1,560	475
16	Sals	Europe	Norway	1,522	464
17	Adams	North America	Canada	1,500	457
18	Mjøsa	Europe	Norway	1,473	449
19	Manapuri	Oceania	New Zealand	1,453	443
20	Poso	Asia	Indonesia	1,444	440
21	Nahuel Huapi	South America	Argentina	1,437	438
22	Dead Sea	Asia	Israel, Jordan	1,421	433
23	Tazawa	Asia	Japan	1,394	425
24	Great Bear	North America	Canada	1,356	413
25	Como	Europe	Italy	1,352	412
26	Superior	North America	Canada, U.S.A.	1,333	406
27	Hawea	Asia	New Zealand	1,286	392
28	Wakatipu	Asia	New Zealand	1,240	378

## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH *(continued)*

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
29	Suldals	Europe	Norway	1,234	376
30	Maggiore	Europe	Italy, Switzerland	1,221	372
31	Fyres	Europe	Norway	1,211	369
32	Chilko	North America	Canada	1,200	366
33	Pend Oreille	North America	U.S.A.	1,200	366
34	Shikotsu	Asia	Japan	1,191	363
35	Powell	North America	Canada	1,174	358
36	Llanquihue	South America	Chile	1,148	350
37	Garda	Europe	Italy	1,135	346
38	Towada	Asia	Japan	1,096	334
39	Wanaka	Asia	New Zealand	1,086	325
40	Bandak	Europe	Norway	1,066	325
41	Telestskoya	Asia	Russia	1,066	325
42	Eutsuk	North America	Canada	1,060	323
43	Atitlan	North America	Guatemala	1,050	320
44	Lunde	Europe	Norway	1,030	314
45	Geneva	Europe	France, Switzerland	1,017	310
46	Morar	Europe	Scotland	1,017	310
47	Kurile	Asia	Russia	1,004	306
48	Walker	North America	U.S.A.	1,000	305
49	Titicaca	South America	Bolivia, Peru	997	304
50	Argentino	South America	Argentina	984	300
51	Iliamna	North America	U.S.A.	980	299
52	Tyrifjorden	Europe	Norway	968	295
53	Lugano	Europe	Italy, Switzerland	945	288
54	Takla	North America	Canada	941	287
55	Ohrid	Europe	Albania, Serbia-Montenegro	938	286
56	Atlin	North America	Canada	930	283
57	Nuyakuk	North America	U.S.A.	930	283
58	Michigan	North America	U.S.A.	923	285
59	Harrison	North America	Canada	916	279
60	Te Anau	Oceania	New Zealand	906	276

# Seven Wonders of the Ancient World

## **1** **The pyramids of Egypt**

Constructed between 2700 and 2500 B.C., the pyramids are the last surviving structures of the Seven Wonders of the Ancient World. The largest of the pyramids, which rises over 137 meters (450 feet), was built as a tomb to house the body of Pharaoh Khufu. Historians believe that it must have taken over twenty years to build with over 100,000 slave laborers.

## **2** **The gardens of Semiramis at Babylon**

The existence of these gardens is reputed, but according to fable they existed around 600 B.C. They are said to have been outside on a brick terrace 23 meters (75 feet) above the ground, encompassing an area of 37 square meters (400 square feet).

## **3** **The statue of Zeus at Olympia**

Constructed around 450 B.C. by the sculptor Phidias, this 12-meter (40-foot) high statue is of an ivory Zeus wearing a robe of gold, seated atop a throne. In his right hand was Nike, his messenger and a symbol of victory, in his left hand was the scepter signifying his rule over the gods and humankind, and atop his head was a wreathed crown.

## **4** **The temple of Artemis at Ephesus**

Built around 550 B.C. to celebrate the goddess of the hunt, this temple was one of the largest in ancient times. Beneath its tile-covered roof were rows of columns believed to be more than 12 meters (40 feet) high, leading to a marble sanctuary. The original temple was destroyed by fire in 356 B.C., but another temple was built on the same foundation. This temple was also burned, but the foundation still remains. Remnants of the second temple can be found at London's British Museum.

## **5** **The mausoleum at Halicarnassus**

Located in southwestern Turkey, this enormous white marble tomb was constructed to house the body of Mausolus, a king of Persian Empire. It was constructed around 350 B.C. by the Greek architects Satyrus and Pythius and became so well known that the term mausoleum was created to signify any large tomb. An earthquake in the 15<sup>th</sup> century caused significant damage to the tomb, which was eventually disassembled. Several of its exterior sculptures can be seen in London's British Museum.

## **6** **The Colossus at Rhodes**

Constructed around 200 B.C. by the Greek sculptor Chares, this 36-meter (120-foot) bronze statue was meant to honor the sun god Helios and celebrate the unity of the city-states of Rhodes. The statue was hollow, supported by stone blocks and iron bars inside its frame. It was destroyed by an earthquake only fifty-six years after its completion.

## **7** **The Pharos (lighthouse) of Alexandria or the Walls of Babylon**

This lighthouse, completed near 270 B.C., was, at the time, one of the tallest buildings in the known world. Standing over 122 meters (400 feet) high, it guided sailors to the shores of Alexandria, then ruled by King Ptolemy II.

# Seven Wonders of the Natural World

## 1 **Grand Canyon**

Created after millions of years of erosion from the Colorado River and its tributaries, this Arizona landmark is visited by millions of tourists each year.

## 2 **Paricutin Volcano**

Although it is not one of the largest volcanoes in Mexico, Paricutin has taken a place on the list of natural wonders following its birth in 1943. The eruption spanned ten years and covered about 2.6 square meters (10 square miles). No one was killed from the lava and ash, but it destroyed agricultural land and seriously affected the lives of those living nearby.

## 3 **The Harbor at Rio de Janeiro**

Located on the east coast of Brazil, the harbor overlooks the Guanabara Bay and the Atlantic Ocean on one side, and mountains on the other. Discovered by Portuguese navigators in 1502, this area houses a huge carnival each year.

## 4 **Northern Lights**

The northern lights, or aurora borealis, have fascinated people for centuries. Seen as souls, heavenly signs, or even messages from the dead, these shimmering light displays are caused by the interaction of solar winds with Earth's magnetic field. A similar phenomenon occurs in the southern hemisphere as well, but only the northern lights are classified as a natural wonder.

## 5 **Mt. Everest**

Formed from the collision of Asia and India over 60 million years ago, the Himalayas house Everest, the tallest mountain on Earth. Located in Nepal near the Tibetan border, this snowy peak has fascinated and challenged many climbers and non-climbers alike.

## 6 **Victoria Falls**

The largest waterfalls in the world, Victoria Falls has a drop of more than 99 meters (325 feet). Flowing from the Zambezi River, the falls were named for Queen Victoria by David Livingstone in 1855, when he became the first European to gaze upon them.

## 7 **The Great Barrier Reef**

The Great Barrier Reef extends over 1,998 kilometers (1,242 miles) on the northeast coast of Australia. The reef is quite delicate, being comprised of the skeletons of generations of marine life that lived just under the water's surface. The area is home to exotic coral, which is greatly affected by any human or natural interference, and a wide variety of marine life

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Slovenia to Zimbabwe  
Cumulative Index

Karen Ellicott and Susan B. Gall,  
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# Countries of the World, by Continent

## **Africa**

Algeria  
Angola  
Benin  
Botswana  
Burkina Faso  
Burundi  
Cameroon  
Cape Verde  
Chad  
Comoros  
Congo, Democratic Republic of the  
Congo, Republic of  
Côte d'Ivoire  
Djibouti  
Egypt  
Equatorial Guinea  
Eritrea  
Ethiopia  
Gabon  
Gambia, The  
Ghana  
Guinea  
Guinea-Bissau  
Guyana  
Kenya  
Lesotho  
Liberia  
Libya  
Madagascar  
Malawi  
Mali  
Mauritania  
Mauritius  
Morocco  
Mozambique  
Namibia  
Niger  
Nigeria  
Rwanda  
São Tomé and Príncipe  
Senegal  
Seychelles  
Sierra Leone  
Somalia  
South Africa  
Sudan  
Swaziland  
Tanzania

Togo  
Tunisia  
Uganda  
Zambia  
Zimbabwe

## **Asia**

Afghanistan  
Armenia  
Azerbaijan  
Bahrain  
Bangladesh  
Bhutan  
Brunei  
Cambodia  
China  
Cyprus  
East Timor  
Georgia  
India  
Indonesia  
Iran  
Iraq  
Israel  
Japan  
Jordan  
Kazakhstan  
Korea, North (Democratic People's Republic of)  
Korea, South (Republic of)  
Kuwait  
Kyrgyzstan  
Laos  
Lebanon  
Malaysia  
Mongolia  
Myanmar  
Nepal  
Oman  
Pakistan  
Philippines  
Qatar  
Russia  
Saudi Arabia  
Singapore  
Sri Lanka  
Syria  
Taiwan  
Tajikistan  
Thailand

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# COUNTRIES OF THE WORLD, BY CONTINENT

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Turkey  
Turkmenistan  
United Arab Emirates  
Uzbekistan  
Vietnam  
Yemen

## **Australia**

Australia

## **Europe**

Albania  
Andorra  
Austria  
Belarus  
Belgium  
Bosnia and Herzegovina  
Bulgaria  
Croatia  
Czech Republic  
Denmark  
Estonia  
Finland  
France  
Germany  
Greece  
Hungary  
Iceland  
Ireland  
Italy  
Latvia  
Liechtenstein  
Lithuania  
Luxembourg  
Macedonia  
Malta  
Moldova  
Monaco  
Netherlands  
Norway  
Poland  
Portugal  
Romania  
Russia  
San Marino  
Serbia and Montenegro  
Slovakia  
Slovenia  
Spain  
Sweden  
Switzerland  
Ukraine  
United Kingdom  
Vatican City

## **North America**

Antigua and Barbuda  
Bahamas  
Barbados  
Belize  
Canada  
Costa Rica  
Cuba  
Dominica  
Dominican Republic  
Ecuador  
El Salvador  
Guatemala  
Haiti  
Honduras  
Jamaica  
Mexico  
Nicaragua  
Panama  
Puerto Rico  
Saint Kitts and Nevis  
Saint Lucia  
Saint Vincent and the Grenadines  
United States of America

## **Oceania**

Note: The island nations lying in the Pacific Ocean are not part of any continent.

Fiji  
Kiribati  
Marshall Islands  
Micronesia  
Nauru  
New Zealand  
Palau  
Papua New Guinea  
Samoa  
Solomon Islands  
Tonga  
Tuvalu  
Vanuatu

## **South America**

Argentina  
Bolivia  
Brazil  
Chile  
Colombia  
Paraguay  
Peru  
Suriname  
Trinidad and Tobago  
Uruguay  
Venezuela

# Reader's Guide

*Junior Worldmark Encyclopedia of Physical Geography* presents a comprehensive survey of the physical geography of 192 countries of the world plus Taiwan, Antarctica, and Puerto Rico.

The entries are arranged alphabetically by country in five volumes. Following the format of other popular titles in the *Junior Worldmark* series, information in each entry is presented in a consistent format, allowing student researchers to find information and compare countries quickly and easily.

A topographic map—with notable mountain ranges and peaks, lakes, rivers, deserts, and coastal areas labeled—accompanies each entry. In addition, more than 200 photographs illustrate the varied landscapes found in the countries of the world. Adding further interest are the “Did You Know?” boxes appearing in the entries, noting interesting or unusual geographic features or facts or explaining regional geographic references.

## Organization

Each volume begins with the contents listed for that volume, followed by a cumulative table of contents for all five volumes in the set. To help researchers who wish to identify a country within one of the world's continents, a finder table—Countries of the World by Continent—appears at the front of each volume. Words to Know, a glossary of terms related to geography, completes the front matter. Entries for individual countries follow. Although all numbered rubrics are included in every entry, entries vary in length depending primarily on the geographic complexity of the country's land area.

Each entry begins with a list of key facts about the physical characteristics of the country; measurements are provided in both metric and English units. Student researchers should be reminded that geography is an imprecise science, and measurements of geographical features may vary from source to source.

## Key Facts

### ■ Official name

The countries of the world are referred to by a common name; the more formal official name is listed here.

### ■ Area

The country's area, usually including islands, is provided in square kilometers and square miles.

### ■ Highest point on mainland

The height, in meters and feet, is given for the highest point on the mainland portion of the country. For most countries, this is also the highest point anywhere in the country.

### ■ Highest point in territory

For some countries with islands and territories, the highest point not on the mainland is provided in meters and feet.

### ■ Lowest point on land

The elevation, in meters and feet, for the lowest point on the mainland portion of the country is provided.



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## READER'S GUIDE

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### ■ Hemispheres

The country's hemispheres (Northern, Southern, Eastern, and Western) help the researcher locate the country on the globe.

### ■ Time zone

The time zone of the country's capital is provided, with the time related to Greenwich Mean Time (GMT). For some large countries, more than one time zone may be listed.

### ■ Longest distances

Measurements in kilometers and miles of the country's widest points from north to south and east to west are given. For some countries, longest distances may be measured on a slight diagonal (northwest to southeast, for example).

### ■ Land boundaries

The total distance making up the country's borders with other nations is provided in kilometers and miles, followed by the border distances with the individual neighboring countries.

### ■ Coastline

Coastline measurements, in kilometers and miles, are approximate. Coastline measurements are likely to vary from source to source.

### ■ Territorial sea limits

The territory extending into the ocean over which the country claims control or jurisdiction. Territorial sea limits are given in kilometers and nautical miles, and generally govern activities such as fishing and mineral rights.

*The first four numbered rubrics offer a general overview of the country.*

### 1 🌐 LOCATION AND SIZE

This section gives the reader an overview of where the country lies and provides its relation to the bodies of water around it. Also included is information about whether the country is divided into states, provinces, or other internal administrative units.

### 2 🌐 TERRITORIES AND DEPENDENCIES

Many countries exercise jurisdiction over territories—often islands—that are not part of the mainland. This section lists any such territories and dependencies.

### 3 🌐 CLIMATE

The general climate of the country is described, with a table providing seasonal temperature ranges included for many countries. General information about rainfall and snow patterns is also included here.

### 4 🌐 TOPOGRAPHIC REGIONS

An overview of the general topography (shape of the country's land surface) is provided, with key features (mountain ranges, plateaus, deserts, valleys, lakes, rivers) noted.

*The next eight numbered rubrics—5 through 12—describe specific geographic features. All entries include all eight headings. Since all countries do not include every geographic feature, individual entries note the absence of specific features.*

### 5 🌐 OCEANS AND SEAS

The oceans and seas bounding the country are listed. Subheadings describe specific features of the country and its coastal areas. Subheads are used in entries as appropriate and may include:

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## READER'S GUIDE

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### Seacoast and Undersea Features

Includes discussion of nearby undersea features of note, such as deep ocean trenches or coral reefs.

### Sea Inlets and Straits

Includes major bays, gulfs, sounds, channels, straits, and other sea inlets that characterize the coastal areas.

### Islands and Archipelagos

Major islands and island chains are described here.

### Other Coastal Features

Includes notable peninsulas, isthmuses, and describes the type and quality of the coastal areas.

### 6 INLAND LAKES

Major and significant lakes are included. When a lake straddles a border between two countries, it is covered in both entries. Major man-made reservoirs are also included in this section in some entries.

### 7 RIVERS AND WATERFALLS

Describes important rivers, giving length and general characteristics. Also includes major waterfalls.

### 8 DESERTS

Arid and semi-arid flatland regions are described.

### 9 FLAT AND ROLLING TERRAIN

Areas that range from flat and treeless to rounded terrain are described.

### 10 MOUNTAINS AND VOLCANOES

Mountain peaks, including volcanoes, are described here, typically in the context of a mountain range.

### 11 CANYONS AND CAVES

Notable canyons and cave systems are described.

### 12 PLATEAUS AND MONOLITHS

Regions of high elevation but with relatively flat terrain and monoliths (huge stone outcroppings) are described here.

*The final two numbered rubrics describe notable man-made features, and provide resources for further study. Supplementing the Further Reading suggestions provided in each entry is the Selected Sources for Further Study that appears in the back of each volume.*

### 13 MAN-MADE FEATURES

Notable man-made features—such as dams, canals, major bridges, tunnels, and other structures—that affect a country's geography are described.

### 14 FURTHER READING

This section lists selected books and Web sites that provide more information on the country's geography.

### Additional Features

Additional reference materials appear at the back of each volume. Researchers looking for comparative information on some of the world's key geographic features can refer to a series of Appendixes. These provide the following rankings: continents by area;

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## READER'S GUIDE

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countries by area; countries by population; oceans and seas by area; oceans by depth; islands by area; deserts by area; mountain peaks by height; volcanoes by height; rivers by length; waterfalls by height; lakes by area; and lakes by depth. The seven wonders of the ancient world and seven wonders of the natural world are described in the final two appendixes. Lastly, a listing of selected references for the further study of physical geography completes the backmatter. Volume 5 contains a cumulative general index to all five volumes. Topographic world maps appear on each volume's endsheets.

### Photographs

The photographs in *Junior Worldmark Encyclopedia of Physical Geography* were assembled

with assistance from ARAMCO; Raoul Russo, UNESCO imaging; Marcia L. Schiff, AP/Wide World Photos; Maura Malone, EPD Photos; and Mimi Dornack, National Geographic Imaging.

### Comments and Suggestions

We welcome your comments and suggestions for features to be included in future editions. Please write: Editors, *Junior Worldmark Encyclopedia of Physical Geography*, U•X•L, 27500 Drake Road, Farmington Hills, Michigan 48331-3535; call toll-free: 1-800-877-4253; fax to (248) 699-8097; or send e-mail via <http://www.gale.com>.

# Words to Know

## A

**aboriginal** ④ Something that is the first or earliest known of its type in a country or region, such as an aboriginal forest.

**aborigines** ④ The first known inhabitants of a country and their descendants.

**acid rain** ④ Rain (or snow) that has become slightly acidic by mixing with industrial air pollution.

**alluvial plain** ④ Flatlands containing deposits of alluvium.

**alluvium** ④ Clay, silt, sand, or gravel deposited by running water, such as a stream or river.

**Antarctic Circle** ④ (also called South **Frigid Zone**) The parallel of latitude approximately 66°33' south and the region that lies between this latitude and the south pole; the region surrounding Antarctica.

**aquatic** ④ Of or relating to the water, particularly the animals and plants that live there.

**aqueduct** ④ A pipe or channel, usually man-made, that carries water from a remote source. Also, a bridge-like structure that carries water over obstacles.

**aquifer** ④ An underground layer of porous rock, sand, or gravel that holds water.

**arable land** ④ Land that is naturally suitable for cultivation by plowing and is used for growing crops.

**archipelago** ④ A group of islands or a body of water containing many islands.

**Arctic** ④ Relating to the northernmost part of the Earth that lies within and around the Arctic Circle. Also, **arctic**: anything that is frigidly and invariably cold.

**Arctic Circle** ④ (also called the North **Frigid Zone**) The parallel of latitude approximately 66°33' north and the region that lies between this latitude and the north pole.

**arid** ④ Extremely dry, particularly applied to regions of low rainfall where there is little natural vegetation and agriculture is difficult.

**artesian well** ④ A type of well where underground pressure forces water to overflow up to the surface.

**atmosphere** ④ The air surrounding the Earth's surface.

**atoll** ④ An island consisting of a strip or ring of coral surrounding a central lagoon.

**avalanche** ④ A swift sliding of snow or ice down a mountain.

## B

**badlands** ④ Eroded and barren land.

**Balkan Peninsula** ④ The southernmost peninsula of Europe, which is surrounded by the Adriatic, Ionian, Aegean, and Black seas

**Balkan States** ④ (also called The Balkans) Those countries that lie on or near the Balkan Peninsula; includes Albania, Bulgaria, continental Greece, southeast Romania, European Turkey, Serbia and Montenegro, Slovenia, Croatia, Bosnia and Herzegovina, and Macedonia.

**Baltic States** ④ The countries of Estonia, Latvia, and Lithuania. These independent countries were once provinces of Russia and all border on the Baltic Sea.

**barren land** ④ Unproductive land that is partly or entirely treeless.

**barrier island** ④ An island parallel to the shore that was formed by wave and tidal action and protects the shore from rough ocean waves.

**barrier reef** ④ A coral reef that lies parallel to the coast, often forming a lagoon along the shore.

**basalt** ④ Black or nearly black dense rock, usually formed by the solidification of magma or from some other high-temperature geological event.

**basin** ④ A depression on land or on the ocean floor. Usually relatively broad and gently sloped, as compared to a trench, canyon, or crater.

**bay** ④ A wide inlet of a sea or a lake.

**bayou** ④ A stagnant or slow-moving body of water.

**beach** ④ An area of sediment deposited along the shoreline of a large body of water through the action of waves and the process of erosion.

**bedrock** ④ Solid rock lying under loose earth.

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## WORDS TO KNOW

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**bight** ④ A bend in a coastline that forms an open bay.

**bluff** ④ Elevated area with a broad, steep cliff face.

**bog** ④ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter.

**bora** ④ A very cold wind blowing from the north in the Adriatic Sea region.

**broadleaf forest** ④ A forest composed mainly of broadleaf (deciduous) trees, as opposed to a coniferous forest.

**butte** ④ An elevated, flat-topped area, similar to but smaller than a plateau or mesa.

### C

**caldera** ④ A crater formed by the eruption of a volcano.

**canal** ④ An artificial waterway constructed to connect two bodies of water or for irrigation of farmland.

**canyon** ④ A deep gorge cut by a river, usually found in arid regions and often surrounded by plateaus.

**cape** ④ A part of the coast that protrudes into a body of water.

**Caribbean** ④ The region that includes the Caribbean Sea, its islands, and the Central or South American coastal areas of the sea.

**catchment** ④ Area that collects water.

**cave** ④ Hollow man-made or natural passages in the Earth with an opening to the surface.

**cay (or key)** ④ A small, low-lying island or reef formed by coral or sand.

**Caucasus** ④ Region between the Black and Caspian seas that forms the traditional boundary between Europe and Asia; includes the countries of Georgia, Azerbaijan, and Armenia, as well as parts of southwestern Russia.

**Central America** ④ A region of southern North America that extends from the southern border of Mexico to the northern border of Colombia; includes the countries of Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama

**channel** ④ A narrow body of water that connects two larger areas of water; an area where water flows through a narrow restricted path.

**cliff** ④ A high, vertical face of rock.

**climate** ④ Weather conditions pertaining to a specific area.

**cloud forest** ④ A tropical forest that is covered in clouds throughout most of the year, usually located on mountain peaks.

**coast** ④ Typically, the land that borders an ocean or sea.

**coastal** ④ Relating to the area along the coast.

**coastal plain** ④ A fairly level area of land along the coast of a land mass.

**coniferous forest** ④ A forest consisting mainly of evergreen trees such as pine, fir, and cypress trees.

**conifers** ④ Trees and plants that have needle-like, or scale-like, leaves and also produce cones; evergreens.

**contiguous** ④ Sharing an edge or boundary or connected without any breaks, as in *the 48 contiguous states*.

**continent** ④ One of the seven major land masses of Earth.

**continental climate** ④ A climate typical of the interior of a continent. Particulars can vary widely depending on the region, but in general, areas with a continental climate have greater variations in daily and seasonal temperatures than areas with a maritime climate.

**continental divide** ④ An extensive elevated region of land that separates the drainage basins of a continent so that the rivers on either side of the divide flow in opposite directions.

**continental shelf** ④ A shallow submarine plain extending from the coast of a continent into the sea and varying in width; typically the shelf ends in a steep slope to the ocean floor.

**coral reef** ④ A ridge in warm water areas of the ocean made up of the limestone and calcium deposits of coral animals.

**cordillera** ④ A continuous ridge, range, or chain of mountains; part of the principal mountain system of a continent or country.

**crater** ④ A bowl-shaped depression on the surface of the Earth, generally with relatively deep, steep, sides. The most common type of crater is a caldera, formed by volcanic eruption. Other craters are created by explosions or by impact, such as from a meteoroid.

**cyclone** ④ A violent rotating wind storm, particularly one that originates in the southwestern Pacific or the Indian Ocean. Cyclones rotate counterclockwise in the northern hemisphere and clockwise in the southern hemisphere.

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## WORDS TO KNOW

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### D

**dam** ☉ A structure built across a river that restricts its flow, causing a reservoir to form behind it. Dams are often used to generate hydropower.

**deciduous** ☉ Relates to trees or shrubs that shed their leaves on a regular basis, as opposed to those that retain them (coniferous).

**deforestation** ☉ The removal or clearing of a forest, usually to enable the land to be used for another purpose, such as agriculture or settlements.

**delta** ☉ Triangular-shaped deposits of soil formed at the mouths of large rivers. They are formed out of the silt carried by the river and have the effect of forcing the river to split into distributary channels, sometimes over a very wide area.

**depression** ☉ Any place where the Earth's surface is lower than the surrounding terrain.

**desert** ☉ Any dry land area with little precipitation and sparse vegetation; often a sandy region but also includes areas of permanent cold that are generally lacking plant life.

**desertification** ☉ The process where land that supports vegetation gradually becomes desert as a result of climatic changes, land mismanagement, or both.

**dike** ☉ An artificial riverbank built up to control the flow of water.

**discontiguous** ☉ Not connected to or sharing a boundary with.

**distributary** ☉ A stream that branches off from a river and never rejoins it, flowing independently into another body of water.

**doldrums** ☉ An area near the equator characterized by variable winds and periods of calm.

**dormant volcano** ☉ A volcano that has not exhibited any signs of activity for an extended period of time.

**dune** ☉ A mound or ridge of loose, wind-blown sand.

### E

**Earth** ☉ Fifth-largest planet in the solar system; its orbit is third from the sun, its circumference is 40,064 kilometers (24,900 miles) at the equator and 40,000 kilometers (24,860 miles) when measured around the poles. The diameter at the equator is 12,753 kilometers (7,926 miles) and, from pole to pole, 12,711 kilometers (7,900 miles).

**earthquake** ☉ Shaking or other movement of the earth that is caused by tectonic shifts or volcanic activity.

**East Asia** ☉ A subregion of Asia that includes the countries of China, Mongolia, Korea, and the islands of Taiwan and Japan.

**easterlies** ☉ Winds or air currents blowing more or less consistently from east to west.

**Eastern Europe** ☉ A geopolitical term that usually refers to those countries in the east of Europe that were once allied with the Soviet Union under the Warsaw Pact (1955-1991). Today, the independent countries of the region include: Albania, Bulgaria, Czech Republic, Slovakia, Hungary, Croatia, Slovenia, Bosnia and Herzegovina, Poland, Romania, Serbia and Montenegro, and Macedonia.

**Eastern Hemisphere** ☉ The half of the Earth's surface that extends east of the Prime Meridian to the 180th meridian.

**eddy** ☉ An air or water current that follows a course different from that of the main flow and usually has a swirling circular motion.

**El Niño** ☉ The warming of the ocean off the west coast of South America that causes a change in climate elsewhere in the world, especially in North America. El Niño conditions have occurred about every four to twelve years.

**enclave** ☉ A country or portion of a country that lies entirely within the boundaries of one other country. Also, a culturally distinct community within a country.

**endangered species** ☉ A plant or animal species that is at risk of becoming extinct.

**endemic** ☉ Anything that is native to, unique to, or characteristic of a specific place or region.

**equator** ☉ An imaginary line running around the middle of the Earth halfway between the North and South Poles. Identified as 0° latitude, it divides the Northern and Southern Hemispheres.

**erosion** ☉ Changes in the shape of the Earth's surface as a result of damage from wind, water, or ice.

**escarpment** ☉ (also called scarp land) A steep slope that separates areas of different elevations.

**estuary** ☉ The region where a river and a large lake or sea meet so that their waters gradually blend into each other.

**Eurasia** ☉ The land mass that contains the continents of Europe and Asia.

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## WORDS TO KNOW

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**exclave** ④ Part of a country that is separated from the larger, main portion of the country by foreign territory.

### F

**Far East** ④ Traditionally, those countries that are a part of East Asia and the easternmost portion of Siberia. Often, the term includes the countries of Southeast Asia as well.

**fault** ④ (also called a fault line) A fracture in the Earth's crust where the rock formation splits, allowing the opposing sides to shift. Most commonly found along the boundaries between tectonic plates, the shifting sometimes causes earthquakes.

**fen** ④ Wet, soft, and spongy ground where the soil is composed mainly of decayed or decaying vegetable matter and is fed by surrounding soils and groundwater. Fens are similar to bogs but have higher nutrient levels.

**fjord** ④ A relatively narrow arm of the sea that indents deeply into the land, with generally steep slopes or cliffs on each side.

**flood** ④ The flow of excessive quantities of water over land that is generally above water.

**flood plain** ④ An area of low-lying land bordering a stream of water where floods, and the resulting deposits of alluvium, occur frequently.

**Frigid Zone** ④ Either of the extreme north and south latitude zones of the Earth. The North Frigid Zone lies between the North Pole and the Arctic Circle. The South Frigid Zone lies between the South Pole and the Antarctic Circle. The climate of these regions is characterized by extreme cold throughout the year.

### G

**game reserve** ④ An area of land reserved for wild animals that are hunted for sport or for food.

**geopolitical** ④ Refers to the relationship between geographic, political (or governmental), and cultural aspects of a nation or region.

**geothermal energy** ④ Energy derived from the heat that constantly and naturally radiates out from the center of the Earth. Also used to describe the radiation itself.

**geyser** ④ A hot spring that periodically erupts through an opening in the surface of the Earth, spewing boiling water and steam.

**glacier** ④ A large body of ice that moves along the Earth's surface.

**gorge** ④ A deep, narrow passage with steep, rocky walls.

**grassland** ④ An area where the vegetation is mostly grasses and other grass-like plants, often providing a transition between forests and deserts.

**Greenwich Mean Time** ④ The time at Greenwich, England, in the United Kingdom. This time is used as a basis for calculating time throughout most of the world. It is also called universal time, and is abbreviated GMT.

**groundwater** ④ Water located below the earth's surface, providing a source for wells and springs.

**gulf** ④ A large inlet of a sea or ocean that is partially enclosed by land, such as by capes or peninsulas.

**Gulf Stream** ④ Warm ocean current flowing from roughly the Gulf of Mexico northeast along the coast of North America, then east toward Europe.

### H

**harbor** ④ A protected inlet along the shore of a sea or lake that is deep enough for ships to anchor.

**hardpan** ④ A layer of hardened clay soil, usually underlying a thin layer of topsoil.

**hardwoods** ④ Deciduous trees, such as cherry, oak, maple, and mahogany, that produce very hard, durable, and valuable lumber.

**harmattan** ④ An intensely dry, dusty wind felt along the coast of Africa between Cape Verde and Cape Lopez. It prevails at intervals during the months of December, January, and February.

**headland** ④ Slightly elevated land lying along or jutting into a body of water.

**headstream** ④ Stream that forms the source of a river.

**headwater** ④ Source of a stream or river.

**heath** ④ Uncultivated land with low shrubs.

**hemisphere** ④ Any half of the globe. The Northern and Southern Hemispheres are divided by the equator while the Eastern and Western Hemispheres are divided by the Prime Meridian and 180° longitude.

**hill** ④ A rounded area of elevation rising more or less prominently above the surrounding, flatter landscape. Hills are generally no more than 300 meters (1,000 feet) high.

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## WORDS TO KNOW

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**Humboldt Current** ☉ A cold ocean current that runs north from Antarctica along the west coast of South America, primarily from June to November.

**hurricane** ☉ A tropical storm originating in the Atlantic or Pacific Oceans, generally with winds over 74 miles per hour.

**hydropower** ☉ (also called hydroelectric power) Electricity generated by the flow of water through the turbines of river dams.

### I

**iceberg** ☉ A massive block of floating ice that has broken off of a glacier or an ice shelf through a process known as calving.

**ice caps** ☉ Ice sheets covering less than 50,000 square kilometers (19,000 square miles). They form primarily in polar and sub-polar regions, generally occupying high and relatively flat regions.

**ice shelves** ☉ Sheets of ice that extend from the edge of a continent over the surface of the ocean, with ocean water flowing beneath them. They typically range from approximately 200–1000 meters (500–3,500 feet) thick. The Arctic Ocean is partly covered by ice shelves and the continent of Antarctica is almost completely surrounded by them.

**indigenous** ☉ A native species; vegetation that originates from or occurs naturally within a particular region.

**Indochina** ☉ A subregion that includes the peninsular countries of southeast Asia that lie between India and China, including: Vietnam, Laos, Cambodia, Thailand, Myanmar (Burma), and the mainland territory of Malaysia. The term indicates that the culture in these countries has been influenced by both Indian and Chinese traditions.

**inlet** ☉ Any water filled indentation along a coast or shore, such as a bay or gulf; a narrow passage through which water from an ocean or other large body of water passes, usually into a bay or lagoon.

**International Date Line** ☉ An arbitrary, imaginary line at about 180° longitude that designates where one day begins and another ends.

**island** ☉ A land mass entirely surrounded by water.

**isthmus** ☉ A narrow strip of land that connects two larger bodies of land such as two continents, a continent and a peninsula, or two parts of

an island. An isthmus is bordered by water on two sides.

### K

**karst** ☉ An area of limestone characterized by caverns and rock formations that are caused by erosion and underground streams.

**key.** See *cay*.

### L

**Labrador Current** ☉ A North Atlantic current that flows southward from polar waters along the east coast of Canada.

**lagoon** ☉ A shallow body of water, often connected with or barely separated from a nearby ocean or sea by coral reefs or sandbars.

**lake** ☉ A large inland body of standing water.

**landlocked country** ☉ A country that does not have direct access to an ocean; a country that is completely surrounded by other countries.

**landslide** ☉ A flow of muddy soil or loose rock that is usually triggered by heavy rainfall in areas where the terrain is steep.

**Latin America** ☉ A geopolitical term that relates to the countries that are south of the United States in the Western Hemisphere, particularly countries where the Latin-based languages (or Romance languages) of Spanish, Portuguese, and French are spoken.

**latitude** ☉ (also called parallel) An imaginary line running around the Earth parallel to the equator. The equator is at 0° latitude and divides the Earth into two sets of lines of latitude, north and south. Each set covers 90°.

**lava** ☉ Molten rock (magma) that has been poured out on the Earth's surface, usually through a volcano.

**leeward** ☉ The direction identical to that of the prevailing wind.

**littoral** ☉ A coastal region or shore; or, the area between the high water and low water marks of a shore or coastal region.

**loam** ☉ Light soil consisting of clay, silt, and sand.

**loess** ☉ A windblown accumulation of fine yellow clay or silt.

**longitude** ☉ (also called meridian) An imaginary line that extends along the surface of the Earth directly from one pole to another. The Earth is divided into 360 degrees of longitude, with 0° being designated as the Prime Meridian.



## WORDS TO KNOW

### M

**Maghreb** ☉ Region in northwest Africa made up of Algeria, Morocco, and Tunisia.

**magma** ☉ Molten rock beneath the Earth's surface that has been melted by the heat of the Earth's interior. When magma breaches the Earth's surface it is known as lava.

**mangrove** ☉ A tree that abounds on tropical shores in both hemispheres. It is characterized by its numerous roots that arch out from its trunk and descend from its branches. Mangroves form thick, dense growths along the tidal mud, covering areas that are hundreds of miles long.

**marine life** ☉ The life that exists in or is formed by the seas and oceans.

**maritime climate** ☉ The climate and weather conditions typical of areas bordering large bodies of water. Generally, areas close to water have more even temperatures than areas with a continental climate.

**marsh** ☉ An area of soggy land, usually covered wholly or in part by shallow water and containing aquatic vegetation.

**massif** ☉ The central part of a mountain or the dominant part of a range of mountains.

**mean temperature** ☉ The air temperature unit measured by adding the maximum and minimum daily temperatures together and dividing the sum by two; an average temperature.

**Mediterranean** ☉ The region surrounding the Mediterranean Sea.

**Mediterranean climate** ☉ A wet-winter, dry-summer climate with a moderate annual temperature range, as is typically experienced by countries along the Mediterranean Sea.

**meridian.** See **longitude.**

**mesa** ☉ An isolated, elevated, flat-topped area of land, typically larger than a butte but smaller than a plateau.

**Mesopotamia** ☉ The name means, "between rivers," and refers to the territory between and around the Tigris and Euphrates rivers (currently a part of Iraq). This area has been nicknamed "The Cradle of Civilization" because it was home to the ancient empires of Babylon, Sumer, and Assyria, among others. The Tigris and Euphrates are also two of the four rivers mentioned in the Biblical story of Eden.

**Middle East** ☉ A geopolitical term that designates those countries of southwest Asia and northeast Africa that stretch from the Mediterranean Sea to the borders of Pakistan and Afghanistan, including the Arabian Peninsula. This area was considered to be the midpoint between Europe and East Asia, usually called the Far East. The term is sometimes used to include all the countries of that general region that are primarily Islamic.

**mistral** ☉ In southern France, a cold, dry, northerly wind.

**moist tropical climate** ☉ A weather pattern typical to the tropics, known for year-round high temperatures and large amounts of rainfall.

**monolith** ☉ A large, natural rock formation, usually one that is isolated from other areas of high elevations; a large, stone block, column, or figure.

**monsoon** ☉ Seasonal change in the wind direction of Southeastern Asia, leading to wet and dry seasons. A monsoon develops when there is a significant difference in air temperatures over the ocean and the land.

**moor** ☉ A poorly drained open area containing peat and heath.

**moraine** ☉ A deposit of rocky earth deposited by a glacier.

**mountain** ☉ A lofty elevation of land, generally higher than 300 meters (1,000 feet), but varying greatly depending on the surrounding terrain, with little surface area at its peak; commonly formed in a series of ridges or in a single ridge known as a mountain range.

### N

**nature preserve** ☉ An area (often a park) where one or more specific species of plants and/or animals are protected from harm, injury, or destruction.

**Northern Hemisphere** ☉ The northern half of the Earth's surface, as measured from the equator to the North Pole.

### O

**oasis** ☉ Originally, a fertile spot in the Libyan Desert where there is a natural spring or well and vegetation; now refers to any fertile tract in the midst of a wasteland.

**ocean** ☉ The entire body of saltwater that covers almost three-fourths of the Earth's surface; any of the five principal divisions of the ocean.

## WORDS TO KNOW

**Oceania** ☉ Oceania is a term that refers to the islands in the region that covers the central and south Pacific and its adjacent seas; sometimes includes Australia, New Zealand, and the Malay Archipelago (an large group of islands off the southeast coast of Asia).

### P

**pampas** ☉ Grass-covered plain of South America.

**panhandle** ☉ A long narrow strip of land projecting like the handle of a frying pan.

**parallel.** *See* **latitude.**

**peneplain** ☉ A flat land surface that has been subjected to severe erosion.

**peninsula** ☉ A body of land surrounded by water on three sides.

**permafrost** ☉ A frozen layer of soil that never thaws.

**petroglyph** ☉ Ancient carvings or line drawings created on the surface of rocks by prehistoric peoples; often found in caves.

**plain** ☉ An expansive area free of major elevations and depressions.

**plateau** ☉ A relatively flat area of an elevated area of land.

**plate tectonics** ☉ A set of theories about the Earth's structure used by many geologists to explain why land masses and oceans are arranged as they are and why seismic activity occurs. According to plate tectonics the Earth's surface, including the bottom of the oceans, rests on a number of large tectonic plates. These plates are slowly moving over the interior layers of the Earth. Where they grind against each other, earthquakes and other seismic activity occurs, and the shape of the land gradually changes.

**polar circle** ☉ (also called the polar region) A circular region around the North and South Poles that separates the frigid polar zones from the temperate zones. The Earth has two polar circles, the Arctic Circle in the north and the Antarctic Circle in the south.

**polar climate** ☉ A humid, severely cold climate controlled by arctic-like air masses, with no warm or summer season.

**polder** ☉ A low land area reclaimed from a body of water and protected by dikes or embankments.

**pole (geographic pole)** ☉ The extreme northern and southern points of the Earth's axis, where the axis intersects the spherical surface. The

geographic North Pole is located at 90°N latitude/0° longitude. The geographic South Pole is located at 90°S latitude/0° longitude.

**pole (magnetic pole)** ☉ Either of two points on the Earth's surface, close to the geographic North Pole and South Pole, where the magnetic field is most intense. The North Magnetic Pole is located at 78°N latitude/104°W longitude in the Queen Elizabeth Islands of northern Canada. The South Magnetic Pole is located at 66°S latitude/139°E longitude on the Adélie Coast of Antarctica.

**pond** ☉ A small body of still, shallow water.

**prairie** ☉ An area of level grassland that occurs in temperate climate zones.

**Prime Meridian** ☉ The meridian designated as 0° longitude that runs through Greenwich, England, site of the Royal Observatory. All other longitudes are measured from this point.

### R

**rainforest** ☉ A dense forest of tall trees with a high, leafy canopy where the annual rainfall is at least 254 centimeters (100 inches) per year.

**rain shadow** ☉ An area that receives very little precipitation due to natural barriers, such as mountains, which keep rain clouds from covering the region.

**Ramsar** ☉ The Ramsar Convention on Wetlands of International Importance is an international organization concerned with the preservation and protection of major wetland environments throughout the world.

**ravine** ☉ A steep, narrow valley or gorge, usually containing the channel for a stream.

**reef** ☉ String of rocks or coral formations, usually on a sandy bottom, that are barely submerged.

**reforestation** ☉ Systematically replacing forest trees that were lost due to fire or logging.

**reservoir** ☉ A lake that was formed artificially by a dam.

**Ring of Fire** ☉ The region of seismic activity roughly outlined by a string of volcanoes that encircles the Pacific Ocean.

**river** ☉ A substantial stream of water following a clear channel as it flows over the land.

**riverine** ☉ Related to a river or the banks of a river.

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## WORDS TO KNOW

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### S

**Sahel** ☉ Sahel is an Arabic word meaning “shore.” It refers to the 5,000 kilometer (3,125 mile) stretch of savanna that is the shore or edge of the Sahara desert. The Sahel spreads west to east from Mauritania and Senegal to Somalia.

**salinization** ☉ An accumulation of soluble salts in soil. This condition is common in irrigated areas with desert climates, where water evaporates quickly in poorly drained soil due to high temperatures. Severe salinization renders soil poisonous to most plants.

**salt pan** ☉ (also salt flat) An area of land in a sunny region that is periodically submerged in shallow water, usually due to tides or seasonal floods. The sun causes the shallow water to evaporate and leave the salt it contained behind on the ground.

**sand bar** ☉ A deposit of sedimentary material that lies in the shallow water of a river, lake, or sea.

**savanna** ☉ (also spelled savannah) A treeless or near treeless plain of a tropical or subtropical region dominated by drought-resistant grasses.

**Scandinavia** ☉ The region of northwestern Europe that lies on the peninsula bordered by the Atlantic Ocean, the Baltic Sea, and the Gulf of Bothnia. Even though Norway and Sweden are the only two countries that lie directly on this peninsula, the countries of Denmark, Iceland and Finland are usually considered to be Scandinavian countries in a cultural context.

**sea** ☉ A body of salt water that is connected to (and therefore a part of) the ocean; sometimes, a name given to a large lake.

**sea level** ☉ The level of the ocean’s surface, specifically the average between the levels at high tide and low tide. Sea level is often designated as 0 meters (0 feet) and is used as the baseline for measuring elevations and depressions on land and on the ocean floor.

**seasonal** ☉ Dependant on the season. The flow of rivers and volume of lakes often varies greatly between seasons, as can vegetation.

**seasons** ☉ Regular variations in weather patterns that occur at the same times every year.

**sedimentary rock** ☉ Rock, such as sandstone, shale, and limestone, formed from the hardening of material deposits.

**seismic activity** ☉ Relating to or connected with an earthquake or earthquakes in general.

**semiarid** ☉ A climate where water and rainfall is relatively scarce but not so rare as to prohibit the growth of modest vegetation. Semiarid areas are often found around arid deserts and semiarid land is sometimes called a desert itself.

**shoal** ☉ A shallow area in a stream, lake, or sea, especially a sand bank that lies above water at low tide or during dry periods.

**shore** ☉ Typically, the land that borders a lake or river; may also be used to designate the land bordering an ocean or sea.

**sierra** ☉ A rugged, jagged, irregular chain of hills or mountain.

**silt** ☉ Fine, gravel-like, inorganic material, usually sand and coarse clay particles, that is carried by the flow of a river and deposited along its banks. Silt is generally very fertile soil.

**skerry** ☉ A rocky island.

**slough** ☉ A marshy pond that occurs in a river inlet.

**softwoods** ☉ Coniferous trees with a wood density that is relatively softer than the wood of those trees referred to as hardwoods.

**sound** ☉ A wide expanse of water, usually separating a mainland from islands or connecting two large bodies of water; often lies parallel to the coastline.

**South Asia** ☉ A subregion of Asia that includes the countries of Afghanistan, Pakistan, India, Bangladesh, and Nepal.

**Southeast Asia** ☉ A subregion of Asia that lies between India on the west, China to the north, and the Pacific Ocean to the east. The region includes the Indochina Peninsula of the South China Sea, the Malay Peninsula, and the Indonesian and Philippine Archipelagos. The countries of Southeast Asia are: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

**Southern Hemisphere** ☉ The southern half of the Earth’s surface between the equator and the South Pole.

**Southwest Asia** ☉ A subregion of Asia that includes Turkey and extends southward through the Arabian Peninsula. Iran can also be included in the region.

**spring** ☉ Water flowing from the ground through a natural opening.

**stalactites** ☉ Deposits of calcium carbonate formed in a cavern or cave that hang down from the ceiling like icicles.

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## WORDS TO KNOW

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**stalagmites** ④ Deposits of calcium carbonate formed in a cavern or cave that rise up from the floor like cones or columns.

**steppe** ④ A flat, mostly treeless, semiarid grassland, marked by extreme seasonal and daily temperature variations. Although sometimes used to describe other areas, the term applies primarily to the plains of southeastern Europe and Central Asia.

**strait** ④ Narrow body of water connecting two larger bodies of water.

**stream** ④ Any flowing water that moves generally downhill from elevated areas towards sea level.

**subarctic climate** ④ A high latitude climate. The continental subarctic climate has very cold winters; short, cool summers; light precipitation; and moist air. The marine subarctic climate is a coastal and island climate with polar air masses causing high levels of precipitation and extreme cold.

**subcontinent** ④ A land mass of great size, but smaller than any of the continents; a large subdivision of a continent.

**subtropical climate** ④ A middle latitude climate dominated by humid, warm temperatures and heavy rainfall in summer, with cool winters and frequent cyclonic storms.

### T

**taiga** ④ An area of open forest made up of coniferous trees.

**tectonic** ④ Relating to the structure of the Earth's crust.

**tectonic plate** ④ According to the theory of plate tectonics, the outer layer of the Earth consists of a series of large plates of rock called tectonic plates. The largest plates have entire oceans or continents on their surface.

**Temperate Zone** ④ The parts of the Earth lying between the Tropics and the polar circles. The North Temperate Zone is the area between the Tropic of Cancer and the Arctic Circle. The South Temperate Zone is the area between the Tropic of Capricorn and the Antarctic Circle. Temperate zones are marked by the greatest seasonal variations in temperature; however, temperatures and rainfall tend to stay within a moderate range, without extremes.

**terraces** ④ Successive areas of flat lands.

**terrain** ④ General characteristics of the Earth's surface in a region, including its characteristic vegetation.

**tidal bore** ④ A distinctive type of wave that travels up a shallow river or estuary on the incoming tide. It is a dramatic phenomenon that occurs in few places in the world; the incoming tidal waters flow against the river's current.

**tidal wave.** *See* **tsunami.**

**tide** ④ The rise and fall of the surface of a body of water caused by the gravitational attraction of the sun and moon.

**timber line** ④ The point of high elevation on a mountain above which the climate is too severe to support trees.

**topography** ④ The surface features of a region; also, the study of such features.

**tornado** ④ A violent, whirling wind storm that forms a funnel-shaped cloud and moves in a path over the surface of the Earth.

**Torrid Zone** ④ The part of the Earth's surface that lies between the Tropic lines, so named for the warm, humid, character of its climate.

**trade winds** ④ Winds that consistently blow from the northeast and southeast toward the equator.

**trench** ④ A steep-sided depression in the ocean floor where the water is very deep.

**tributary** ④ Any stream that flows into another larger stream.

**tropical monsoon climate** ④ One of the tropical rainy climates; it is sufficiently warm and rainy to produce tropical rainforest vegetation, but also has a winter dry season.

**Tropic of Cancer** ④ A latitudinal line located 23°27' north of the equator, the highest point on the globe at which the sun can shine directly overhead.

**Tropic of Capricorn** ④ A latitudinal line located 23°27' south of the equator, the lowest point on the globe at which the sun can shine directly overhead.

**tsunami** ④ A powerful, massive, and destructive ocean wave caused by an undersea earthquake or volcanic eruption.

**tundra** ④ A nearly level, treeless area whose climate and vegetation are characteristically arctic due to its position near one of the poles; the subsoil is permanently frozen.

**typhoon** ④ Violent hurricane occurring in the region of the South China Sea, usually in the period from July through October.

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## WORDS TO KNOW

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### U

**UNESCO** ④ The United Nations Educational, Scientific, and Cultural Organization. An international organization promoting peace and security around the world through education, science, culture, and communication.

### V

**valley** ④ An elongated depression through which a stream of water usually flows, typically an area that lies between mountains, hills, and/or other uplands.

**vegetation** ④ Plants, including trees, shrubs, grasses, and other plants.

**volcano** ④ A hole or opening through which molten rock and superheated steam erupt from the interior of the Earth. Also, a mountain created by the accumulation of these ejected materials.

### W

**wadi** ④ Dry stream bed, usually in a desert region in southwest Asia or north Africa.

**waterfall** ④ A steep, natural descent of water flowing over a cliff or precipice to a lower level.

**watershed** ④ An area of shared water drainage, where all the rainfall drains into a common river or lake system.

**waves** ④ The alternate rise and fall of ridges of water, generally produced by the action between the wind and the surface of a body of water.

**weather** ④ Atmospheric conditions at a given place and time.

**Western Europe** ④ A geopolitical term that usually refers to those countries of Europe that are allies of the United States and Canada under the North Atlantic Treaty Organization (NATO, established 1949). The original European countries in NATO were Belgium, France, Great Britain, Italy, Luxembourg, the Netherlands, and Portugal. Today, Western European countries also include Germany, Spain, Ireland, and Austria. Though Denmark is geographically part of Europe, it is culturally considered as part of Scandinavia.

**Western Hemisphere** ④ The half of the Earth's surface that lies west of the Prime Meridian to 180° longitude.

**West Indies** ④ The islands lying between North America and South America made up of the Greater Antilles (Cuba, Haiti, Dominican Republic, Jamaica, and Puerto Rico), the Lesser Antilles (Virgin Islands, Trinidad and Tobago, Barbados), and the Bahamas.

**wildlife sanctuary** ④ An area of land set aside for the protection and preservation of animals and plants.

**windward** ④ Facing into the prevailing wind, or lying closest to the direction from which the wind is blowing.

Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

# Slovenia

- **Official name:** Republic of Slovenia
- **Area:** 20,253 square kilometers (7,820 square miles)
- **Highest point on mainland:** Mount Triglav (2,864 meters/9,396 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 163 kilometers (101 miles) from north to south; 248 kilometers (154 miles) from east to west
- **Land boundaries:** 1,165 kilometers (724 miles) total boundary length; Austria 330 kilometers (205 miles); Hungary 102 kilometers (63 miles); Croatia 501 kilometers (311 miles); Italy 232 kilometers (144 miles)
- **Coastline:** 46.6 kilometers (29 miles)
- **Territorial sea limits:** Not available

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## 1 🌐 LOCATION AND SIZE

Slovenia lies at the northwestern end of the Balkan Peninsula, at the intersection of Central Europe, the Mediterranean Sea, and the Balkans. It covers an area (20,253 square kilometers/7,820 square miles) slightly greater than the state of New Jersey.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Slovenia has no territories or dependencies.

## 3 🌐 CLIMATE

The average January and July temperatures in Ljubljana, the Slovenian capital, are  $-1^{\circ}\text{C}$  ( $30^{\circ}\text{F}$ ) and  $20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ), respectively. Each year, Ljubljana experiences about 90 days that are colder than  $0^{\circ}\text{C}$  ( $32^{\circ}\text{F}$ ) and about 61 days that are hotter than  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ ). Ljubljana receives about 139 centimeters (55 inches) of rain

each year, with 28 percent of the total occurring between April and June.

## 4 🌐 TOPOGRAPHIC REGIONS

Slovenia has a short coastline on the Adriatic Sea in the southwest, but the Alps are the dominant topographic feature throughout most of the country, especially in the north and south. In the east is the Pannonian Plain.

## 5 🌐 OCEANS AND SEAS

Slovenia has only about 47 kilometers (29 miles) of coastline, all of which is on the Gulf of Venice at the northern end of the Adriatic Sea.

## Seacoast and Undersea Features

The sea around Cape Madonna near Piran reaches depths of 37 meters (120 feet) and is a national marine reserve.

# SLOVENIA



## Coastal Features

Slovenia's only beaches are near Koper; the coast between Izola and Piran is lined with steep cliffs that reach up to 80 meters (260 feet).

## 6 🌐 INLAND LAKES

Slovenia's largest lake is Lake Cerknjško, which covers 24 square kilometers (9.3 square miles) and, as a karst lake, fills and drains periodically. Slovenia also has seventy-eight mineral and thermal springs, mostly situated in the Pannonian Plain.

## 7 🌐 RIVERS AND WATERFALLS

Formed at the confluence of the Sava Dolinka and Sava Bohinjka Rivers, the Sava River is the central waterway and the longest river in Slovenia, flowing through the country for 221 kilometers (137 miles). Its tributaries include the Trziska Bistrica, Savinja, Ljubljanica, and Krka Rivers. After the Sava, the largest rivers in Slovenia are the Drava and the Mura,

both in the northeast. All of these rivers arise in the Alps throughout Slovenia, Austria, and Italy; they travel southeast into Croatia and eventually reach the Danube.

## 8 🌐 DESERTS

There are no deserts in Slovenia.

## 9 🌐 FLAT AND ROLLING TERRAIN

Occupying the east and northeast region of Slovenia is the Pannonian Plain, which includes wide valley basins, alluvial plains, sandy dunes, and low, rolling hills. There are flat depressions in the limestone hills of the Dinaric Alps in the southwest. South of the northern Alps, the rough terrain of the west changes to hilly areas interspersed with flat valleys.

## 10 🌐 MOUNTAINS AND VOLCANOES

The sharp peaks and ridges of the mountains in northern and northwestern Slovenia resemble the higher Austrian Alps to the



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# SLOVENIA

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EPD/Saxifraga/Jan van der Straaten

*Large flat valleys are interspersed with the hills south of Slovenia's Karawanken Mountains.*

north. The Julian Alps, which occupy the northwestern third of the country, are the highest of Slovenia's three alpine ranges and among the most rugged in Europe. Many summits here exceed 1,800 meters (5,900 feet), including Mount Triglav (2,864 meters/9,396 feet), the country's highest peak. The Karawanken Mountains run along the border with Austria; Mount Stol (2,236 meters/7,336 feet) is the highest peak in this system. The Kamnik-Savinja range lies south of the Karawankens. The ridges of mountains are less defined to the east. The Dinaric Alps run parallel to the coast in the southwest, with heights ranging from 700 meters (2,300 feet) to over 2,200 meters (7,200 feet).

## **11** 🌐 **CANYONS AND CAVES**

There are many cliffs and depressions in Slovenia's rocky karst area. Slovenia has about

sixty-five hundred karst caves; the largest of these is Postojna Cave, which extends for 19 kilometers (12 miles). Zupanova Cave, a small karst cave just southeast of Ljubljana, is filled with spectacular stalactites and stalagmites.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The Kras Plateau in the west extends eastward into the limestone ranges of the Dinaric Alps. Frequently referred to as karst or karstland, this region contains underground drainage channels formed by the long-term seepage of water down through the soluble limestone. This erosion has resulted in extensive caves, caverns, and underground streams.

## **13** 🌐 **MAN-MADE FEATURES**

Completed in 1971, a sluice at the entrance to the Karlovica Cave at Lake Cerkniško keeps the lake filled for at least six months of the year, aiding both the tourism and fishing industries.



EPD/Saxifraga/Jan van der Straaten

*Zupanova Cave (known as Zupanova Jama or Taborsko Jama because of its proximity to the well-known Tabor Church) is a small but spectacular example of Slovenia's many karst caves.*

A dam built on the Drava River near the city of Ptuj in the northeastern part of the country created the largest reservoir in Slovenia. One of the most famous features of Ljubljana is the triple bridge that spans the Ljubljanica River in the heart of the capital city.

## DID YOU KNOW?

The irregular limestone terrain known as *karst* gets its name from the Kras Plateau in Slovenia. Beginning in the Middle Ages with an ancient word for stone (*karra*), the term was transformed from the Slovenian *grast* to the Croatian *kras* to the German *karst*, which became its final form.

## 14 FURTHER READING

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### Web Sites

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*Statistical Office of the Republic of Slovenia: Statistical Yearbook of the Republic of Slovenia 2000*. <http://www.gov.si/zrs/> (accessed April 16, 2003).

# Solomon Islands

- **Official name:** Solomon Islands
- **Area:** 28,450 square kilometers (11,000 square miles)
- **Highest point on mainland:** Mount Makarakomburu (2,447 meters/8,127 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 11 P.M. = noon GMT
- **Longest distances:** 1,688 kilometers (1,049 miles) from east-southeast to west-northwest; 468 kilometers (291 miles) from north-northeast to south-southwest
- **Land boundaries:** None
- **Coastline:** 5,313 kilometers (3,301 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The nation of Solomon Islands is located in the South Pacific region of Oceania, nearly 1,900 kilometers (1,200 miles) northeast of Australia and about 485 kilometers (300 miles) east of Papua New Guinea. With an area of about 28,450 square kilometers (11,000 square miles), the country is slightly smaller than the state of Maryland. Solomon Islands is divided into seven provinces and one town.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Solomon Islands has no outside territories or dependencies.

## 3 🌐 CLIMATE

Solomon Islands has a tropical monsoon climate with very few extremes in temperature. November through March is the hottest period, while from April through October it is cooler and drier. Normally, the daytime temperatures range from 25°C to 32°C (77°F to 90°F), with nighttime temperatures ranging from 3°C to 5°C (38°F to 41°F).

The northwest monsoon, which brings warmer and wetter weather, lasts from

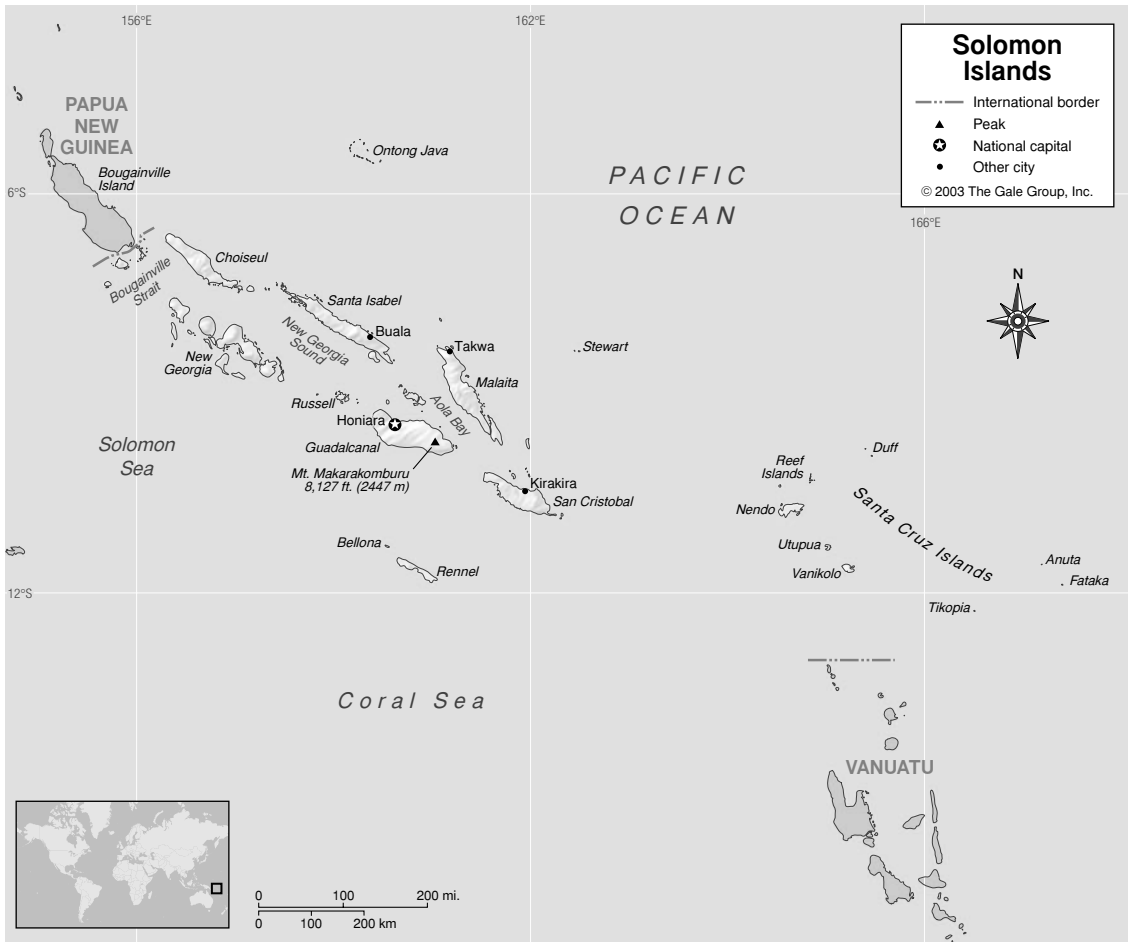
November through March. Cyclones often start in the Coral Sea and the area of the Solomons, but often veer away from the islands themselves. Annual average rainfall is 305 centimeters (120 inches). Average humidity is nearly 80 percent.

## 4 🌐 TOPOGRAPHIC REGIONS

Solomon Islands is an archipelago formed by the exposed peaks of a submerged mountain chain. This chain extends from Bougainville Island in Papua New Guinea to the northern islands of Vanuatu. The Solomon Islands nation covers the central islands of this chain.

Almost all of the larger islands are volcanic in origin and are covered with steaming rainforests and mountain ranges intersected by narrow valleys. Most of the smaller islands are low coral atolls. Solomon Islands lies on the Transitional Zone along the edge of the Pacific and Australian Tectonic Plates. Earthquakes and volcanic activity are common.

# SOLOMON ISLANDS



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The Pacific Ocean lies to the north and east of the Solomon Islands. The Solomon Sea is southwest of the islands and the Coral Sea is directly south. Solomon Islands are surrounded by expanses of coral reefs. Unfortunately, much of the coral barrier is dead or dying.

### Sea Inlets and Straits

The Bougainville Strait lies between Bougainville Island in Papua New Guinea and the northwestern islands of Choiseul, Vella

Lavella, and the Shortland Islands. The Indispensable Strait connects the South Pacific to the New Georgia Sound, which lies between the two lines of islands that make up the archipelago. Kaoka Bay is located at the southeastern end of the sound, between the islands of Guadalcanal and Malaita.

### Islands and Archipelagos

Solomon Islands is a country that is only a part of the larger chain of islands that are also called the Solomon Islands. The largest island in the country is Guadalcanal, which covers 5,300 square kilometers (2,047 square

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# SOLOMON ISLANDS

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UNESCO/Paddy Ryan

*Lake Te Nggano on Rennel, Solomon Islands.*

miles). There are five other large islands, all in the western part of the chain: Choiseul, New Georgia, Santa Isabel, Malaita, and San Cristobal. Smaller islands include: Bellona, Duff, Gizo, Kolombangara, Ontong Java, Rennell, Savo, the Shortland Islands, Ranongga, Simbo, Rendova, Vangunu, Nggatoake, Russell, and Vella Lavella. To the east of these islands lie the part of the chain called the Santa Cruz Islands; these include Santa Cruz, Nendo, Tikopia, Utupua, Vanikolo, Anuta, Fetaka, Duff, and the Reef Islands. In addition, there are approximately 992 islets, atolls, and reefs in the group.

Lagoons and mangrove swamps surround the islands at the coasts.

## **6** 🌐 **INLAND LAKES**

There are no major lakes in Solomon Islands. There are several smaller ones, including Lake Te Nggano.

## **7** 🌐 **RIVERS AND WATERFALLS**

The short, narrow, and impassable rivers of the Solomon Islands are navigable only by canoe.

Mataniko Falls is located southwest of the capital city of Honiara on Guadalcanal. The double-sided falls pour into a cave full of stalagmites.

## **8** 🌐 **DESERTS**

There are no desert regions in the Solomon Islands.

# SOLOMON ISLANDS

## 9 🌐 FLAT AND ROLLING TERRAIN

Guadalcanal Island contains the nation's only major grassy plains. The alluvial deposits from the streams on this island created the surrounding land mass.

## 10 🌐 MOUNTAINS AND VOLCANOES

The five largest islands—Choiseul, New Georgia, Santa Isabel, Guadalcanal, and Malaita—are characterized by heavily forested mountain ranges. The terrain is very rugged; Mount Makarakomburu, the nation's highest point, reaches 2,447 meters (8,127 feet) on the southern end of Guadalcanal. Steep, narrow valleys intersect with the mountain ranges.

## 11 🌐 CANYONS AND CAVES

During World War II (1939–45), Japanese soldiers who were trying to avoid capture by the Americans hid in the cave at Mataniko Falls on Guadalcanal.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no plateau regions on the Solomon Islands.

## 13 🌐 MAN-MADE FEATURES

There are no major man-made structures affecting the geography of the Solomon Islands.

## 14 🌐 FURTHER READING

### Books

Bennett, Judith A. *Wealth of the Solomons: A History of a Pacific Archipelago, 1800–1978*. Honolulu: University of Hawaii Press, 1987.

## DID YOU KNOW?

Oceania is a term that refers to the islands in the region that covers the central and south Pacific Ocean and its adjacent seas. The north-south boundaries for the region are the Tropic of Cancer in the north and the southern tip of New Zealand.

Diamond, J. *Solomon Islands*. Chicago: Children's Press, 1995.

Jack-Hinton, Colin. *The Search for the Islands of Solomon 1567–1838*. Oxford: Clarendon Press, 1969.

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*Solomon Islands: A Travel Survival Kit*. South Yarra; Victoria, Australia: Lonely Planet, 1988.

### Web Site

*Solomon Islands, Pearl of the Pacific*.  
<http://www.solomons.com>  
(accessed June 19, 2003).

# Somalia

- **Official name:** Somalia
- **Area:** 637,657 square kilometers (246,201 square miles)
- **Highest point on mainland:** Mount Shimbiris (2,416 meters/7,927 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = GMT
- **Longest distances:** 1,847 kilometers (1,148 miles) from north-northeast to south-southwest; 835 kilometers (519 miles) from east-southeast to west-northwest
- **Land boundaries:** 2,366 kilometers (1,470 miles) total boundary length; Djibouti 58 kilometers (36 miles); Ethiopia 1,626 kilometers (1,010 miles); Kenya 682 kilometers (424 miles)
- **Coastline:** 3,025 kilometers (1,880 miles)
- **Territorial sea limits:** 370 kilometers (200 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Somalia is located on the Horn of Africa, a peninsula on the eastern coast of Africa that separates the Gulf of Aden to the north and the Indian Ocean to the east and south. The country also shares borders with Kenya, Ethiopia, and Djibouti. With an area of about 637,657 square kilometers (246,201 square miles), the country is slightly smaller than the state of Texas. Somalia is divided into eighteen administrative regions.

## 2 🌐 TERRITORIES AND DEPENDENCIES

In the northwest, along the Gulf of Aden, the Republic of Somaliland, with some 3.5 million people, declared its independence from Somalia in 1991. This claim of independence has yet to be recognized internationally, however. While Somaliland does have a functioning government of its own, it is still officially considered to be a part of Somalia.

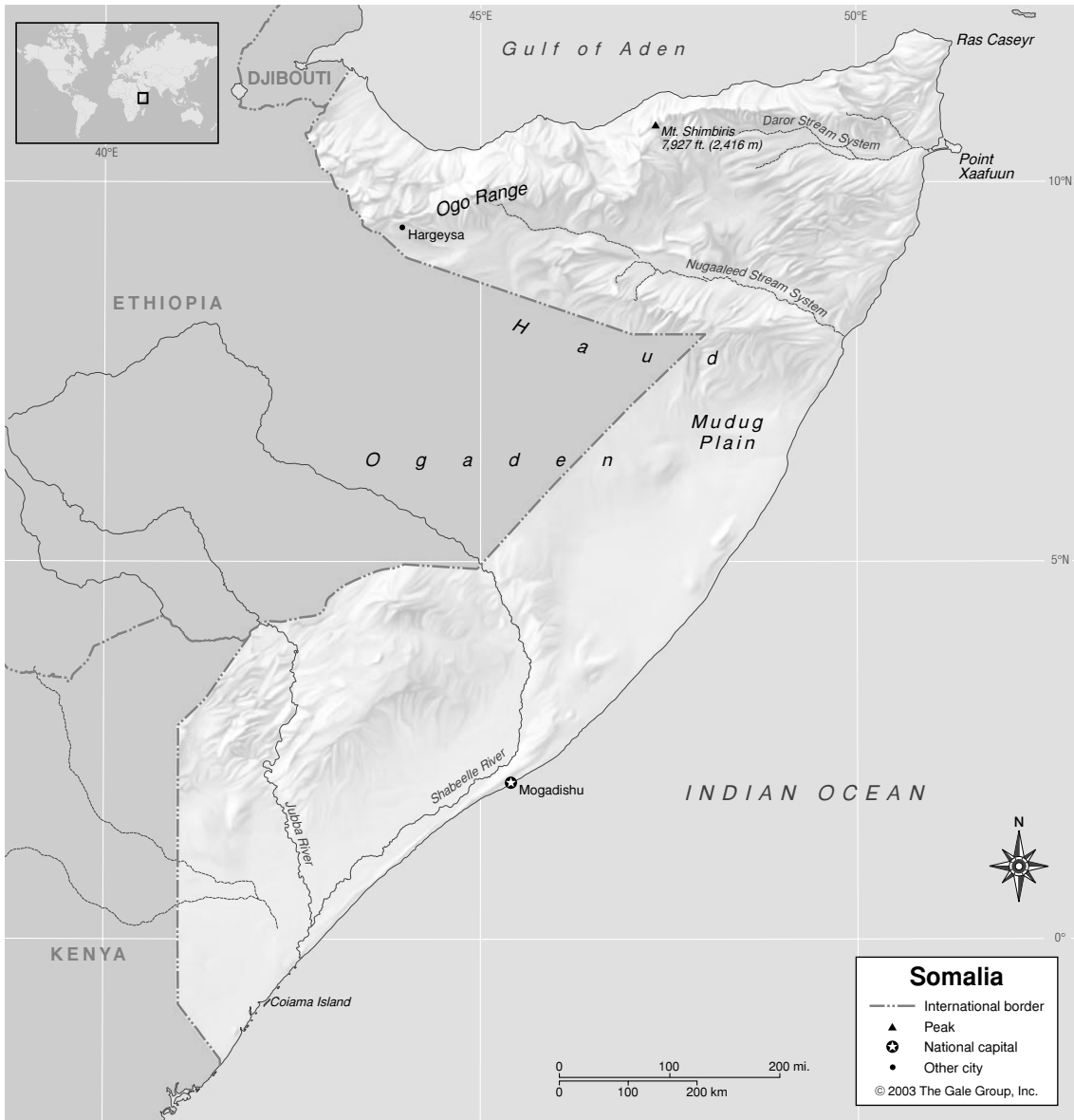
## 3 🌐 CLIMATE

Somalia has an arid or semiarid climate. In normal years there are four seasons, two with rain and two essentially without rain. December through March, the time of the northeast monsoon winds, is a very dry season, with moderate temperatures in the north and hot temperatures in the south. April through June is a spring-like rainy season with hot temperatures. July through September, the time of the southwest monsoon winds, is a dry and hot season. October and November is a humid, sporadically rainy season.

Somalia's average temperature is between 25°C and 28°C (77°F and 82°F). Temperatures fall as low as 0°C (32°F) in the mountains of the north and reach as high as 47°C (117°F) on the coasts.

In non-drought times, Somalia's average annual rainfall is only 28 centimeters (11 inches). Droughts can strike Somalia when

# SOMALIA



rainfall decreases even slightly. Their effects are worsened by factors such as over-grazing, erosion, disruptions of nomadic routes, and breakdowns in water access and food distribution. These problems can also cause severe flooding. Major droughts ravaged Somalia in 1974-75, 1984-85, 1992, 1999, and 2001. Flooding caused damage in 1997 and 2002.

## 4 🌐 TOPOGRAPHIC REGIONS

The land of Somalia consists mostly of plateau regions that rise to hills in the northern part of the country. Somalia is predominantly scrubland and desert. Only 13 percent of the land is arable, and there are few rivers or other dependable sources



# SOMALIA

of fresh water. Somalia faces daunting food and water management issues that have often reached a state of crisis.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Gulf of Aden, an inlet of the Indian Ocean, lies to the north of Somalia and separates the country from Yemen. Because it leads to the Red Sea and the Suez Canal, the Gulf of Aden is a crucial shipping lane, particularly for petroleum vessels. The eastern coast of Somalia directly faces the Indian Ocean.

### Sea Inlets and Straits

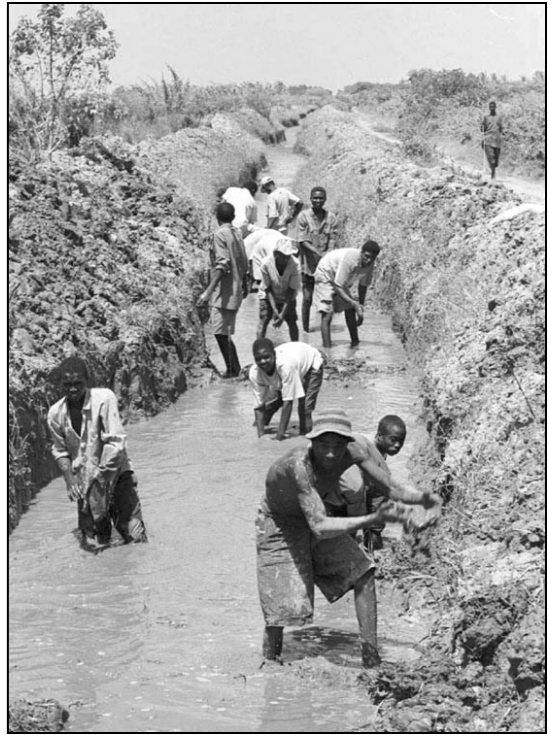
There are no major inlets on Somalia's coastline.

### Islands and Archipelagos

The Bajuni is a 125-kilometer- (77-mile-) long coral reef chain of several small islands and many islets or rocks. It includes Coiama (Somalia's largest island, covering 6 square kilometers/2.5 square miles), Ngumi, the Ciovai pair, Ciula (inhabited), Daracas, and Ciandra. Most of the islands are barren and without permanent settlement.

### Coastal Features

Somalia has the second-longest coastline in Africa (only South Africa's is longer.) The northern coast, along the Gulf of Aden, begins on the west at the border of Djibouti. Sandy beaches are interspersed with rocky cliffs, and the north coast has no reefs. Ras Caseyr (Cape Guardafui) is a rugged headland where the north and east coasts meet. Due south of the Cape, the Point Xaafuun (Ras Hafun) promontory juts out. From there, the Indian Ocean coast runs south in a succession of sandy beaches with little indentation. Along the southern stretch, from Mogadishu to the Kenya border, coral reefs form a barrier to the shore, which lacks natural harbors.



AP Photo/Jean-Marc Bouju

*Somali men scoop mud to clear an irrigation canal that will bring badly needed water to their farms in Jiddo, south of Mogadishu.*

## 6 🌐 INLAND LAKES

Somalia does not have any permanent lakes. In the Haud, some basins are filled by rains and intermittent floodwater, creating temporary ponds. Somalia also has artificial ponds designed to capture precious seasonal waters for irrigation and drinking. Wells and springs are of great importance to Somalia's water supply.

## 7 🌐 RIVERS AND WATERFALLS

Somalia's two permanently flowing rivers, the Jubba (Gestro) and Shabeelle, are used for irrigation but are not navigable by large boats. The Jubba and Shabeelle Rivers both have their sources in Ethiopia and run south through Somalia towards the Indian Ocean. The Jubba River is approximately 1,610

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# SOMALIA

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kilometers (1,000 miles) long. The Shabeelle River, the country's longest river, has a total length of 2,011 kilometers (1,250 miles), of which only 1,000 kilometers (621 miles) run through Somalia. The Jubba River empties directly into the Indian Ocean in southern Somalia. To its north, the Shabeelle River flows towards the coast, then turns southeast following the coast, dwindling to its end in marshlands and sand flats. In times of heavy rain, the Shabeelle waters can meet those of the Jubba. The area between the two rivers is Somalia's most fertile region.

The Jubba/Shabeelle river system and the seasonal watercourses found in badly eroded, deforested, and desert terrain are highly vulnerable to sporadic flooding.

The wetlands of Somalia surround the outlet of the Jubba River and the lower reaches of the Shabeelle River, where swamp basins are the habitat of birds and reptiles. Some mangrove forests are still found in Somalia, especially along the Jubba outlet, but most have been destroyed by cutting for fuel and fodder.

The two largest watercourses in northern Somalia are the seasonal Daror and Nugaaleed stream systems. Both are usually dry.

## 8 🌐 DESERTS

About 25 percent of Somalia is desert, usually consisting of sand or gravel mixed with some vegetation. The deserts run along most of Somalia's northern and central coasts and extend into the interior. Desertification is steadily claiming grassland and wooded areas across Somalia.

On the Gulf of Aden coast, the Guban Desert is a hot, dry plain with a system of sandy seasonal watercourses. The arid Hobyo region extends north from Somalia's capital, Mogadishu, along the Indian Ocean coast. It is a desert with low vegetation that is a habitat

for birds, reptiles, and antelopes. Over-grazing of the grasses that anchored the dunes in place has destabilized areas of sand dunes along the Indian Ocean coast.

## 9 🌐 FLAT AND ROLLING TERRAIN

Up to 70 percent of Somalia is a scrubland ecosystem of coarse grass-patches and shrubs. This terrain is especially pervasive in the Haud Plateau region of the north and throughout the south. The scrub vegetation receives minimal rain, but it is resilient. Where there is water, as in the area between the Jubba and Shabelle Rivers, good pastureland results.

Nomadic Somalis pasture their herds of camels, cattle, goats, and sheep on the scrub grasslands. Much of Somalia's grassland is being lost to desertification as a result of over-grazing and the cutting of fodder grass for export to neighboring countries.

Somalia has only 1 percent of its forest cover remaining, mainly located in the far south. Trees are cut for fuel, fodder, and livestock shelters, and there is very little reforestation. The southern forest includes eucalyptus, tall cactus, and mahogany. Trees that provide myrrh and frankincense are also native to Somalia. The north has some acacia scrub and savannah forest.

In the northern region called the Ogo, limestone hills at elevations of 900 to 1,200 meters (2,953 to 3,937 feet) distinguish a rough terrain dissected with dried-up streambeds. The hills are covered with scrub vegetation, which provides grazing for livestock and antelopes.

## 10 🌐 MOUNTAINS AND VOLCANOES

Somalia's only mountains, the Migiurtinia and Ogo ranges, are in the north, extending from Ethiopia and following the Gulf of Aden coast with a high escarpment until the cliffs form the tip of the Horn of Africa.

# SOMALIA



AP Photo/John Moore

*A cart is guided along a road in rural Somalia.*

Somalia's highest peak, Mount Shimbiris, rises 2,416 meters (7,927 feet) at the center of the northern range.

## **11** 🌐 **CANYONS AND CAVES**

Throughout Somalia, soil erosion has caused gullies and canyons to appear. A lack of roads has led to trucks being driven across pastures, eroding gullies in the dry soil. Seasonal watercourses also carve deep ravines into the landscape.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

South of the mountains, the dry Somali Plateau continues from eastern Ethiopia's Ogaden region to become the Ogo Plateau, the Mudug Plain, and the Haud region of central/southwest Somalia. These plateau regions vary in height from 1,829 meters (6,000 feet) in the Ogo to 500 meters (1,640 feet) in the Haud.

## **13** 🌐 **MAN-MADE FEATURES**

There are no major man-made structures affecting the geography of Somalia.

## **14** 🌐 **FURTHER READING**

### **Books**

D'Haem, Jeanne. *The Last Camel: True Stories About Somalia*. Lawrenceville, NJ: Red Sea Press, 1997.

Fox, Mary Virginia. *Somalia*. New York: Children's Press, 1996.

Hassig, Susan M. *Somalia*. Cultures of the World. New York: Marshall Cavendish, 1998.

Nnoromele, Salome. *Somalia*. San Diego, CA: Lucent Books, 2000.

### **Web Sites**

*The United Nations: Agencies in Somalia*. <http://www.unsomalia.org/infocenter/factsheets.htm> (accessed March 20, 2003).

# South Africa

- **Official name:** Republic of South Africa
- **Area:** 1,219,912 square kilometers (471,011 square miles)
- **Highest point on mainland:** Njesuthi Mountain (3,408 meters/11,181 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 1,821 kilometers (1,132 miles) from northeast to southwest; 1,066 kilometers (662 miles) from southeast to northwest
- **Land boundaries:** 4,750 kilometers (2,952 miles) total boundary length; Botswana 1,840 kilometers (1,143 miles); Lesotho 909 kilometers (565 miles); Mozambique 491 kilometers (305 miles); Namibia 855 kilometers (531 miles); Swaziland 430 kilometers (267 miles); Zimbabwe 225 kilometers (140 miles)
- **Coastline:** 2,798 kilometers (1,739 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

South Africa is located at the southern tip of the African continent. It covers 1,219,912 square kilometers (471,011 square miles), or nearly twice as much area as the state of Texas.

## 2 🌐 TERRITORIES AND DEPENDENCIES

South Africa has no territories or dependencies.

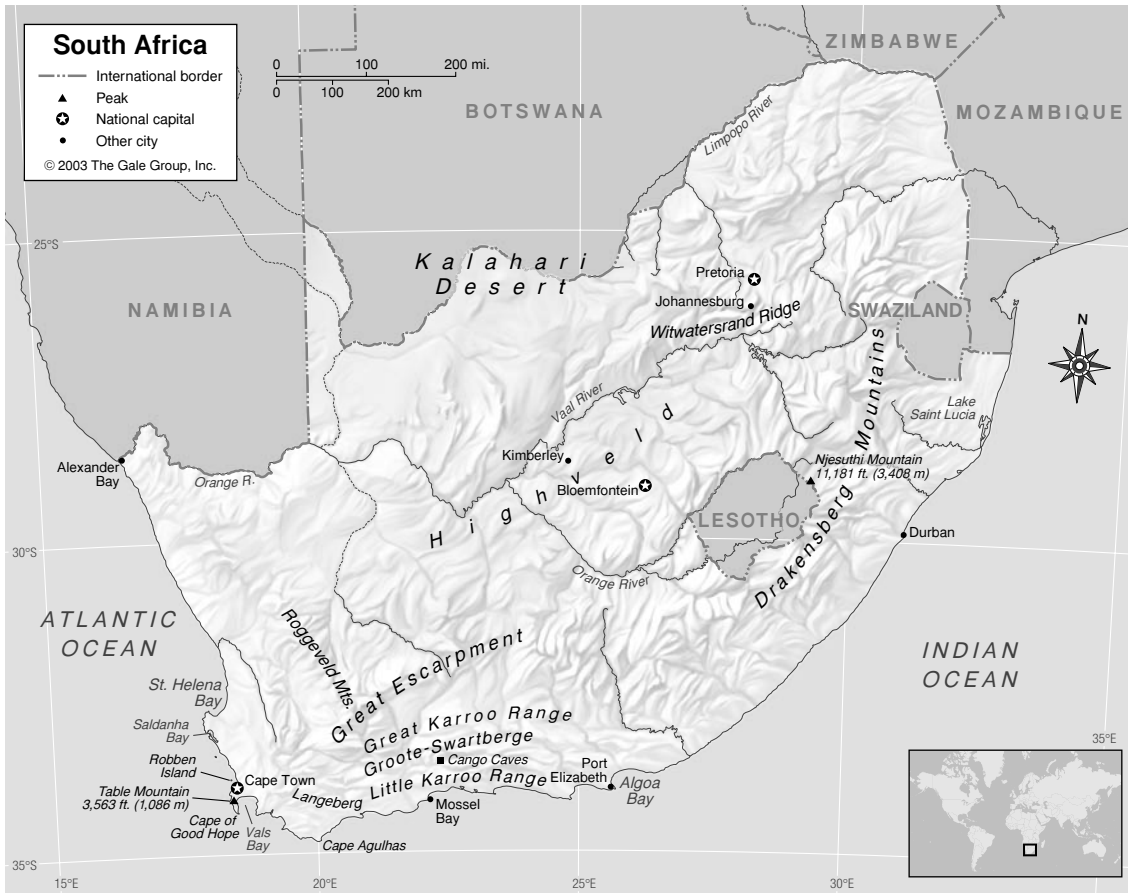
## 3 🌐 CLIMATE

The climate of South Africa ranges from Mediterranean-like in the southwest to temperate in the interior plateau, to subtropical in the northeast. Snow is rare, although winter frosts do occur in the higher areas of the plateau. Average January temperatures in Durban fall between 21°C and 27°C (69°F and 81°F); in Johannesburg, between 14°C and 26°C (58°F and 78°F); and in Cape Town, they range from 16°C to 26°C (60°F to 78°F). Winter temperature ranges follow the same regional pattern. The average July

temperature range is 11°C to 22°C (52°F to 72°F) in Durban, 4°C to 17°C (39°F to 63°F) in Johannesburg, and 7°C to 17°C (45°F to 63°F) in Cape Town.

Nearly all of South Africa enjoys a mild, temperate climate. Except for the extreme southwest, most of the country is under the influence of the easterly trade winds that originate over the Indian Ocean, bringing about 89 centimeters (35 inches) of yearly precipitation to the Eastern Lowveld and the Eastern Uplands as far west as the Drakensberg. The Highveld receives from 38 to 76 centimeters (15 to 30 inches) of precipitation each year. On the western coast, annual rainfall is often as low as 5 centimeters (2 inches). The rainfall deposited by the trade winds occurs mainly between October and April. In the drier regions of the plateau, the amount of rainfall and the beginning of the rainy season vary greatly from year to year. The extreme southwest receives about

# SOUTH AFRICA



56 centimeters (22 inches) of rainfall annually, most of it between June and September.

## 4 🌐 TOPOGRAPHIC REGIONS

South Africa's general topography consists of a broad central plateau edged by a prominent escarpment overlooking slopes that descend to the eastern, southern, and western coasts. The mountainous edges of the plateau extend in a sweeping arc from the country's northeastern tip to its southwestern extremity. Collectively, these edges are known as the Great Escarpment. Inland from the crest of the Great Escarpment the country consists generally of rolling plains that gradually descend to an altitude of about 900 meters (2,952 feet) in the center.

## 5 🌐 OCEANS AND SEAS

The Indian Ocean borders South Africa on the east; the Atlantic Ocean borders it on the west; and both the Indian and Atlantic Oceans border it on the south. Off South Africa's eastern coast, the Indian Ocean ranges from 20°C to 25°C (68°F to 77°F); off the western coast, the Atlantic Ocean ranges from 9°C to 14°C (48°F to 57°F). Off the southern shore, the combined seas range from 16°C to 21°C (61°F to 70°F).

### Seacoast and Undersea Features

There are coral reefs off the eastern coast surrounding Sodwana Bay that attract divers from all over the world. Off the southern coast, the continental shelf extends to form the large

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## SOUTH AFRICA

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EPD/Cynthia Bassett

*Cape of Good Hope, South Africa.*

triangular Agulhas Bank, while on the western coast it forms the Benguella Upwelling.

### **Islands and Archipelagos**

With an area of 310 square kilometers (120 square miles), South Africa's most important islands are the Prince Edward Islands southeast of Cape Town. There are also a number of small islands off the southwestern coast, including Dassen Island, the Bird Islands, and Robben Island.

### **Coastal Features**

South Africa has a rugged coastline with rocky shores and few sheltered bays or harbors; however, there are sandy beaches in some places, usually backed by low sand dunes. Most of the country's western coastline is smooth. At St. Helena Bay in the southwest, it begins to become jagged, indenting at Saldanha Bay and

jutting out at the Cape of Good Hope peninsula, on which Cape Town is located. Other prominent coastal features include Vals Bay and Cape Agulhas, the southernmost point in Africa. The southern coast forms several indentations, including Algoa Bay and Mossel Bay. From here, the shoreline becomes smooth again as it heads due northeast, with no other notable features except the St. Lucia estuary and Sodwana Bay in the northeast.

### **6 INLAND LAKES**

The largest lake in South Africa is Saint Lucia, a saltwater lagoon located on the northeastern coast of the country near Sodwana Bay and separated from the Indian Ocean by a narrow 11.3-kilometer- (7-mile-) long channel. Its surface area varies from about 298 square kilometers (115 square miles) in the dry season to 350 square kilometers (135 square miles) during

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# SOUTH AFRICA

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## DID YOU KNOW?

**R**obben Island is the site of South Africa's maximum-security prison, where former president and anti-apartheid leader Nelson Mandela was imprisoned for twenty-seven years.

the wet season, and its depth ranges from 0.9 to 2.4 meters (3 to 8 feet). The lake is the only place on Earth where hippopotamuses, sharks, and crocodiles share the same waters.

### 7 RIVERS AND WATERFALLS

The chief rivers of South Africa are the Orange, the Vaal, and the Limpopo. The Orange River is the longest river in the country. It originates in Lesotho, flows in a northwestern direction, and empties into the Atlantic Ocean after a course of some 2,100 kilometers (1,300 miles). The westernmost section of the Orange River forms the boundary between South Africa and Namibia. The Vaal River originates in the northeastern section of the country, near Swaziland. It flows in a southwestern direction to a point in the central portion of the country, where it joins the Orange River. The Limpopo River originates in the northeastern region, flows northwest to the Botswana border, and then travels east along the borders of Botswana and Zimbabwe before entering Mozambique and continuing to the Indian Ocean. In general, the rivers of the country are irregular in flow rate. Many are dry during much of the year.

### 8 DESERTS

Part of the Kalahari Desert extends southward from Botswana and Namibia into western South Africa. It is generally covered with

red soil and low-growing grasses and brush, except in the east, where large patches of sand are found.

### 9 FLAT AND ROLLING TERRAIN

The coastal belt of the west and south ranges in elevation from 150 to 180 meters (500 to 600 feet) and is very fertile. There is very little coastal plain in the east and southeast, where the Great Escarpment borders the central plateau, reaching almost to the sea.

The Highveld, the largest and highest part of South Africa's central plateau, is characterized by level or gently undulating terrain.

### 10 MOUNTAINS AND VOLCANOES

The Groote-Swartberge lies between the Great Karroo Range and the Little Karroo Range in the southern part of the country. Between the latter area and the coastal plain is another mountain range, the Langeberg. On the southern coast, just south of Cape Town, an isolated peak, Table Mountain, rises to about 1,086 meters (3,563 feet). On the southwestern coast, the edge of the plateau is marked by the Roggeveld Mountains, a range of folded mountains that descends abruptly to the coastal plain.

### 11 CANYONS AND CAVES

The twenty-million-year-old Cango Caves, located near Oudtshoorn in the Groote-Swartberge Mountains, is the longest underground cave system in the world. These caverns also have some of the world's largest stalagmite formations. Their underground area covers more than 5 kilometers (3 miles) of widely branching caverns, interconnected tunnels, and deep pits, complete with magnificent limestone formations and colorfully illuminated sandstone formations.

### 12 PLATEAUS AND MONOLITHS

The topography of South Africa consists primarily of a great plateau that occupies

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## SOUTH AFRICA

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EPD/Cynthia Bassett

*Table Mountain, South Africa.*

about two-thirds of the country. The plateau reaches its greatest heights along the southeastern edge, which is marked by the Drakensberg Mountains, part of the Great Escarpment, which separates the plateau from the coastal areas. The escarpment includes Njesuthi Mountain, which at 3,408 meters (11,181 feet) is the highest point in the country. Three regions may be distinguished within the plateau: the Highveld, the Bushveld, and the Middle Veld.

In the center is the Highveld, which covers most of the plateau. It ranges in elevation from about 1,200 to 1,800 meters (4,000 to 6,000 feet). A rock ridge called the Witwatersrand marks the northern limit of the Highveld; this region includes the city of Johannesburg. North of the Witwatersrand is the Bushveld, or Transvaal Basin. This section, much of which is broken into basins by rock ridges, slopes downward from east to west toward

the Limpopo River. The Bushveld averages less than 1,200 meters (4,000 feet) in height. The western section of the plateau, known as the Middle Veld (or Kaap Plateau), also slopes downward in a westerly direction, at elevations of between 600 and 1,200 meters (2,000 and 4,000 feet).

Between the edge of the plateau and the eastern and southern coastline, the land descends seaward in a series of abrupt grades, or steps. Along the eastern coast there are two steps. The interior step is a belt of hilly country called the Eastern Uplands. The exterior step is a low-lying plain called the Eastern Lowveld. In the south, three other steps, proceeding from the interior to the coast, consist of a plateau called the Great Karroo, or Central Karroo; a lower plateau called the Little Karroo, or Southern Karroo; and a low-lying plain.



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## SOUTH AFRICA

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### 13 MAN-MADE FEATURES

The Gariep Dam on the Orange River in Free State is the largest dam in South Africa. Designed for hydroelectric power generation and irrigation, it is 88 meters (289 feet) high and 914 meters (2,999 feet) long. A related feature is the Orange Fish Tunnel, the world's second-longest water supply tunnel, with a length of 82 kilometers (51 miles). Water from the Gariep Dam travels through the tunnel to the Great Fish River and the Sundays River.

### 14 FURTHER READING

#### Books

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*The Frontier in History: North America and Southern Africa Compared*. New Haven, CT: Yale University Press, 1981.

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New York: Pathfinder, 1986.

#### Web Sites

*Lonely Planet: Destination South Africa*.

[http://www.lonelyplanet.com/destinations/africa/south\\_africa/](http://www.lonelyplanet.com/destinations/africa/south_africa/) (accessed April 17, 2003).

*South Africa Tourism: Discover South Africa*.

<http://satourweb.satour.com>  
(accessed April 17, 2003).

# Spain

- **Official name:** Kingdom of Spain
- **Area:** 504,782 square kilometers (194,897 square miles)
- **Highest point on mainland:** Mulhacén Peak (3,478 meters/11,411 feet)
- **Highest point in territory:** Teide Peak (3,718 meters/12,198 feet), located on Tenerife Island
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,085 kilometers (764 miles) from east to west; 950 kilometers (590 miles) from north to south
- **Land boundaries:** 1,918 kilometers (1,192 miles) total boundary length; Andorra 64 kilometers (40 miles); France 623 kilometers (387 miles); Gibraltar 1.2 kilometers (0.7 miles); Morocco 16 kilometers (10 miles), Portugal 1,214 kilometers (754 miles)
- **Coastline:** Total: 4,964 kilometers (3,084 miles); Mediterranean Sea 1,670 kilometers (1,038 miles); Atlantic and Bay of Biscay 2,234 kilometers (1,388 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The mainland of Spain covers most of the Iberian Peninsula in southwestern Europe and shares borders with France, Andorra, and Portugal. The country has northern and western coasts along the Atlantic Ocean and the Bay of Biscay and an eastern coast along the Mediterranean Sea. With a total area of about 504,782 square kilometers (194,897 square miles), the country is slightly more than twice the size of the state of Oregon. Spain is administratively divided into seventeen autonomous communities.

## 2 🌐 TERRITORIES AND DEPENDENCIES

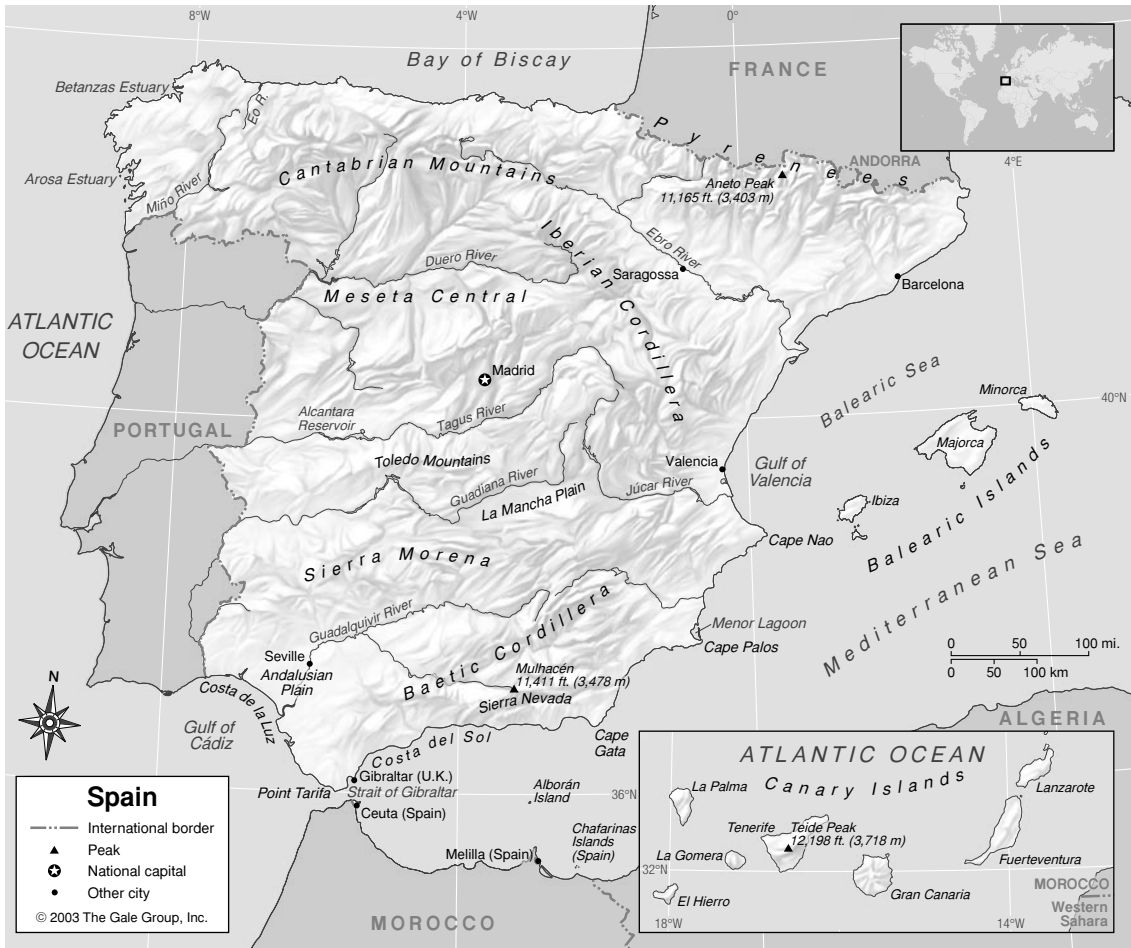
Spain controls “places of sovereignty” (*plazas de soberanía*) on and off the coast of Morocco: the coastal enclaves of Ceuta and Melilla, although Morocco contests these territorial claims; and the Alhucemas and Chafarinas Is-

lands. Spain also administers the Balearic Islands in the Mediterranean and Canary Islands in the Atlantic. Finally, Spain continues to have a centuries-old dispute with the United Kingdom over Gibraltar, a small enclave to the south of Spain.

## 3 🌐 CLIMATE

Daytime summer temperatures in Spain can reach 35°C to 39°C (95°F to 102°F) in the northern Meseta and are even hotter in the south. Temperatures of 43°C (109°F) have been recorded in the Ebro basin. Nights are significantly cooler. The climate is more moderate in the northern Atlantic maritime region. In the Mediterranean region, winter temperatures average between 10°C and 13°C (50°F and 55°F) and summer temperatures average between 22°C and 27°C (72°F and 81°F).

# SPAIN



Rainfall is highly irregular, but annual averages usually fall between 30 and 50 centimeters (12 and 20 inches). The northern Meseta enjoys two rainy seasons: from April to June and from October to November. In the southern Meseta, the spring rainy season begins in March and is wetter than the fall. The maritime northwest receives abundant rainfall throughout the year, with the wettest season from October through December. The Mediterranean region receives the least rainfall, with most of its precipitation occurring in the fall and winter.

## 4 🌐 TOPOGRAPHIC REGIONS

Overall, Spain's terrain is mountainous, with major ranges running throughout the country. The Pyrenees system is particularly noteworthy. One of Europe's most effective natural boundaries, the highest terrain of the main portion of this range marks Spain's border with France. The tiny nation of Andorra is also located there. Most of the level land in Spain is situated in river valleys, along the coast, or on the Meseta Central (Central Mesa), the large plateau at the center of the country.

Topographically, Spain is divided into four parts: the temperate region in the north and northwest, the marginal mountain ranges, the Meseta Central and the surrounding interior region, and the coastal areas. The boundaries between regions are far from clear-cut, however. The temperate region, for example, includes significant portions of the mountains and coastal areas. The Meseta Central contains two large, low-lying river valleys and is traversed by several major mountain systems.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The Atlantic Ocean lies to the west of Spain. The Bay of Biscay, an arm of the Atlantic, runs along the northern coastline. The Mediterranean Sea lines the eastern and southern borders of Spain. The Mediterranean Sea is an almost completely landlocked body of water situated between southern Europe, northern Africa, and southwest Asia. It links to the Atlantic Ocean at its western point through the Strait of Gibraltar, and to the Red Sea at its southeastern shore through the Suez Canal. The Mediterranean also connects to the Black Sea in the northeast through the Dardanelles, the Sea of Marmara, and the Bosphorus. The Balearic Sea, an arm of the Mediterranean, lies at the northeast coast of Spain, separating the mainland from the Balearic Islands.

### Sea Inlets and Straits

The Gulf of Cádiz, at the southwest coast of Spain, is an extension of the Atlantic Ocean. The narrow Strait of Gibraltar between Spain and Morocco connects the Atlantic to the Mediterranean Sea. The Gulf of Valencia is an inlet of the Balearic Sea.

### Islands and Archipelagos

The Balearic Islands are an extension of the Baetic Cordillera, which stretches across

## DID YOU KNOW?

The Rock of Gibraltar is part of a peninsula that juts out from the south-central coast of Spain into the Mediterranean Sea near the Strait of Gibraltar. The rock contains a number of limestone caves and a long tunnel that have been used for shelter and defense. A large number of archaeological finds have been uncovered in the caves. The Rock of Gibraltar was once known as one of the Pillars of Hercules, which stand at either end of the Strait of Gibraltar. The other pillars are Mount Acha in Ceuta and Jebel Musa (west of Ceuta), which are also sometimes called the Gates of Hercules. Though the area has been under British rule since 1704 after the War of Spanish Succession, the Spanish government continues to work toward regaining the territory.

the southern border of Spain and reaches underwater into the Mediterranean. The major islands of the archipelago are Majorca, Miñorca, and Ibiza, with Majorca by far the largest. Formentera and Cabrera are smaller islands within the Balearics. All of the islands are mountainous.

The Canary Islands are an archipelago of ten volcanic islands in the North Atlantic not far from Africa, about 1,324 kilometers

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# SPAIN

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EPD/Saxifraga/Jan van der Straaten

*The Bergantes River flows in northeastern Spain, just south of the Ebro River.*

(823 miles) southwest of mainland Spain. They have been a possession of Spain for centuries and thus are considered a part of the country. Tenerife, Fuerteventura, Lanzarote, and Gran Canaria are the largest of the Canaries. La Palma, Gomera, Hierro, Graciosa, Lobos, and Alegranza make up the rest of the archipelago. The islands are predominantly mountainous and Teide Peak (3,718 meters/12,198 feet) on Tenerife is Spain's tallest mountain.

## Coastal Features

The northern coast extends about 724 kilometers (450 miles) from France to the north-

western corner of the country. The Cantabrian Mountains are never far from the shore in this region and the coast is generally even, marked only by occasional river estuaries. The largest of these, the Betanzas Estuary and Arosa Estuary, are in the extreme northwest on the Atlantic Ocean.

Spain's tourism thrives on the beauty of its sun-drenched southern beaches. In fact, the southern Atlantic coast is called Costa de la Luz (Coast of Light) because of its bright sunshine. At the Strait of Gibraltar is Point Tarifa, the southernmost point in Europe. East of this is the narrow Costa del Sol (Sun Coast), which extends to Cape Gata (Cabo de Gata). The Costa Blanca, from Cape Gata to Cape Nao (Cabo de la Nao), has white and sunny beaches facing the warm Mediterranean Sea. Cape Palos forms the Menor Lagoon along this coastline.

## 6 🌐 INLAND LAKES

Most of the larger lakes in Spain are formed along the courses of the rivers. The most significant, however, are man-made reservoirs.

## 7 🌐 RIVERS AND WATERFALLS

Spain has some eighteen hundred rivers and streams, of which only the Tagus (Río Tajo) is longer than 965 kilometers (600 miles). Only ninety of these rivers are longer than 97 kilometers (60 miles). The Tagus, Duero, Guadiana, and the Guadalquivir all have their sources in the center of the country and drain to the west, into the Atlantic Ocean. The Ebro rises in the north and runs southeast between the Pyrenees and the Iberian Cordillera into the Mediterranean. The Júcar, whose source lies in the southern Iberian Cordillera, also flows into the Mediterranean. The mountain rivers in the north all have short courses, owing to the nearness of their sources to the sea. Those in the northwest are the longest, particularly the Miño (Minho). Many of them encounter the

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# SPAIN

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EPD/Saxifraga/Jan van der Straaten

*Agricultural land in eastern Spain.*

sea through deep estuaries, similar to fjords, which extend from the mountains to the sea.

Owing to scant and unpredictable rain, many of Spain's lesser riverbeds are dry most of the year. All of the Meseta Central's rivers are sluggish most of the year, except for a few days each spring and fall when raging waters fill the riverbeds. Even the Tagus, the largest of the three, is variable in its volume of water. The Miño carries a volume of water equal to or greater than that of the Ebro, although the Miño's course is less than half as long and its basin covers only about a fifth as much area. South of the Meseta and the Sierra Morena, and draining most of the Andalusian Plain, the Guadalquivir is the country's most consistent and valuable river; Spain's only major river port, Seville (Sevilla), is located on it. The delta of the Guadalquivir is marshy and frequently saline.

## 8 🌐 DESERTS

Except in the north and northwest, the Meseta Central is substantially denuded and desert-like. Scrub growth has replaced forests. Portions of the Mediterranean region are dry and desolate, especially the Baetic Cordillera, which receives dry, hot winds from the east or southeast originating over North Africa.

## 9 🌐 FLAT AND ROLLING TERRAIN

Grasslands are sparse in Spain due to its semi-arid climate and are found primarily in the valleys of the major rivers. The Andalusian Plain, in the valley of the Guadalquivir, is the largest and most important of these. It is the best farmland in the country and the only low-lying area that permits easy entry from the sea. The La Mancha Plain is found near the Guadiana River. Grasses also cover parts of the Meseta Central and the high Sierra Nevada.

The land between the Bay of Biscay and the Cantabrian Mountains is hilly, with an average elevation of 610 meters (2,000 feet). This verdant region is fairly broad in the west, but it becomes narrower in the east, where it is confined to the ocean-side slopes of the mountains.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Pyrenees Mountains extend across the country between the Bay of Biscay and the Balearic Sea, a distance of about 418 kilometers (260 miles). Their width averages 80 kilometers (50 miles), with a maximum of 129 kilometers (80 miles). The French-Spanish border runs through these mountains, connecting six of the highest peaks. On the Spanish side, three of these peaks exceed 3,353 meters (11,000 feet); Aneto Peak, the highest of these, reaches an altitude of 3,403 meters (11,165 feet). The Pyrenees summits are very steep and rugged with few passes.

In the north, the Cantabrian Mountains (Cordillera Cantábrica) extend across the country parallel to, and in some places adjacent to, the Bay of Biscay. There are drops exceeding 1,524 meters (5,000 feet) within 20 miles (32 kilometers) of the shore. Generally, peaks in the Cantabrian Mountains range from 2,133 to 2,938 meters (7,000 to 8,000 feet).

The Iberian Cordillera (Sistema Ibérico) extend southeast from the center of the Cantabrian Mountains, reaching nearly to the Mediterranean coast. This region's 20,725 square kilometers (8,000 square miles) are covered with barren and rugged terrain. The Spanish call it the "area of difficulty." It separates the Meseta Central from the northeastern river valleys.

The Baetic Cordillera (Sistema Penibético, sometimes called the Andalusian Mountains) of southwestern Spain extend from Cape Nao to Gibraltar, a distance of some 579 kilometers

## DID YOU KNOW?

**T**he Iberian Peninsula contains only two countries: Spain and Portugal. It is a botanical crossroads between Africa and Europe, with more than eight thousand species of plants.

(360 miles). The most impressive part of this range is that which is closest to the coast, the Sierra Nevada; much of it is desolate, however. Its 3,478-meter (11,411-foot) peak, Mulhacén, is the highest point on the Iberian Peninsula. The coastal Sierra Nevada is separated from a sister range in the north by a geological fault line that runs roughly parallel to the shore. The northern range is equally forbidding, with the exception of a few exotic places, such as Granada. Further north is the Sierra Morena, a lower chain with elevations between 152 and 610 meters (500 and 2,000 feet).

## 11 🌐 CANYONS AND CAVES

Although there are many caves in Spain, one of the most interesting is the Altamira Cave. Altamira has been called the "Sistine Chapel of Paleolithic Art." The main hall of the cave, which measures about 18 meters by 9 meters (59 feet by 30 feet), features paintings on the ceiling that are about fifteen thousand years old. Most of the figures are animals, such as bison, horses, and wild boars, along with a few anthropomorphic figures (human-like creatures with animal features). The paintings are remarkably detailed, with various brushstrokes providing a sense of texture and realism. The artists depicted most of the animals poised in the midst of movement, and they painted with only three colors: ochre (yellowish-brown), red, and black. Because the paint-

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## SPAIN

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ings deteriorate when exposed to the carbon dioxide which is exhaled by tourists, a limited number of people are allowed to visit the cave. A nearby museum contains an exact replica, however. UNESCO has designated Altamira Cave as a World Heritage Site.

The Sierra de Guara Canyons, located in the Spanish Pyrenees, are popular sites for climbing and canyoning enthusiasts. The area includes nearly sixty limestone canyons that contain stunning rock formations and views.

The Guayadeque Gorge, located on Gran Canaria Island of the Canary Islands, is a spectacular canyon that stretches halfway across the island. The canyon contains the Purple Caves (Cuevas Bermejas), some of which are still inhabited by humans.

### **12** 🌐 **PLATEAUS AND MONOLITHS**

The Meseta Central, the vast Spanish tableland, dominates central Spain from the Cantabrian Mountains in the north to the Sierra Morena in the south and from the Portuguese border in the west to the Iberian Cordillera in the east. Generally, the Meseta varies in elevations between 610 and 762 meters (2,000 and 2,500 feet), except in the river valleys. It also contains many small mountain ranges, however; two of these are the Toledo Mountains and the Cordillera Carpetovetonica, the latter of which reaches 2,591 meters (8,500 feet). In general, the Meseta gives way to higher land in the western part of the country between the basins of its three largest rivers.

The El Torcal de Antequera, located in the southern hill regions, contains a number of limestone rock formations resembling towers, sculpted figures of various shapes and sizes, and even some dramatic balancing rocks. The rock sculptures were formed primarily by erosion.

### **13** 🌐 **MAN-MADE FEATURES**

There are about twelve hundred dams located along the rivers of Spain. They have been constructed for irrigation, hydropower, and water supply storage. The Alcantara Reservoir, located on the Tagus River, is one of the largest in Western Europe.

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# Sri Lanka

- **Official name:** Democratic Socialist Republic of Sri Lanka
- **Area:** 65,610 square kilometers (25,332 square miles)
- **Highest point on mainland:** Pidurutalagala (2,524 meters/8,281 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 6 P.M. = noon GMT
- **Longest distances:** 435 kilometers (270 miles) from north to south; 225 kilometers (140 miles) from east to west
- **Land boundaries:** None
- **Coastline:** 1,340 kilometers (833 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Sri Lanka (formerly Ceylon) is an island in the Indian Ocean south of India. It is slightly larger than the state of West Virginia.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Sri Lanka has no territories or dependencies.

## 3 🌐 CLIMATE

Sri Lanka has neither summer nor winter but instead has rainy and dry seasons. Sri Lanka receives the northeast monsoon from December through March and the southwest monsoon from June through October. Seventy-five percent of Sri Lanka is a dry zone, primarily in the northern and eastern regions. These areas receive an average annual rainfall of 127 to 190 centimeters (50 to 75 inches), most of which comes from the northeast monsoon. The wet zone, in the southwest region, receives 254 to 508 centimeters (100 to 200 inches) of rain each year, mostly from the southwest monsoon. In any one location on the island, the temperature remains fairly constant year-round. For example, the temperature in Colombo varies only from 25°C to 28°C (77°F to 83°F). The island's lowland areas have hot

weather, with annual temperatures averaging from 23°C to 31°C (73°F to 88°F), while the central mountains are cooler, averaging 14°C to 24°C (57°F to 75°F). Sri Lanka's humidity averages between 70 percent and 90 percent.

## 4 🌐 TOPOGRAPHIC REGIONS

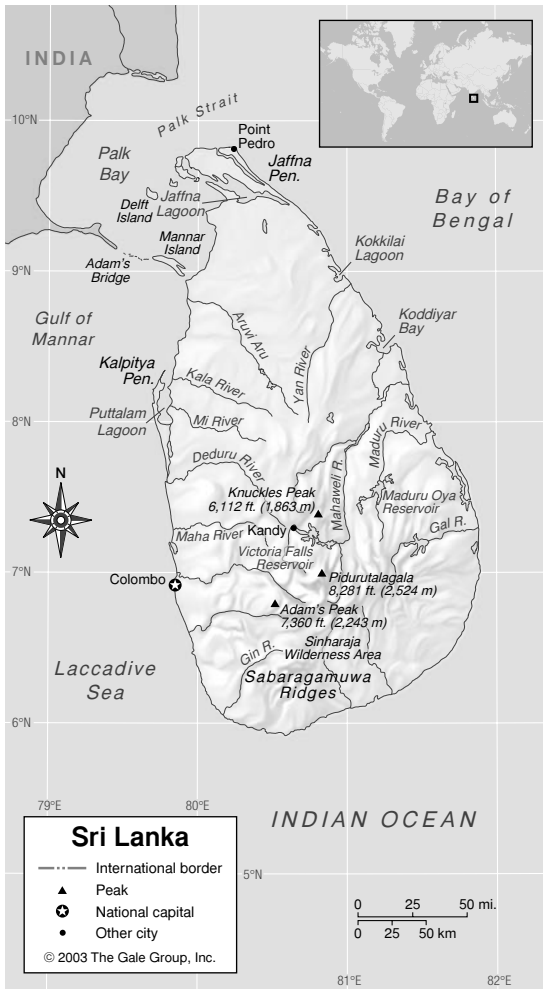
Situated on the Indian Tectonic Plate, the island is a teardrop-shaped mass separated from India by 29 kilometers (18 miles) of shallow sea. The south-central section of Sri Lanka is a rough plateau cut by a range of mountains. Narrow coastal plains surround the mountainous region to the east, south, and west. In the north, the coastal plain extends from the eastern to the western shores of the island. Rivers and streams flow towards the sea in all directions from the central mountain area.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Sri Lanka lies in the northern Indian Ocean, with the Bay of Bengal to its east. The waters surrounding the island are so deep that Sri Lanka is almost unaffected by tidal variations. To the south of Adam's Bridge, the Gulf of Mannar comes between Sri Lanka's northwest

# SRI LANKA



coast and India. Coral reefs extend around the Gulf of Mannar and sections of the southern and eastern coasts. Much of the coral is dying, however, from pollution, dynamite fishing, and changes in sea temperatures due to global warming. The Laccadive Sea borders Sri Lanka on the southwest.

## Sea Inlets and Straits

The Palk Strait and Palk Bay separate Sri Lanka's Jaffna Peninsula from India. Koddiyar Bay indents the eastern coast, forming a superb natural harbor for the port of Trincomalee. A little further north, Kokkilai

Lagoon cuts into the coast near the point at which the Yan River empties into the sea.

## Islands and Archipelagos

A few small islands extend from the north of Sri Lanka to the Indian mainland. Delft, covering 50 square kilometers (19 square miles), and Velanai, with an area of 68 square kilometers (26 square miles), are both situated in Palk Bay. Southwest of the Jaffna Peninsula, an elevated portion of the continental shelf forms the chain of rocky islands known as Adam's Bridge, nearly connecting Sri Lanka's northwest coast to India. Mannar Island is part of Adam's Bridge.

## Coastal Features

The Jaffna Peninsula, a dry limestone extension, is Sri Lanka's northernmost region, with Point Pedro at its tip and Jaffna Lagoon to its south. Further south on the western coast, the Kalpitya Peninsula extends in a hook enclosing Puttalam Lagoon. The southern and southwestern coastline of Sri Lanka is famous for its many beautiful beaches, which are shared by tourist resorts and fishing communities. The southernmost point of the island is Dondra Head, marked with a lighthouse built in 1899.

## 6 🌐 INLAND LAKES

Although Sri Lanka has few natural lakes, there are twelve thousand bodies of water ranging from tiny ponds to huge artificial reservoirs. The oldest of the traditional reservoirs, known as tanks, is believed to be Basawakkulam, built about 300 B.C. and covering more than 30 square kilometers (11 square miles). There are as many as ten thousand tanks of various sizes. There are also flood plain lakes, called villus, which are generally near river bends.

## 7 🌐 RIVERS AND WATERFALLS

The rivers of Sri Lanka rise in the high mountains and flow over the plateaus down to the

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# SRI LANKA

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EPD/Cynthia Bassett

*Rock formation in Sri Lanka.*

plains in a ring of waterfalls. A survey found 272 waterfalls on the island. There are sixteen principal rivers. The Mahaweli, which flows northeast from the central highlands for 341 kilometers (206 miles), is the longest. With the exception of the 167-kilometer (104-mile) Aruvi Aru in the northwest, the other chief rivers range from 100 to 156 kilometers (62 to 97 miles) in length. The Yan flows from the center of the island northeast to the Bay of Bengal. In the southeast, the relatively short Gal runs eastward from Gal Oya National Park to the ocean, and just north of it the Maduru runs to the coast near Batticaloa. The southern end of the island has the Gin River, and the northwestern region has rivers at nearly even intervals running westward from the center to the coast. From north to south, they are the Aruvi Aru, Kala, Mi, Deduru, and Maha Rivers.

## 8 🌐 DESERTS

There are no notable desert regions in Sri Lanka.

## 9 🌐 FLAT AND ROLLING TERRAIN

Grasslands occur in the central highlands, the arid north, and along the eastern hills. The Uva Basin has distinctive wet grasslands called *patanas*. Gal Oya, in the southeast, is a national park, with tall grasses and monsoon forest. It has medicinal plants and is an elephant habitat. The Horton Plains are grasslands mixed with temperate forest, though the forests are dying off. About 25 percent of Sri Lanka is covered by forest, and 20 percent of that is tropical rainforest. Sinharaja, in the southern lowlands, is Sri Lanka's last significant primary rainforest, and has been declared a UNESCO World Heritage Site and Biosphere Reserve. Dry zone forests include thorn forests in the northwest and southeast, dry evergreen forests, and

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# SRI LANKA

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EPD/Cynthia Bassett

*Sinharaja, in the southern lowlands, is Sri Lanka's last significant primary rainforest.*

deciduous monsoon forests. The eastern slopes of the central highlands contain savannah forests that are very susceptible to burning and droughts. Tropical evergreen rainforests are found at low and high elevations of the wet zone. Mangrove forests are declining along the coasts. Remaining forest cover exists mostly in disconnected patches of protected land.

The island's southeastern plain is interspersed with rounded hills that are the bare tops of eroded mountains. Gentler, grass-covered hills occur in the Uva Basin of the central highlands.

## 10 🌐 MOUNTAINS AND VOLCANOES

The island's southwest is a series of ridges and valleys. Close to the sea, the ridges are low and parallel to the coast, but inland they become mountain chains alternating with long, narrow depressions. The Sabaragamuwa Ridges cover nearly the entire southern region of the country.

High mountain walls distinguish the central highlands (also known as the hill country). Elevations of more than 1,524 meters (5,000 feet) are the rule; Adam's Peak, a pilgrimage destination, rises to 2,243 meters (7,360 feet). The Piduru Ridges comprise the central mass of the hill country. This nearly inaccessible mountain fortress includes Sri Lanka's highest mountain, Pidurutalagala, with a summit of 2,524 meters (8,281 feet).

The northernmost sections of the central highlands are the Knuckles (Dumbara) group of mountains, including Knuckles Peak that rises to a height of 1,863 meters (6,112 feet). The Mahaweli River valley separates the Dolosbage mountain range from the rest of the central highlands.

## 11 🌐 CANYONS AND CAVES

In the Dolosbage area of the central highlands, deep, narrow valleys lie between the ridges creating a rock maze. The Kandy Plateau is also cut by ridges and valleys and by the Mahaweli River gorge.

## 12 🌐 PLATEAUS AND MONOLITHS

The Hatton Plateau is one of a series of high plains of the central highlands. Its elevation ranges from 914 to 1,219 meters (3,000 and 4,000 feet). The rivers that flow between its ridges ultimately form the Mahaweli. Nearly all of the Hatton Plateau is used for tea cultivation. The ancient town of Kandy, a UNESCO World Heritage Site, is situated on the Kandy Plateau in the northwest central highlands.

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## SRI LANKA

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Horton Plains, a 32-square-kilometer (12-square-mile) national park in the southern central highlands, is Sri Lanka's highest plateau at 2,130 miles (6,988 feet).

### 13 MAN-MADE FEATURES

Sri Lanka's largest lake, Maduru Oya (63 square kilometers/24 square miles), is a modern reservoir in the central highlands. Other large reservoirs include Randenigala (27 square kilometers/10 square miles), Victoria Falls (23 square kilometers/9 square miles), and Kotmale (10 square kilometers/4 square miles). These huge highlands reservoirs were formed by the damming of the Mahaweli River for irrigation, hydroelectricity, and water supply projects completed between 1977 and 1983. Sri Lanka has forty-six large dams and many smaller hydropower projects. Nature sanctuaries have been established around the reservoirs to protect the watersheds, but tens of thou-

sands of people were displaced as a result of the construction, and valuable agricultural land was submerged. The reservoirs are becoming choked with silt and the water levels are dropping.

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# Sudan

- **Official name:** Republic of the Sudan
- **Area:** 2,505,810 square kilometers (967,499 square miles)
- **Highest point on mainland:** Mount Kinyeti (3,187 meters/10,456 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 2,192 kilometers (1,362 miles) from south-southeast to north-northwest; 1,880 kilometers (1,168 miles) from east-northeast to west-southwest
- **Land boundaries:** 7,687 kilometers (4,776 miles) total boundary length; Egypt 1,273 kilometers (791 miles); Ethiopia 1,606 kilometers (998 miles); Kenya 232 kilometers (144 miles); Uganda 435 kilometers (270 miles); Democratic Republic of the Congo 628 kilometers (390 miles); Central African Republic 1,165 kilometers (724 miles); Chad 1,360 kilometers (845 miles); Libya 383 kilometers (238 miles); Eritrea 605 kilometers (376 miles)
- **Coastline:** 853 kilometers (530 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Sudan is located in northeast Africa on the western border of the Red Sea. It is the largest country in Africa and shares borders with Egypt, Libya, Chad, the Central African Republic, Uganda, Kenya, Ethiopia, and Eritrea. With an area of about 2,505,810 square kilometers (967,499 square miles), it is slightly more than one-fourth the size of the United States. Sudan is divided into twenty-six states.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Sudan has no outside territories or dependencies.

## 3 🌐 CLIMATE

Sudan has an equatorial climate. The northern plains and desert region are hot and dry with maximum temperatures reaching 42°C (108°F) from March through June. November through February are the coolest months,

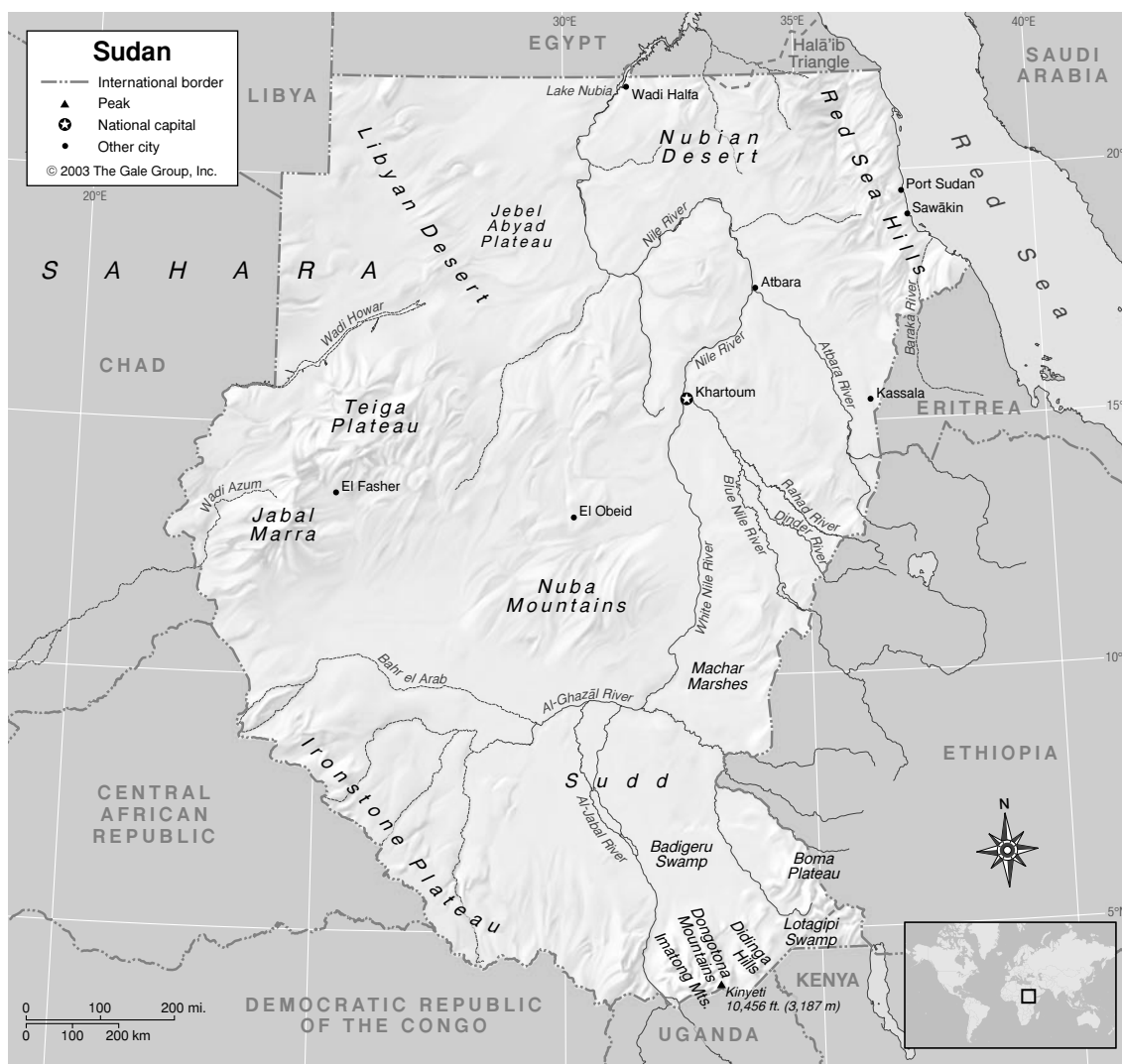
with average temperatures of 32°C (90°F) and nighttime lows of 4°C (40°F). Average temperatures in the central and southern regions are 27°C (80°F) and 29°C (85°F) respectively.

Rainfall increases from north to south. In the north, annual rainfall totals about 10 centimeters (4 inches). The southern regions receive 76 to 127 centimeters (30 to 50 inches) of rain during the long rainy season; as a result, these areas support a rich variety of tall grasses, shrubs, and trees. The lush vegetation in the south contrasts sharply with the deserts of Northern Province, where the occasional rains vanish in the parched sand and vast areas are devoid of both vegetation and people.

## 4 🌐 TOPOGRAPHIC REGIONS

Sudan is an immense, sparsely populated plain, with plateaus or mountains near the borders in the west, the southeast, and along the Red Sea coast in the northeast.

# SUDAN



The most prevalent landscape is semiarid savannah, a mixture of short grasses, scattered brush, and short trees.

Narrow belts of irrigated cropland, no more than a few miles wide, bisect the northern savannah and deserts along the main Nile River; these farmlands also run along the White Nile, the Blue Nile, and the Atbara Rivers. They contrast sharply with the arid savannah or barren desert which is just beyond the limits of irri-

gation. Only 5 percent of the land in Sudan is arable; of the remaining terrain, 24 percent is meadows and pastures, 20 percent is forest and woodland, and 51 percent is semiarid desert.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Sudan has an eastern coast on the Red Sea, which is a narrow, landlocked sea that separates Africa from the Arabian Peninsula. In the north, it links to the Mediterranean through

# SUDAN

the Gulf of Suez and the Suez Canal. In the south, the sea links to the Gulf of Aden and the Arabian Sea through the strait of Bab el Mandeb. The Red Sea is therefore a major shipping route between the Mediterranean Sea and the Gulf of Aden. At its widest point, it is only 326 kilometers (205 miles). The Red Sea is rather deep, with an average depth of 500 meters (1,640 feet). It reaches a maximum depth of 2,000 meters (6,562 feet), and it features red coral reefs and extensive coral gardens.

## Sea Inlets and Straits

Natural harbors of the Red Sea exist at Port Sudan (Bur Sudan) and Sawākin.

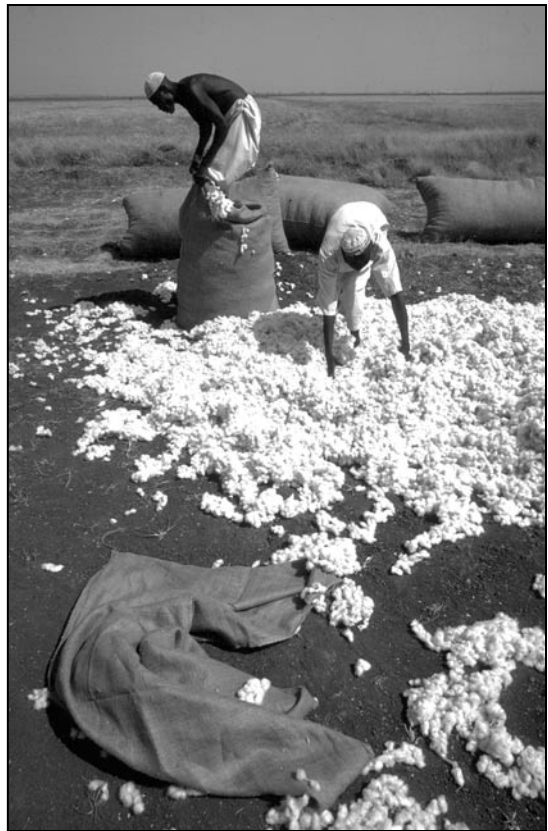
## 6 INLAND LAKES

Sudan has very few lakes. The largest ones are artificial, resulting from dams on the Blue Nile and Upper Nile Rivers. The backwaters of the Aswan Dam in Egypt created Lake Nubia, the largest lake in Sudan. The lake begins in Egypt and extends into Sudan as far as the northern terminus of the Sudanese railway at Wadi Halfa. Its total surface area during the wet season is 968 square kilometers (373 square miles).

## 7 RIVERS AND WATERFALLS

With a total length of about 6,693 kilometers (4,160 miles), the Nile is the longest river in the world, although other rivers carry more water. The Nile is a combination of the White Nile, which originates in Lake Victoria in Uganda and Tanzania, and the Blue Nile, which originates in Ethiopia. These rivers meet in Sudan near the city of Khartoum.

From the confluence of the White and Blue Nile Rivers near Khartoum, the Upper Nile winds northward through this desert area for a distance of 1,287 kilometers (800 miles) inside Sudan. It provides the only water for the narrow strips of cultivation along the riverbanks. Virtually no rain falls in the area between Atbara and the Egyptian frontier at Wadi Halfa;



UNESCO/Jean Mohr

*Cotton farming in Sudan.*

Wadi Halfa is often completely rainless for years at a time. The settlements along the Nile depend on various types of irrigation or periodic flooding for their livelihood.

Within Sudan, the Blue Nile experiences seasonal flooding caused by torrential rains in the Ethiopian highland regions. Half of the people of Sudan are dependent on waters from these floods. During flood times, the flow of the Blue Nile may be sixty times greater than that of its low-water period.

An important tributary to the Upper Nile is the Atbara River, similar in seasonal behavior to the Blue Nile and also originating in the mountains of Ethiopia. It traverses northwest



## SUDAN



AP Photo/Raouf

*In 1999 dignitaries watched the first oil flow through a new 1,000-mile pipeline in Sudan.*

across eastern Sudan and empties into the Nile at the town of Atbara. The gradient of the Nile from Khartoum to Wadi Halfa on the northern border of Sudan is very steep. Along this lower reach are five of the Nile's six cataract areas of swift, rough water.

The Nile crosses the northern border of Sudan into Egypt and eventually empties into the Mediterranean Sea.

All perennial streams of significant size in Sudan are part of the Nile system. There are also numerous wadis, or intermittent streams, which flow only part of the year. Some drain into the Nile during the rainy season and stand empty at other times. Others drain into swamps that have no outlet to a river or simply

disappear into the sands of an inland basin during the dry months. For example, the Wadi Howar and the Wadi Al-Ku, both originating in the Teiga Plateau region, disappear into the desert. Another stream of similar origin, the Wadi Azum, eventually reaches the Lake Chad drainage system to the west. Some of these intermittent streams carry large amounts of water during the rainy season and support local areas of agriculture. The Mareb, also known as the Gash or Al-Qāsh in Sudan, and the Baraka River flow into northeast Sudan from the Eritrean highlands during the months of July, August, and September. The Mareb River provides water for important irrigation schemes north of Kassalā and the Baraka feeds the Tawkar delta near the Red Sea coast. The Bahr el Arab in southwestern Sudan is another important seasonal river.

Permanent swamps surround the river systems in the southern provinces and Upper Nile, covering about 129,500 square kilometers (50,000 square miles), where there is an excess of water for most of the year. This phenomenon is best characterized by the Sudd, a vast region of swamps and marshes covering an area of about 7,770 square kilometers (3,000 square miles) and extending from Boma National Park several hundred miles northwestward to the Al-Ghazāl River, ending at the Machar Marshes near the Ethiopian border. The vast swamp and marsh area is as monotonous as the featureless plains farther north, but there is considerable variety of terrain and vegetation in the uplands south of the swamps, particularly near the Uganda and Kenya borders. The largest swamp in the Sudd, Badigeru Swamp, is located between the Al-Jabal and Boma National Park. Lotagipi Swamp is located in the southeast corner of Sudan, at the junction with Kenya and Ethiopia.

# SUDAN

## 8 DESERTS

A line running east to Atbara and Port Sudan from the western frontier at 16°N latitude defines the approximate southern limit of desert, which covers the northern quarter of Sudan. The Libyan Desert extends into Sudan from the northwest. In the northeast, the Nubian Desert covers the area between the Nile and the Red Sea Hills. These deserts are part of the larger Sahara Desert.

### DID YOU KNOW?

The country of Sudan lies within the greater region also known as the Sudan. The Sudan region covers an area that is south of the Sahara Desert but north of the equator. It extends from the Atlantic coast of Africa to the mountains of Ethiopia.

The Sahara Desert, which covers an area of 9,065,000 square kilometers (3,500,000 square miles), is the largest desert in the world. It covers the entire region of North Africa, from the Atlantic coast in the west to the Red Sea in the east. It borders the Mediterranean Sea and the Atlas Mountains in the north and extends through the Sudan region. Scientists believe that during the Ice Age (fifty thousand to one hundred thousand years ago), the Sahara was covered with shallow lakes that provided water for large areas of lush vegetation.

The desert west of the Nile supports only a few Arab nomads who cover great expanses of the parched country in search of grazing land for their camels, sheep, or goats. They usually find pastures in the south, where a little rain occurs during most years and grass springs to life. Water is available only in scattered oases, such as Al Atrun in the western desert and Well No. 6 on the railway between Wadi Halfa and Abu Hamand. Terrain in this northern desert consists of broad areas of sand and flintrock with occasional hills of basalt, granite, and limestone, often surrounded by banks of sand deposited by the wind.

## 9 FLAT AND ROLLING TERRAIN

The topography of the country outside the mountains and the Nile valley is basically a flat plain extending some 804 to 965 kilometers (500 to 600 miles) from east to west and more than 1,609 kilometers (1,000 miles) from north to south. It is a part of the broad savannah belt that begins at the southern edge of the Sahara Desert and extends across the African continent. For hundreds of square kilometers the only features relieving the monotony of the Sudanese plain are low rolling hills (sometimes referred to locally as mountains) or extensive sand dunes created thousands of years ago and partially or entirely fixed by vegetation. Soils are composed mainly of clay, much of which is impermeable and difficult to cultivate, or of sand that contains little clay or humus (organic matter).

## 10 MOUNTAINS AND VOLCANOES

Sudan has four mountain or upland zones. To the northeast near the coast lie the Red Sea Hills. In the west are the Marra, a mountain range that slopes to the border with Chad, and in central Sudan south of El Obeid are the Nuba Mountains, a relatively minor system that rises above the clay plains. The fourth zone includes the Imatong and

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## SUDAN

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### DID YOU KNOW?

The Pyramids of Meroe, in central Sudan, stand as monuments to the kingdom of Nubia, known as Kush to the Egyptians. Sudanese kings reigned over Nubia for a relatively short period of time, from about 712 B.C. until 657 B.C. The ancient region of Nubia covered part of the area of modern-day southern Egypt and northern Sudan. (Much of this area was submerged recently by the Aswan Dam's creation of Lake Nasser.) When the Sudanese kings controlled the region, the capital of their kingdom was at Meroe, near what is now Khartoum. More than fifty pyramids that once served as part of the royal cemetery still stand in this desert region. Though smaller than the pyramids of Egypt (the largest of these measures about 51 meters/170 feet at its base), the Pyramids of Meroe are the world's largest collection of pyramids in one place.

Dongotona Mountains in the extreme south along the Uganda border.

The Red Sea Hills are eroded outcroppings of base rock rising from a narrow coastal plain. The abruptness of their eastern slope gives rise to gushing torrents during winter rains that are blown in from the sea. The western

slopes incline more slowly toward the Nile and receive only light summer rains. North of the Atbara-Port Sudan railway, the hills extend into the desert and are bare of vegetation except in the valleys. South of the railway, however, increased rainfall permits the growth of a few trees and thorny shrubs. The area is inhospitable and supports only semi-nomadic herders, who also cultivate hardy varieties of millet in the wetter valleys. They move their flocks laterally across the mountains or to higher or lower altitudes, depending upon the vagaries of the rainfall at various elevations. The highest of the Red Sea Hills are above 2,133 meters (7,000 feet).

The only major mountain range in western Sudan, the Marra, stands near the city of El Fasher, rising above 3,048 meters (10,000 feet) in elevation. The Marra is of volcanic origin and its valleys are relatively fertile. The upper elevations receive a slightly higher rainfall than the surrounding plains and the relatively rich soil of the valley is more productive. Some of the rocks and peaks have a sculptured appearance resulting from the action of the rains upon the soft volcanic rock. Streams deposit much of the eroded rock on the desert floor below, but on the higher hillsides, artificial terraces of ancient origin retain topsoil and water. Although cultivation is generally dependent upon the seasonal rains, some valleys and terraces are irrigated with water from small perennial mountain streams.

The Nuba Mountains of central Sudan are scattered granitic masses, rising as much as 914 meters (3,000 feet) above a level clay plain. They are covered in many areas by variations of savannah vegetation. Some slopes were once terraced and then abandoned by subsistence farmers. Water is not as scarce in the mountains as in the surrounding plains. Wells are numerous in the open valleys, and a

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# SUDAN

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few short mountain streams continue to flow throughout the year.

The Imatong and Dongotona Mountains stand in the extreme south, with the lower Didinga Hills flanking them to the east. The Imatongs are the highest mountains in Sudan, with peaks above 3,048 meters (10,000 feet) including Mount Kinyeti, the highest point in the country, which rises to a height of 3,187 meters (10,456 feet). The Dongotona Mountains, lying east of the Imatongs, reach a maximum height of about 2,529 meters (8,300 feet). Both mountain chains have a considerable coverage of rainforest.

## 11 🌐 CANYONS AND CAVES

There are no major caves or canyons in Sudan.

## 12 🌐 PLATEAUS AND MONOLITHS

Plateau-like formations characterize the mountainous areas and their foothills and, therefore, tend to rim the country, serving as watersheds for the great Nile basin drainage. The best examples are found in the large Teiga Plateau north of the Marra in the west and the extensive Ironstone Plateau in the southwest. Near the Imatongs and Dongotona Mountains area in the southeast, on the border with Ethiopia, sits the Boma Plateau, the site of a national park. West of this region, north of the mountains and northeast of Ironstone Plateau, lower plateaus slope generally northward toward the Sudd. In the north, the Libyan Desert runs across the Jebel Abyad Plateau. Along the Red Sea

coast in the northeast, there are also some smaller plateaus.

## 13 🌐 MAN-MADE FEATURES

There is an extensive system of dams and reservoirs built throughout the course of the Nile River. These dams serve to control flood waters, irrigate agriculture lands, provide drinking water, and generate hydroelectric power. For instance, in Sudan, the Sannar Dam on the Blue Nile allows for irrigation of the Al-Jazirah plain and produces hydroelectric power. The Ar-Rusayris Dam, also on the Blue Nile, helps contain water from Lake Nassar (at the Egyptian border) for use in Sudan.

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# Suriname

- **Official name:** Republic of Suriname
- **Area:** 163,270 square kilometers (63,038 square miles)
- **Highest point on mainland:** Juliana Top (1,230 meters/4,034 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8:30 A.M. = noon GMT
- **Longest distances:** 662 kilometers (411 miles) from northeast to southwest; 487 kilometers (303 miles) from southeast to northwest
- **Land boundaries:** 1,707 kilometers (1,058 miles) total boundary length; Brazil 597 kilometers (371 miles); French Guiana 510 kilometers (317 miles); Guyana 600 kilometers (372 miles)
- **Coastline:** 386 kilometers (239 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Suriname is the smallest independent country in South America. It is located on the north-east edge of the continent, with a coastline along the Atlantic Ocean. The country shares borders with French Guiana, Brazil, and Guyana. With an area of about 163,270 square kilometers (63,038 square miles), the country is slightly larger than the state of Georgia. Suriname is divided into eighteen districts.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Suriname has no outside territories or dependencies.

## 3 🌐 CLIMATE

Suriname's climate is generally tropical and moist. The daily trade winds that blow in from the Atlantic Ocean are the greatest influence on the country's temperatures. Temperatures range from 28°C to 32°C (82°F to 90°F) during

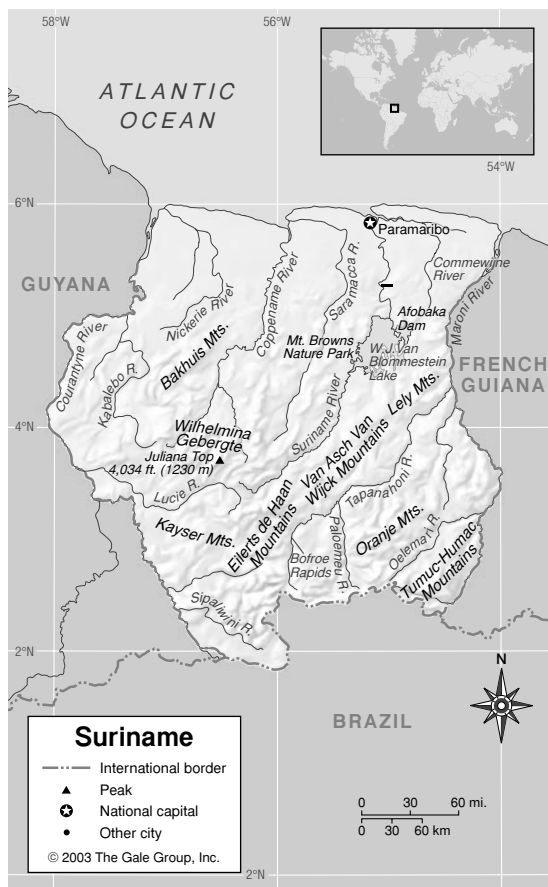
the day; nighttime temperatures can drop to 21°C (70°F).

Annual rainfall in Paramaribo, the capital city, is approximately 230 centimeters (90 inches). Most rainfall occurs in the mountains in the southern region. Annually, the western region receives 193 centimeters (76 inches) of rain, while the eastern area receives 241 centimeters (95 inches). Suriname experiences two wet seasons and two dry seasons. A long rainy season occurs from April to August and is followed by a long dry season from August to November. Another rainy season occurs from December to February, but it is shorter and less rainy. It is followed by a short dry season in February and March.

## 4 🌐 TOPOGRAPHIC REGIONS

Suriname is divided into three distinct natural regions: a coastal plain, a region of forested mountains, and high savannah in the southwest. Of these areas, the mountains

# SURINAME



currents and wind push the river deposits to form unevenly shaped mud banks and ridges along the coast.

## 6 🌐 INLAND LAKES

The largest lake in Suriname is W. J. van Blommestein Lake. This man-made lake was created by construction of the Afobaka Dam.

## 7 🌐 RIVERS AND WATERFALLS

The numerous rivers that dissect the land are all interconnected by a remarkable system of channels. In the central part of the country the principal rivers are the Nickerie, the Coppename, the Saramacca, the Suriname, and the Commewijne. The largest river in the country is the Courantyne (Corantjin, 764 kilometers/475 miles), which marks the border with Guyana. Major tributaries of the Courantyne in Suriname are the Sipaliwini, Lucie, and Kabalebo. Along the eastern border with French Guiana is another large river, the Maroni, with its tributaries the Tapanahoni, Paloemeu, and Oelemari. All of the rivers flow northward into the Atlantic Ocean, with many rapids and waterfalls.

## 8 🌐 DESERTS

There are no desert regions in Suriname.

## 9 🌐 FLAT AND ROLLING TERRAIN

The coastal plains in the north cover about 16 percent of the country. Large portions of the coastal plain are swampland, since most of this area lies near sea level. Mud banks and other deposits from slow-moving rivers in their delta stage also contribute to the swamps. Some of these swamps have been drained to make land available for farming.

In the far south, past the mountain ranges, grassy savannahs are scattered throughout the forests.

Approximately 80 percent of the country is covered by tropical rain forest. This

are by far the largest, covering roughly three-quarters of the country. Seven significant rivers run through Suriname, all flowing into the Atlantic Ocean in the north.

Suriname is located on the South American Tectonic Plate.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Atlantic Ocean is located along Suriname's northern coast.

### Coastal Features

The shape and make-up of the coastline constantly changes because of the deposits from Suriname's numerous rivers. Ocean

## DID YOU KNOW?

The blue poison-dart frog is bright blue and produces special foul-tasting and deadly secretions to ward off predators. The “poison dart” part of its name comes from the fact that Amerindians rubbed the frog’s secretions on the tips of darts for hunting and even for warfare. The blue poison-dart frog inhabits the rain forest of Central and South America and is one of the most-endangered of all poison-dart frogs.

is essentially all of the country south of the coastal plains, with the exception of some small savannahs in the south. The rain forest is considered to be one of the best-preserved on Earth. In the late 1990s, the Central Suriname Wilderness Nature Reservation was created, setting aside about 10 percent of the country as a protected area. The reservation is listed as a natural World Heritage Site by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

### 10 🌐 MOUNTAINS AND VOLCANOES

The mountainous rain forest region that covers most of Suriname has been only partially explored. It consists of a number of chains, with the terrain gradually rising to the country’s highest elevation, Juliana Top (1,230 meters/4,034 feet), in the Wilhelmina Mountains at the center of the country. The Van Asch-Van Wijck Mountains make up the rest of the central mountain chain, which is connected to the Tumuc-Humac Mountains along the Brazilian border by the southern Eilerts de Haan Mountains. Other ranges include the Kayser and



George Grall/National Geographic Image Collection

*Blue poison-dart frog, which inhabits the rain forest in Suriname.*

Bakhuis Mountains in the west and the Oranje and Lely Mountains in the east.

### 11 🌐 CANYONS AND CAVES

There are no significant natural caves or canyons in Suriname.

### 12 🌐 PLATEAUS AND MONOLITHS

There are no significant plateau regions in Suriname.

### 13 🌐 MAN-MADE FEATURES

The Afobaka Dam was built in the 1960s on the Suriname River in the east central region. The dam generates electricity for the processing of bauxite, one of the country’s natural resources.

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# SURINAME

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## DID YOU KNOW?

Suriname has some of the world's richest reserves of bauxite, a primary mineral used in the production of aluminum. Mining sites at Moengo and Paranam are estimated to have ten to fifteen years of bauxite reserves remaining. Other bauxite reserves have been located but are currently unexploited.

All bauxite mined in Suriname is brought via navigable rivers and the Atlantic to the Suriname Aluminum Company (SURALCO) in Paranam, a subsidiary of the Aluminum Company of America (ALCOA).

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# Swaziland

- **Official name:** Kingdom of Swaziland
- **Area:** 17,363 square kilometers (6,704 square miles)
- **Highest point on mainland:** Emlembe (1,862 meters/6,109 feet)
- **Lowest point on land:** Great Usutu River (21 meters/69 feet)
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 176 kilometers (109 miles) from north to south; 135 kilometers (84 miles) from east to west
- **Land boundaries:** 535 kilometers (332 miles) total boundary length; Mozambique 105 kilometers (65 miles); South Africa 430 kilometers (267 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Swaziland is located in southern Africa, between Mozambique and South Africa. It is slightly smaller than the state of New Jersey.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Swaziland has no territories or dependencies.

## 3 🌐 CLIMATE

Temperatures vary from as low as  $-3^{\circ}\text{C}$  ( $27^{\circ}\text{F}$ ) in the highlands during winter to  $42^{\circ}\text{C}$  ( $108^{\circ}\text{F}$ ) in the low veld during summer. Temperatures rise and the climate warms as the altitude drops. In Mbabane the average temperature ranges from 6 to  $17^{\circ}\text{C}$  ( $43$  to  $66^{\circ}\text{F}$ ) in June to 15 to  $25^{\circ}\text{C}$  ( $59$  to  $77^{\circ}\text{F}$ ) in January.

The high veld region has a humid temperate climate and receives 140 centimeters (55 inches) of rain annually. The Lebombo plain and middle veld are warmer and drier and receive only about 85 centimeters (33 inches) of precipitation per year. The nearly tropical low veld receives an average of 60 centimeters (24 inches) of rain annu-

ally. The wettest period of the year is from October to March when violent rainstorms may occur.

## 4 🌐 TOPOGRAPHIC REGIONS

Landlocked Swaziland is located in southern Africa, nearly surrounded by South Africa. It is part of the South African Plateau and is divided into four well-defined regions from west to east. In the far west, the high veld (1,050 to 1,200 meters/3,500 to 3,900 feet) descends eastward through the middle veld (450 to 600 meters/1,475 to 1,970 feet) to the low veld (150 to 300 meters/490 to 980 feet). To the east of the low veld is the Lebombo Range (450 to 825 meters/1,475 to 2,700 feet), mountains that separate the country from the Mozambique coastal plain.

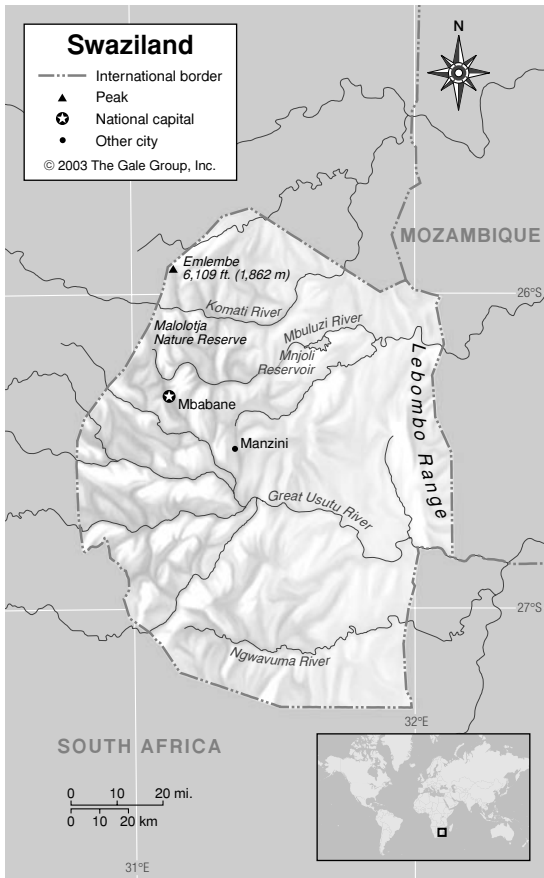
## 5 🌐 OCEANS AND SEAS

Swaziland is a landlocked nation.

## 6 🌐 INLAND LAKES

There are no significant lakes within Swaziland.

# SWAZILAND



## 7 🌐 RIVERS AND WATERFALLS

Swaziland is well watered, with four large rivers flowing eastward across it into the Indian Ocean. These are the Komati (source in South Africa) and the Mbuluzi (or Umbeluzi) Rivers in the north, the Great Usutu (or Lusutfu) River (source in South Africa) in the center, and the Ngwavuma River in the south.

Swaziland's highest waterfall, Malotja Falls (about 1,000 meters/3,280 feet high), is found in the Malotja Nature Reserve about 19 kilometers (12 miles) northwest of Mbabane. This reserve, at almost 1,500 meters (5,000 feet) in elevation, has more than twenty waterfalls as the Malotja River

flows down from the highest elevations to join the Komati River at about 900 meters (3,000 feet) above sea level.

## 8 🌐 DESERTS

There are no significant desert regions in Swaziland.

## 9 🌐 FLAT AND ROLLING TERRAIN

Swaziland is covered almost entirely by grasslands, savannah, and mixed scrub. Swaziland's high veld has the largest man-made forests of conifers and eucalyptus in Africa.

The Valley of Heaven (Ezulwini Valley) is found between the cities of Mbabane and Manzini and is covered in lush green grasslands. Hilly regions support coniferous trees.

## 10 🌐 MOUNTAINS AND VOLCANOES

On the west side of the country is the high veld, which rises to 1,850 meters (6,070 feet). Mount Emlembe is located on the northwestern border with South Africa. In the east, the Lebombo Mountains offer an undulating plateau rising high above the Lebombo Plain from a striking escarpment.

## 11 🌐 CANYONS AND CAVES

Lion's Cavern, which contains an ancient mine, is found in the northwest of the country. A canyon in the Hhohho province

### DID YOU KNOW?

Swaziland suffers from soil erosion and destruction. The country has four protected areas for wildlife, totaling 40,045 hectares (98,953 acres).

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# SWAZILAND

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EPD/Cynthia Bassett

*White rhinoceros in Swaziland.*

in the north is the location of a dam on the Komati River.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Swaziland occupies the eastern edge of the South African plateau where it breaks apart and drops to the Mozambique coastal plain on the Indian Ocean.

## **13** 🌐 **MAN-MADE FEATURES**

In April 2002, the Maguga Dam was officially opened. Situated along the Komati River in the north, the dam will provide hydroelectric power to both Swaziland and neighboring South Africa.

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# Sweden

- **Official name:** Kingdom of Sweden
- **Area:** 449,964 square kilometers (173,732 square miles)
- **Highest point on mainland:** Kebnekaise (2,111 meters/6,926 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 1,574 kilometers (978 miles) from north to south, 499 kilometers (310 miles) from east to west
- **Land boundaries:** 2,205 kilometers (1,370 miles) total boundary length; Finland 586 kilometers (364 miles); Norway 1,619 kilometers (1,006 miles)
- **Coastline:** 3,218 kilometers (2,000 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Sweden is located on the Scandinavian Peninsula of northern Europe, between the countries of Norway and Finland. With a total area of about 449,964 square kilometers (173,732 square miles), the country is slightly larger than the state of California. Sweden is administratively divided into twenty-one counties.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Sweden has no outside territories or dependencies.

## 3 🌐 CLIMATE

Because of the influence of the ocean current known as the North Atlantic Drift and the prevailing air currents, Sweden's average temperatures are warmer than similar northern countries that lie further inland. In winter, the average temperature in southern Sweden is  $-3^{\circ}\text{C}$  ( $26^{\circ}\text{F}$ ). In summer, the average temperature there is  $18^{\circ}\text{C}$  ( $64^{\circ}\text{F}$ ). Norrland (northern Sweden) is much colder, with a winter season that extends for up to

eight months, with snow remaining on the ground for about six months.

Annual rainfall averages 61 centimeters (24 inches). The western part of the country along the border with Norway experiences the country's heaviest precipitation.

## 4 🌐 TOPOGRAPHIC REGIONS

The largest of the Scandinavian countries and the fourth-largest country in Europe, Sweden is one of the countries located farthest from the equator. It extends from north to south at roughly the same latitude as Alaska, with about 15 percent of its total area situated north of the Arctic Circle.

The most notable of Sweden's geographical features is its length, which the Swedes speak of as *vart avlanga land* (our long, drawn-out land). It shares this and many other features with its western twin in Scandinavia, Norway, but Sweden is a land of lower altitudes and less dissected relief than Norway.

# SWEDEN



Four topographical divisions can be discerned in the country, although they are of unequal size. The largest is Norrland, the northern three-fifths of Sweden. Characterized by a landscape of hills and mountains, forests, and large river valleys, it stretches

roughly from the lower reaches of the Dal River northward. Svealand, or central Sweden, constitutes the second region. It is made up of lowlands dotted with thousands of lakes. Småland in the south is the third region. It is an area of forested hills. The fourth region is in the southernmost part of the country and is known as Skåne (Scania). Topographically, it is a continuation of the fertile plains of Denmark and northern Germany.

Sweden is located on the Eurasian Tectonic Plate.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The east and south coasts of Sweden lie on the Baltic Sea, which is linked to the North Sea by the narrow and shallow straits of the Kattegat and the Skagerrak. The Gulf of Bothnia, between Sweden and Finland, is the northernmost extension of the Baltic Sea. All of these bodies of water are considered to be extensions of the Atlantic Ocean.

### Sea Inlets and Straits

The Kattegat lies along the southwest shore of Sweden. As it reaches the northernmost extent of Denmark, the Kattegat flows into the Skagerrak Strait, a triangular body of water that lies between Norway, Sweden, and Denmark. The Kattegat and Skagerrak are considered part of the North Sea. The channel of water separating Denmark and Sweden and linking the Kattegat Strait with the Baltic Sea is the Öresund Strait.

### Islands and Archipelagos

Like other Scandinavian countries, Sweden has many islands. The archipelago of Stockholm shows the most intense concentration of islands, the outermost of which are separated from their Finnish counterparts by the Åland Sea. In contrast, the western coast archipelago

# SWEDEN

of Bohusian is a skerry (rocky reef) zone where the ice, waves, and winds have left the skerries bald in appearance.

Of all the Swedish islands, Gotland (3,173 square kilometers/1,225 square miles) is the largest and occupies a special and central place. Although it has a plateau appearance and is skirted with limestone cliffs, it has some of the finest beaches in the Baltic. Its principal town is Visby. Öland Island, not far off of Sweden's southeastern coast, is the second-largest island at 1,344 square kilometers (519 square miles).

## Coastal Features

The Bothnian coastal plain merges almost imperceptibly into the sea. Both the littoral (the coastal region of the ocean) and estuaries are crowded with islands. The Bothnian coast may be divided into lower, middle, and upper sections; the middle section extends from Örnköldsvik to Skellefteå. The area around Örnköldsvik is designated as the High Coast. It is an UNESCO World Heritage site because of its ongoing geological process of uplift. After the ice retreated from Sweden 9,600 years ago, geologists believe the land was about 285 meters (940 feet) lower than it is today. In some areas, the land is rising as much as 1 meter (3 feet) per century.

## 6 🌐 INLAND LAKES

Sweden has nearly one hundred thousand lakes. They are found throughout the country, but central Sweden in particular is a scatter zone of lakes and plains. The four largest lakes in the country are found here: Vänern, Vättern, Hjälmaren, and Mälaren. Vänern (3,593 square kilometers/1,387 square miles) and Vättern (1,911 square kilometers/738 square miles) are among the four largest lakes in Europe. Vänern has an outlet to the west by way of the Göta River. It claims Sweden's largest



EPD/Saxifraga/Henk Sierdsema

*Aerial view of the territory around Sareks National Park in northern Sweden.*

catchment area. Lake Mälaren (1,140 square kilometers/440 square miles) lies only about 0.6 meters (2 feet) above the average level of the Baltic Sea. The capital city of Stockholm is located along the strait that connects the lake to the sea. Archaeological evidence suggests that this lake and plains region was the core of early Swedish settlements.

The depressions of the Norrland region are filled by lakes, most of which lie somewhat more than 305 meters (1,000 feet) above the level of the Baltic. The largest of these, located in the Western Highlands, are the Torn Träsk (317 square kilometers/122 square miles) in the north, the Storsjön (456 square kilometers/

## DID YOU KNOW?

The Arctic Circle is the imaginary line that circles the globe at about 66.5°N latitude. Areas north of the circle experience the phenomenon known as midnight sun, which is a period of time when the sun is visible for twenty-four hours or longer. During the summer solstice (usually on June 21 or 22) the sun is visible on the horizon at midnight from all points along the Arctic Circle. As you move further north, seasons of sunshine get longer, so that at the North Pole, there are six months of continuous sunshine, from the vernal equinox (usually on March 21 or 22) until the autumnal equinox (usually on September 21 or 22). The Arctic Circle also serves as a boundary between the North Temperate and the North Frigid climate zones.

176 square miles) in the south, and between them, the interconnected trio of Hornavan, Uddjaur, and Storavan (660 square kilometers/255 square miles).

The largest lake in southern Sweden, lying at 142 meters (469 feet) above sea level with a depth of 37 meters (111 feet), is Lake Bolmen (184 square kilometers/71 square miles).

## 7 RIVERS AND WATERFALLS

The rivers flowing in Norrland (northern Sweden) include the Torne, the Lule, the Skellefte, the Göta, the Ume (and its

tributary, the Vindel), the Ångerman, the Ljungan, and the Dal. All flow generally southeast from the high elevations along the border with Norway until they empty into the Gulf of Bothnia. Waterfalls and rapids punctuate the rivers. The Torne and its tributaries form the border with Finland. The Göta River cuts through rocky wilderness into the lowlands of Svealand. The Trollhättan Falls (33 meters/108 feet) on the Göta River are indicative of the change in level between Vänern and the lowlands along the Skagerrak in the west. For decades, lumberjacks have used The Klar, which flows south from Norway to Lake Vänern, to float harvested logs downstream; this river also is a favorite spot for recreational rafting.

The rivers flowing in the southern and western part of the country are shorter than those in the north. They include the Viskan, Ätran, Nissan, and Lagan, all well-known for their abundant salmon.

## 8 DESERTS

There are no desert regions in Sweden.

## 9 FLAT AND ROLLING TERRAIN

Extensive plains such as Uppland (centered on Uppsala), Västmanland, and Narke are found throughout Svealand, the region dotted by numerous lakes. Väster-Götland and Öster-Götland (East and West Götland, not to be confused with the island of Gotland) are also grassland regions. South of Lake Vättern lie the faulted landscapes of Skåne, which, although fertile, and resembling the Danish plains across the Öresund, have areas of much more pronounced relief.

The extreme north of Norrland, north of the Arctic Circle, contains a region of wetland and tundra landscape, with large peat marshes covering 40 percent of the land.

# SWEDEN

Småland in southeastern Sweden is an area of lower highlands, with elevations generally less than 152 meters (500 feet). It separates the plains of Skåne in the southernmost part of the country from the more extensive lowlands of Svealand to the north.

## 10 🌐 MOUNTAINS AND VOLCANOES

Norrland, the northern region of Sweden, covers about 60 percent of Sweden's territory and includes the areas of highest elevation. The western highlands of Norrland follow the Norwegian frontier and rise to elevations of over 1,818 meters (6,000 feet), of which the highest is Kebnekaise at 2,111 meters (6,926 feet). The terrain slopes to the southeast, away from the Kölen (Kjølen) Mountains along the border with Norway, to the Gulf of Bothnia. The flow of rivers in this region have incised the surface and leveled much of the terrain to a plateau. There are a number of small icefields in the far northern reaches above 66° N latitude.

## 11 🌐 CANYONS AND CAVES

Sweden has a number of caves that are classified as neotectonic caves. Earthquakes or other

shifts of the tectonic plates (particularly those that cause land elevations) formed these caves sometime within the last eight thousand to ten thousand years, which means they are relatively new land formations. Examples of these types of caves in Sweden are Torkulla Kyrka, Gillberga Gryt, and Bodagrottorna.

Korallgrottan (Coral Cave) is the longest cave in Sweden. This limestone (or karst) cave is located in the northern part of the province of Jämtland, close to the city of Ankarvattnet. The explored portion of the cave measures about 4,503 meters (14,774 feet) long with a depth of about 125 meters (408 feet). The unexplored part of the cave is estimated to be another 300 meters (984 feet) long. There is also a siphon connection (a water passage) between Korallgrottan and a second cave known as Klyftgrottan. This second area has not been explored completely either. Speleologists (scientists who study caves) believe that the total length of both caves is about 5,300 meters (17,388 feet). The cave, which was discovered in 1985, has not yet been opened to the public.

The Tykarpsgrottan (Tykarps Cave) is located near the southern point of Sweden in the town of Hässleholm, north and northeast of Malmö and Helsingborg. This cave was a limestone mine from about the twelfth century to the late-nineteenth century. The limestone, which is somewhat rare in the Scandinavian countries, was used both as building material and also to create mortar and white powder for paint coloring. The area around the cave is now a park-like recreation area. Visitors to the cave must be careful not to disturb any of the bats that now live in the cave. Of the fifteen different species of bats found in Scandinavia, seven different types can be found in the caving area. All of the bats are legally protected.

## DID YOU KNOW?

Scandinavia is the region in northern Europe that includes the Scandinavian Peninsula and its surrounding countries. The countries of Norway and Sweden are the only two countries located on the Scandinavian Peninsula. Denmark, Finland, and Iceland are included as part of Scandinavia because of common cultural links between the nations.



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# SWEDEN

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The copper mine in Falun, known as the Great Pit, and the entire mining town of Falun are listed as an UNESCO World Heritage Site. Mining there began from about the thirteenth century, and the area was considered to be one of the world's most important mining areas well into the seventeenth century.

## 12 🌐 PLATEAUS AND MONOLITHS

Fulufjäll, a 35-kilometer- (22-mile-) long and 15-kilometer- (9-mile-) wide sandstone plateau in the center of the country near the Norwegian border, rises to a height of 1,000 meters (3,300 feet). Steep slopes and forested ravines surround it.

## 13 🌐 MAN-MADE FEATURES

The Göta Canal, built in the early 1800s, is a 613-kilometer- (383-mile-) long waterway from Göteborg to Stockholm, formed by linking lakes and other natural waterways with a series of canals. The system never had any real economic purpose and is now used primarily by tourists. Several dozen locks compensate for the 90-meter (330-foot) difference in elevation between the two cities.

The Öresund Fixed Link is a bridge-and-tunnel combination that crosses the Öresund Strait to connect Malmö in Sweden to Copenha-

gen in Denmark. The 16-kilometer- (10-mile-) long link includes the longest single bridge in the world that carries both road and rail traffic (about 8 kilometers/5 miles). The link became fully operational in 2000. Before construction of the link, commuters could make the crossing only by ferry; the ride took about an hour. Motorists can now cross the bridge in about ten minutes.

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# Switzerland

- **Official name:** Swiss Confederation
- **Area:** 41,290 square kilometers (15,942 square miles)
- **Highest point on mainland:** Dufourspitze (4,634 meters/15,203 feet)
- **Lowest point on land:** Lake Maggiore (195 meters/640 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 348 kilometers (216 miles) from east to west; 220 kilometers (137 miles) from north to south
- **Land boundaries:** 1,852 kilometers (1,151 miles) total boundary length; Austria 164 kilometers (102 miles); France 573 kilometers (356 miles); Italy 740 kilometers (460 miles); Liechtenstein 41 kilometers (25 miles); Germany 334 kilometers (208 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Switzerland is a small, mountainous, landlocked country in Central Europe, famous for its picturesque Alpine vistas. With an area of 41,290 square kilometers (15,942 square miles), it is slightly more than twice as large as the state of New Jersey. Switzerland is a federation of twenty-six highly autonomous and culturally distinct cantons. This structure has been influenced by the geography of the country, with villages and cantons cut off from one another by high mountains or deep valleys.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Switzerland has no territories or dependencies.

## 3 🌐 CLIMATE

Switzerland is in a climatic transitional zone, subject to Atlantic, Arctic, continental, and Mediterranean influences. In addition, there is considerable variation due to differences in altitude. The Mittelland has warm, pleasant summer temperatures between 18°C and

21°C (65°F and 70°F), while temperatures in the mountains are cooler at high elevations but hotter in the valleys. In autumn and winter, fog is common at lower elevations, while the higher altitudes enjoy dry, sunny weather. The average annual temperature in the country is 9°C (48°F). The canton of Ticino, located south of the Alps, has a Mediterranean climate. Winter lows can fall below 0°C (32°F) in any part of the country, however. The Foehn, described as the “Sahara Air,” is a warm wind that blows through the Alpine valleys to the central lowlands, most often in the spring.

Rainfall increases with altitude, ranging from 53 centimeters (21 inches) in the Rhone Valley to 170 centimeters (67 inches) in the city of Lugano, located at the southern tip of Switzerland. Areas that are located near each other but have sharply contrasting elevations can also have sharp differences in rainfall. The higher the elevation, the greater percentage of the total precipitation falls in the form of snow. At Alpine

# SWITZERLAND



elevations of greater than 3,505 meters (11,500 feet), all precipitation falls as snow.

## 4 🌐 TOPOGRAPHIC REGIONS

Switzerland has three distinct geographical regions: the various branches of the Alps extending over the southern part of the country (60 percent of the country's total territory); the Jura Mountains in the northwest (10 percent of the total area); and the Mittelland in between (the remaining 30 percent).

## 5 🌐 OCEANS AND SEAS

Switzerland is landlocked.

## 6 🌐 INLAND LAKES

Lakes are a striking feature of the Swiss landscape: no part of the country is farther than 15 kilometers (9 miles) from a lake. A series of picturesque lakes stretches across the northern half of the country at the edges of the Mittelland and the subalpine region. With an area of 581 square kilometers (224 square miles),

Lake Geneva is Switzerland's largest lake, while Lake Neuchâtel, with an area of 215 square kilometers (83 square miles), is the largest entirely within Swiss borders. At the far end of the Mittelland, on the German border, is Lake Constance, which is Switzerland's second-largest lake at 540 square kilometers (208 square miles).

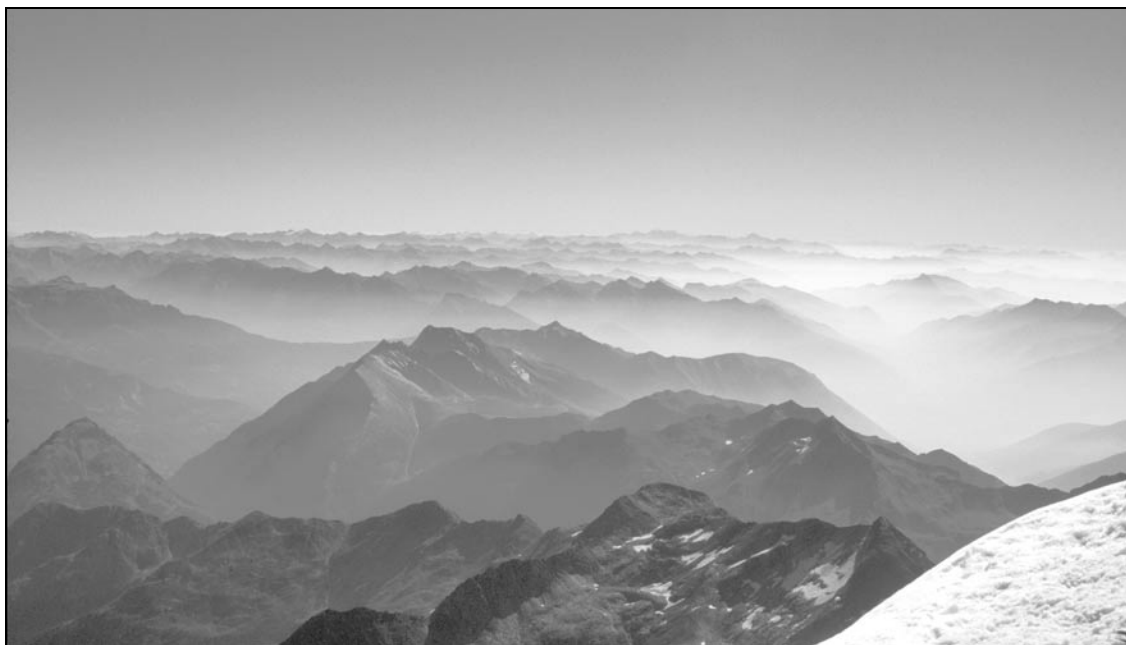
## 7 🌐 RIVERS AND WATERFALLS

Two of Europe's major rivers, the Rhone and the Rhine, rise in the Swiss Alps, within 32 kilometers (20 miles) of each other. The Rhone, which originates from the Rhone Glacier in the Alps near Lake Geneva, is a mostly mountainous river that cuts through numerous valleys. The Rhine is one of the most important waterways in continental Europe. Its headwaters are in the Swiss Alps (at the confluence of the Upper Rhine and Lower Rhine Rivers) from which it flows 1,391 kilometers (865 miles) to the North Sea. Of Switzerland's rivers, the

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EPD/Saxifraga/Jan van der Straaten

*A view of the Alps from the Weissmies in southern Switzerland.*

Rhine has both the greatest total length as well as the greatest length within Swiss borders (375 kilometers/233 miles). Other important rivers rise in the central Alps, including the Inn, the Maggia, the Ticino, and the Aare. The Aare is the largest river entirely within Switzerland. Other rivers that help drain the Mittelland are the Sarine, the Emme, and the Reuss.

## **8** 🌐 **DESERTS**

There are no deserts in Switzerland.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

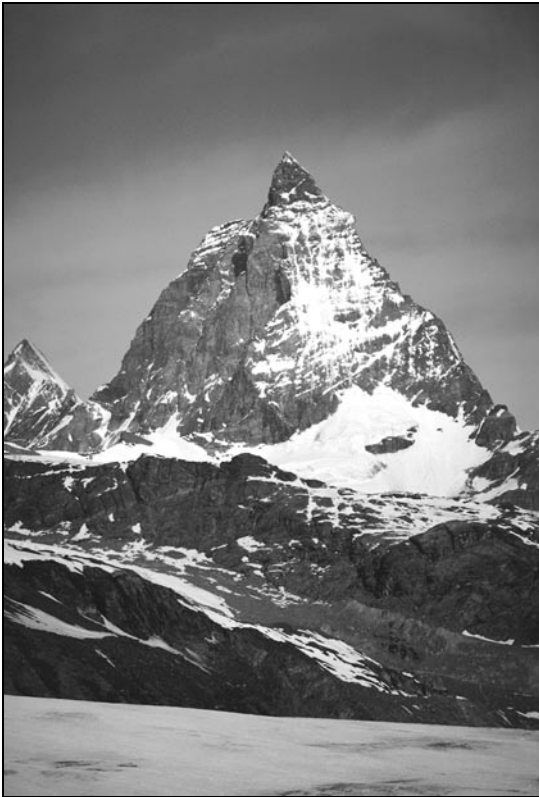
The topography of the Mittelland, Switzerland's central plateau, includes slightly rolling hills, meadowlands, and winding valleys.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Alps, the largest chain of mountains in Europe, cover three-fifths of Switzerland. The Swiss Alps are divided into different groups lengthwise by the Rhone and Rhine River Valleys and crosswise by the Reuss

and Ticino River Valleys. The main subdivisions are the Bernese Alps and Pennine Alps in the west, the Lepontine Alps in the center, and the Glarus Alps and Rhaetian Alps in the east. Their mean altitude is around 1,700 meters (5,577 feet), but one hundred summits exceed 4,000 meters (13,123 feet). The Dufourspitze on the Monte Rosa Massif is Switzerland's highest peak at 4,634 meters (15,203 feet); the Matterhorn, the most famous Swiss peak, has an elevation of 4,478 meters (14,691 feet). The Alps contain more than one thousand glaciers, covering some 3,000 square kilometers (1,158 square miles). The largest is the Aletsch Glacier, which is 24 kilometers (15 miles) long. The Alps also experience about ten thousand avalanches per year. The subalpine region on the northwest fringe of the Alps has a less complex structure than the main range. Many of its peaks reach heights of about 2,000 meters (6,562 feet).

# SWITZERLAND



Digital StockCD "International Landmarks"

*The Matterhorn is the most famous of the mountain peaks in Switzerland.*

The Jura Mountains stretch across the northwestern part of the country, from Geneva in the west to Schaffhausen and into western France. They form 257 kilometers (160 miles) of the Swiss/French border. These mountains are much lower than the Alps. Their mean altitude is 700 meters (2,296 feet), but they include some peaks that rise to around 1,600 meters (5,249 feet); the highest peak in the Swiss Jura is Mount Tendre, which reaches 1,679 meters (5,508 feet).

## 11 🌐 CANYONS AND CAVES

Switzerland has more than fifty named caves. At 165 kilometers (103 miles) in length, the Hölloch Cave system near Muotatal, in the

canton of Schwyz, is the largest in Europe and the fourth-largest cavern in the world.

## 12 🌐 PLATEAUS AND MONOLITHS

At a mean altitude of 580 meters (1,903 feet), the Mittelland, or Central Plateau, stretches from Lake Geneva to Lake Constance. This fertile region is the country's agricultural heartland and home to most of its population. Erosion has also created plateaus within the Jura Mountains, of which the most extensive is the Franches-Montagnes Plateau, which lies to the east of the border with France.

## 13 🌐 MAN-MADE FEATURES

The Ganter Bridge at the Simplon Pass in Valais has the longest span of any bridge in Switzerland. It has a tower that is 150 meters (492 feet) high, and its main span is 174 meters (571 feet) long. The Albigna and Emosson Dams are among the most imposing in the country.

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## DID YOU KNOW?

The Jurassic Period was named for the Jura Mountains, whose many fossils date to that geological era.

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# SWITZERLAND

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# Syria

- **Official name:** Syrian Arab Republic
- **Area:** 185,180 square kilometers (71,498 square miles)
- **Highest point on mainland:** Mount Hermon (2,814 meters/9,232 feet)
- **Lowest point on land:** Unnamed location near Lake Tiberis (200 meters/656 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 793 kilometers (493 miles) from east-northeast to west-southwest; 431 kilometers (268 miles) from south-southeast to north-northwest
- **Land boundaries:** 2,253 kilometers (1,400 miles) total boundary length; Iraq 605 kilometers (376 miles); Israel 76 kilometers (47 miles); Jordan 375 kilometers (233 miles); Lebanon 375 kilometers (233 miles); Turkey 822 kilometers (511 miles)
- **Coastline:** 193 kilometers (120 miles)
- **Territorial sea limits:** 65 kilometers (35 nautical miles)

## 1 🌐 LOCATION AND SIZE

Syria is located in southwest Asia between the countries of Lebanon and Turkey, in the region of the Middle East. The country borders the Mediterranean Sea and also shares boundaries with Iraq, Jordan, and Israel. With a total area of about 185,180 square kilometers (71,498 square miles), the country is slightly larger than the state of North Dakota. Syria is divided into fourteen provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Syria has no outside territories or dependencies; as of early 2003, however, the country was in a dispute with Israel over the area known as the Golan Heights.

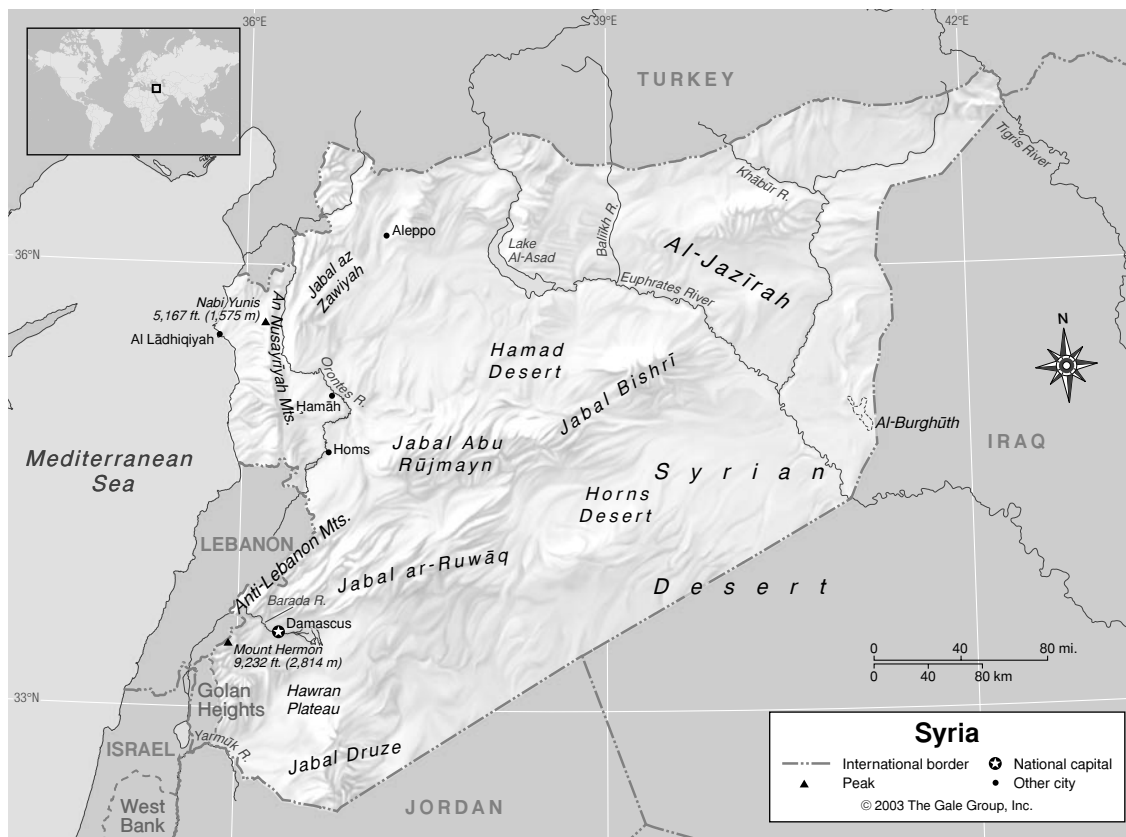
## 3 🌐 CLIMATE

Syria has a mostly desert climate. East of the Anti-Lebanon ridges, Syria has hot days that

can reach temperatures as high as 38°C (100°F) to 43°C (109°F). By contrast, nights are cool and winters are fairly cold, with temperatures falling to frost levels. The coastal hills along the Mediterranean enjoy a moderate climate; on the highest peaks, snow may be found from late December to April.

Although Syria's average annual rainfall is less than 25 centimeters (10 inches), as much as 100 centimeters (39 inches) of rain falls on the coastal plains, mountains, and on parts of the steppe east of the Homs Gap. Annual rainfall totals ranging from 20 centimeters to 38 centimeters (8 to 15 inches) are not uncommon on the southern steppe of the Fertile Crescent. Rainfall diminishes greatly in the eastern desert, but increases in the extreme east.

# SYRIA



## 4 TOPOGRAPHIC REGIONS

The terrain of Syria consists of a fairly narrow series of mountain ranges in the west, which gives way to a broad plateau sloping gently toward the east and bisected by the Euphrates River valley. Syria's western mountain slopes catch moisture-laden winds from the Mediterranean Sea; thus, they are more fertile and more heavily populated than the eastern slopes, which receive only hot, dry winds blowing across the desert.

Northeast of the Euphrates River, which originates in the mountains of Turkey and flows diagonally across Syria into Iraq, is the fertile Al Jazīrah region, watered by the tributaries of the Euphrates.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Syria has a short, narrow coast along the Mediterranean Sea.

### Coastal Features

Sand dunes cover the coastal region; lateral promontories, running down from the mountains to the sea, form the only interruptions in the flat shoreline.

## 6 INLAND LAKES

The largest inland body of water is the artificial Lake Al-Asad (Buhayrat al Assad), a body of water about 80 kilometers (50 miles) in length and averaging 8 kilometers (5 miles) in width.



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# SYRIA

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ARAMCO/George Baramki Azar

*Sheep grazing in northern Syria.*

The Euphrates dam, built in 1973 upstream from Ar Raqqa, created this lake.

## **7** **RIVERS AND WATERFALLS**

The country's waterways are of vital importance to its agricultural development. The longest and most important river is the Euphrates, extending some 3,956 kilometers (2,235 miles), which provides more than 80 percent of the country's water resources. Its main left-bank tributaries, the Balikh and the Khābūr, are both major rivers in their own right and also rise in Turkey. The right-bank tributaries of the Euphrates River, however, are small seasonal streams called wadis. The Tigris River flows along the northeastern border for a short distance.

Throughout the plateau region east of Damascus, oases, streams, and a few interior rivers that empty into swamps and small

lakes provide water for local irrigation. The most important of these is the Barada, a river that rises in the Anti-Lebanon Mountains and disappears into the desert. The Barada River creates the Al Ghutah Oasis, the site of Damascus. This verdant land, which covers some 30 square kilometers (11.5 square miles), has enabled Damascus to prosper since ancient times.

Areas in the Al Jazīrah have been brought under cultivation with the waters of the Khābūr River (Nahr al Khābūr). The Sinn, a minor river in the northwest, is used to irrigate the area west of the An Nuṣayriyah, while the Orontes River waters the area east of these mountains. In the south, the springs that feed the upper Yarmūk are diverted to irrigate the Hawran Plateau.

## DID YOU KNOW?

The term "Middle East" was coined by western Europeans as a geographic designation for those countries of southwest Asia and northeast Africa that stretch from the Mediterranean Sea to the borders of Pakistan and Afghanistan, including the Arabian Peninsula. This area was considered to be the midpoint between Europe and East Asia, usually called the Far East.

In a cultural sense, the term sometimes refers to all the countries of that general region that are primarily Islamic. In this sense, the Middle East includes the countries of Afghanistan and Pakistan, as well as some of the North African countries that border the Arabian Peninsula.

Underground water reservoirs that are mainly natural springs are tapped for both irrigation and drinking water. The Al Ghab region is richest in underground water resources and contains nineteen major springs and underground rivers that have a combined flow rate of thousands of liters per minute.

## 8 🌐 DESERTS

Most of eastern Syria is part of the Syrian Desert, which is barren except for those areas in which rivers allow irrigated cultivation. All of the country west of the Euphrates and south of the central mountain ranges is part of the bar-

ren desert region called Hamad. North of the mountains and east of the city of Homs is another barren area known as the Horns Desert, which has a hard-packed dirt surface. Even the Al Jazīrah "island" land between the Euphrates and Tigris Rivers is predominately desert.

## 9 🌐 FLAT AND ROLLING TERRAIN

The steppes of the western side of the Jabal Druze are part of the great Fertile Crescent; these lands are either cultivated or covered with seasonal grasses. The coastal strip is also home to wild grasses and shrubs such as tamarisk and buckthorn. Salt flats in the northeast include Rawdah and Al-Burghūth.

Along the coast, parallel to the Mediterranean, a range of high hills moderates the humidity and cooler temperatures coming off the water. This effect is restricted to the narrow coastal belt. Several other ranges of hills, fanning out gradually to the southwest, lie east of the Orontes River.

Homs Gap is a corridor between the An Nuşayrīyah Mountains and the Anti-Lebanon Mountains. For centuries, Homs Gap has been a favorite trade and invasion route from the coast to the country's interior and onward to other parts of Asia. To the east, the line of the An Nuşayrīyah is separated from the Jabal az Zawīyah range and the plateau region by the Al Ghab depression, a fertile, irrigated trench crossed by the meandering Orontes River.

## 10 🌐 MOUNTAINS AND VOLCANOES

The An Nuşayrīyah Mountains (Jabal an Nuşayrīyah), a range paralleling the coast in the northwest, have average elevations of just over 1,212 meters (3,976 feet). The highest peak in this range, Nabi Yunis, rises to about 1,575 meters (5,167 feet).

Inland and farther south, the Anti-Lebanon Mountains rise to peaks of over 2,700 meters (8,858 feet) on the Syrian-Lebanese frontier

and spread in spurs eastward toward the plateau region. The eastern slopes have little rainfall and vegetation, eventually merging with the desert.

In the southwest is the country's highest peak, Mount Hermon (Jabal ash Shaykh; 2,814 meters/9,232 feet), also on the border between Syria and Lebanon. All but the lowest slopes of Mount Hermon are uninhabited. Southeast of the Hawran Plateau lies the high volcanic region of the Jabal Druze range, home of the country's Druze population. The volcanoes, mostly unnamed, are extinct. The entire eastern plateau region is intersected by a low chain of mountains, the Jabal ar-Ruwāq, the Jabal Abū Rujmayn, and the Jabal Bishrī, extending northeastward from the Jabal Druze to the Euphrates River.

## 11 CANYONS AND CAVES

There are many natural caves throughout the mountain regions of Syria. These caves have served as homes for the area's earliest inhabitants, provided refuge during invasions, and become burial grounds. Archaeologists have found a variety of tools and bones in Syrian caves.

## 12 PLATEAUS AND MONOLITHS

Hawran Plateau, frequently referred to as the Hawran, is a broad, expansive steppe situated south of Damascus and east of the Anti-Lebanon Mountains. The Hawran receives rain-bearing winds from the Mediterranean. Volcanic cones as high as 900 meters (2,952 feet) intersperse the open, rolling, once-fertile plateau.

## 13 MAN-MADE FEATURES

The Euphrates Dam (70 meters/230 feet high) created Lake Al-Asad, the largest inland body of water in Syria. The dam was built to aid in irrigation and to produce hydroelectric power.

## DID YOU KNOW?

The northeastern part of Syria lies in the ancient region of Mesopotamia. The name means "between rivers," and it refers to the territory between the Tigris and Euphrates Rivers. The region extends from the Persian Gulf north to the mountains of Armenia and from the Zagros and Kurdish Mountains of Iran and Turkey to the Syrian Desert. This area has been nicknamed "the cradle of civilization" because it was home to the ancient empires of Babylon, Sumer, and Assyria, among others. The Tigris and the Euphrates are also two of the four rivers mentioned in the biblical story of Eden.

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# Taiwan

- **Official name:** Republic of China
- **Area:** 35,980 square kilometers (13,892 square miles) (including offshore islands)
- **Highest point on mainland:** Yü Shan (3,997 meters/13,114 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 8 P.M. = noon GMT
- **Longest distances:** 394 kilometers (245 miles) from north-northeast to south-southwest; 144 kilometers (89 miles) from east-southeast to west-northwest
- **Land boundaries:** None
- **Coastline:** 1,566 kilometers (973 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Taiwan is an island in the Pacific Ocean, approximately 161 kilometers (100 miles) from the southeastern coast of China. It lies to the north of the Philippines and southeast of the Ryukyu Islands of Japan. At 35,980 square kilometers (13,892 square miles), its area is slightly larger than the combined areas of Delaware and Maryland.

Taiwan's government, which has eluded control by China's Communist Party since 1947, claims to be the only legitimate government in all of China. Since the 1970s, however, the international community has recognized mainland China and the island of Taiwan as two separate nations.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Taiwan has no territories or dependencies.

## 3 🌐 CLIMATE

Pacific Ocean breezes moderate Taiwan's subtropical climate, warm in the south and cool in the north. Average temperature readings for January are 16°C (61°F) in the north

and 20°C (68°F) in the south, while the average July temperature in both regions is 28°C (82°F). Rainfall in Taiwan is generally heavy, averaging about 250 centimeters (100 inches) annually and much more in some regions. The northeast, or winter, monsoon brings heavy rains to the northern part of the island between October and March, while the southwest, or summer, monsoon brings rain to the south between May and September. The summer months also bring dangerous typhoons and cyclones.

## 4 🌐 TOPOGRAPHIC REGIONS

High, rugged mountains and foothills occupy about two-thirds of the island, extending from north to south from its northern tip to its southern extremity. On the eastern coast, most of the mountains drop precipitously to the Pacific Ocean. Near the center of the coast, however, a narrow rift valley separates the central range from a lower, but also steep, coastal range. In the west, the high mountains descend to foothills that gradually give way to flat alluvial plains.

# TAIWAN



## Islands and Archipelagos

The Pescadores (Penghu Archipelago), Taiwan's major island group, comprise sixty-four islands located roughly 40 kilometers (25 miles) west of the main island, in the Taiwan Strait. The Quemoy (or Kinmen) and Mat-Su island groups are both located less than 3 kilometers (2 miles) from the Chinese mainland. Taiwan's other islands include Lan-yü, or Orchid Island, and Lü Tao (Green Island), both of which are southeast of the main island; Ch'i-Mei Yü to the west; and Hsiao Liu-Chiu Yü to the southwest.

## Coastal Features

The coast is fairly smooth, except for deep indentations at the mouths of the Kao-p'ing River in the south and the Tanshui River in the north, as well as several river deltas in the southwest. The major deepwater ports are located at Keelung in the north and Kao-hsiung, in the Haochiung Bay, in the south. The Central Range plunges abruptly to the sea along the eastern coast, except for an area north of T'ai-tung, where the T'ai-tung Rift Valley and a short coastal ridge farther to the east are located.

## 6 INLAND LAKES

Two of Taiwan's major lakes are Coral Lake in the southwest and Sun Moon Lake near the center of the island. The latter is said to have once been two separate lakes, called Sun Lake and Moon Lake.

## 7 RIVERS AND WATERFALLS

Taiwan's rivers flow across the long, narrow island, rising in the Central Range and descending to the coasts, so they are all short. Two of the major rivers depart from this pattern: the Tanshui drains northward toward Taipei, and the Kao-p'ing drains southward toward the southeastern coast. The third major river is the Choshui, which

The Pescadores Islands are relatively flat coral reefs that support some agriculture. The main island of the Quemoy group is rocky and boulder-strewn, but still partially arable. Mat-Su consists of masses of igneous rocks.

## 5 OCEANS AND SEAS

Taiwan borders the Pacific Ocean to the east, the East China Sea to the north, and the South China Sea to the southeast.

## Sea Inlets and Straits

Taiwan borders the Taiwan Strait to the west and the Bashi Channel of the Philippine Sea to the south.

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# TAIWAN

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AP Photo/Annie Huang

*A woman walks down a trail in the mountains of central Taiwan.*

drains westward across the mountains and through the coastal plain.

## **8** 🌐 **DESERTS**

There are no deserts on Taiwan.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The foothills of the Central Range, which lie mostly to the west, have average elevations of 1,219 to 1,524 meters (4,000 to 5,000 feet). In addition, there are a number of separate hills averaging about 1,524 meters (5,000 feet). On the western side of the island, coastal plains of varying heights meet the sea in a band of swamps and tidal flats.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Central Range, Taiwan's dominant geographical feature, spans the length of the island along a north-south axis. It has more than sixty peaks with elevations of over 3,048

meters (10,000 feet). The highest is Yü Shan, near the center of the island. In the far north, detached from the main mountain system, a short volcanic range called Tatun Shan rises to over 1,219 meters (4,000 feet).

## **11** 🌐 **CANYONS AND CAVES**

Dragon Cave on the northeast coast and the surrounding sandstone cliffs constitute one of the most scenic parts of Taiwan's coast and the island's most popular rock-climbing locale.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The hills that border the Central Range on the west descend to a rolling, terraced plateau with average elevations of 101 to 500 kilometers (330 to 1,640 feet).

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# TAIWAN

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## 13 MAN-MADE FEATURES

The Shih Men Reservoir on the Tahan River, southwest of Taipei, is Taiwan's largest lake.

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## DID YOU KNOW?

Taipei's stormy, humid climate has given rise to the saying "The weather in Taipei is like a stepmother's temper."

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# Tajikistan

- **Official name:** Republic of Tajikistan
- **Area:** 143,100 square kilometers (55,251 square miles)
- **Highest point on mainland:** Qullai Ismoili Somoni (7,495 meters/24,590 feet)
- **Lowest point on land:** Banks of the Syr Dar'ya (300 meters/984 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 6 P.M. = noon GMT
- **Longest distances:** 700 kilometers (434 miles) from east to west; 350 kilometers (217 miles) from north to south
- **Land boundaries:** 3,651 kilometers (2,269 miles) total boundary length; Afghanistan 1,206 kilometers (749 miles); China 414 kilometers (257 miles); Kyrgyzstan 870 kilometers (541 miles); Uzbekistan 1,161 kilometers (721 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Tajikistan is located in central Asia. It shares borders with Uzbekistan, Kyrgyzstan, China, and Afghanistan. With a total area of about 143,100 square kilometers (55,251 square miles), the country is slightly smaller than the state of Wisconsin. Tajikistan is administratively divided into two oblasts and one autonomous oblast.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Tajikistan has no outside territories or dependencies.

## 3 🌐 CLIMATE

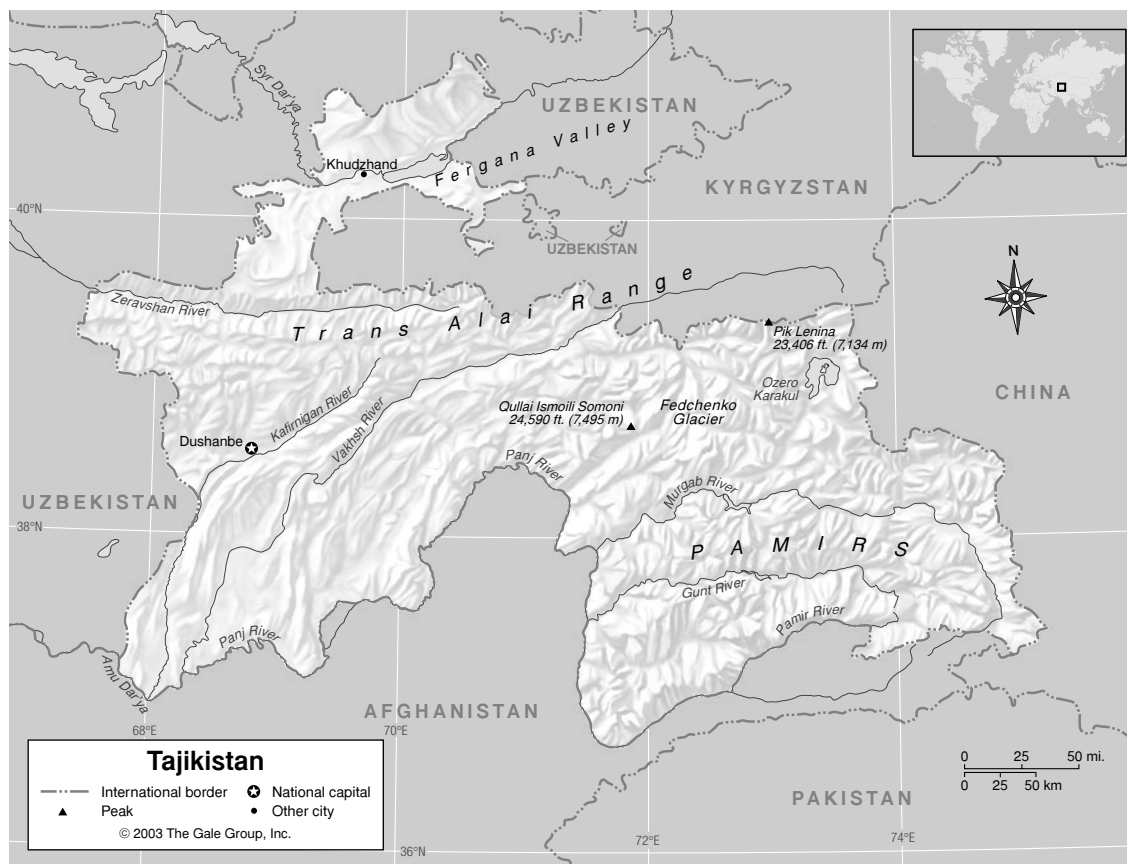
Average temperatures vary significantly by region in Tajikistan. A continental climate predominates in the lowlands, with hot summers and cold winters. Khudzhand in the Fergana Valley has an average July temperature of 27°C (81°F) and a January average of -1°C (34°F). Extreme temperatures in summer can reach 48°C (118°F), with

strong dust storms in the semiarid areas. By contrast, the eastern mountains have average July temperatures below 10°C (50°F) and January temperatures of -20°C (-4°F). Winter temperatures in the eastern Pamirs have dropped to -60°C (-76°F).

For most of Tajikistan, the average annual precipitation ranges between 70 centimeters (28 inches) and 160 centimeters (63 inches). Although generally meager in the lowlands and mountains, sudden, substantial amounts of precipitation have caused devastating landslides. Winter and spring are the chief snowfall/rainfall seasons. Summer and fall can be drought-stricken. The heaviest precipitation rates occur at the Fedchenko Glacier, where yearly totals of 223 centimeters (88 inches) have been recorded. The lowest annual averages are in the eastern Pamirs, with annual rainfall of less than 10 centimeters (4 inches).



# TAJIKISTAN



## 4 🌐 TOPOGRAPHIC REGIONS

Tajikistan is the smallest nation in Central Asia. Mountains dominate its landscape, with the Pamirs in the south (including some of the world's highest peaks) and the Trans Alai range in the north. Tajikistan's mountainous terrain is also notable for its many glacier-fed rivers. The massive Fedchenko Glacier, covering more than 700 square kilometers (270 square miles), is the largest glacier in the world outside of the polar regions.

Elevations in northwest and southwest Tajikistan are generally lower than in the rest of the country. The most notable lowland feature is the fertile Fergana Valley in the far

north, whose soils of rich river deposits make the valley ideal for agriculture.

Tajikistan is on the Eurasian Tectonic Plate, not far to the north of its border with the Indian Tectonic Plate. It lies on a seismic belt that is active throughout southeastern Central Asia. Earthquakes are common and can be devastating.

## 5 🌐 OCEANS AND SEAS

Tajikistan is a landlocked country.

## 6 🌐 INLAND LAKES

Most of Tajikistan's lakes were formed by glaciers and are found in the eastern Pamirs. Lake Karakul (Ozero Karakul) is the largest

# TAJIKISTAN

lake with an area of about 380 square kilometers (147 square miles). It is located in the northeast at an elevation of 4,000 meters (13,000 feet). A salt lake, Karakul is essentially lifeless.

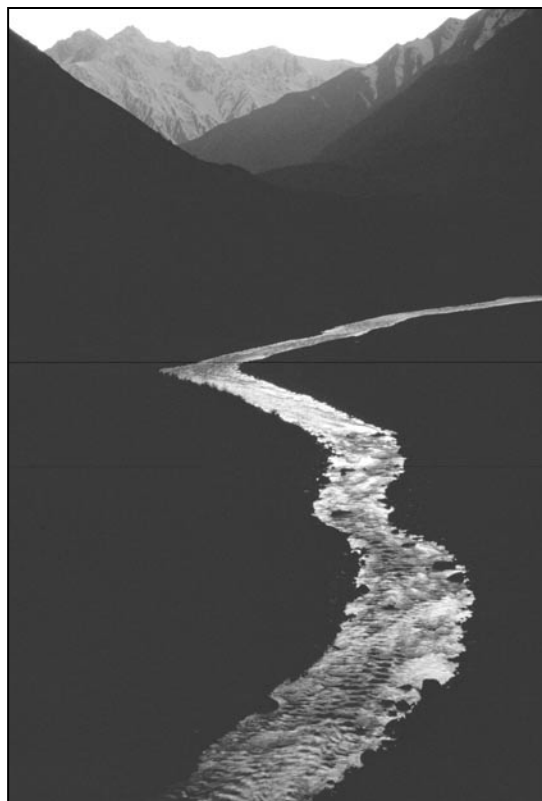
## 7 RIVERS AND WATERFALLS

Tajikistan's mountainous terrain has created an extensive network of rivers, but several large central Asian rivers that originate elsewhere also cross the country, most notably the Syr' Darya (Sirdaryo or Syr River) and the Amu' Darya (Amu River).

The Amu' Darya is central Asia's largest river, at 2,539 kilometers (1,578 miles). It originates in the form of its upper tributary, the Panj, which runs along the Tajikistan-Afghan border. In Tajikistan, the Amu' Darya runs for 921 kilometers (571 miles). The Vakhsh (Surkohb) River and the Kafirnigan River are two large tributaries of the Amu' Darya that run northeast to southwest in great valleys across western Tajikistan. Of these, the Vakhsh is the second-longest waterway in Tajikistan.

After the Amu' Darya, the Syr' Darya in northern Tajikistan is the second-longest river in central Asia, with a total length of 2,400 kilometers (1,488 miles). The Syr' Darya flows through the country only for a short distance, traversing the Fergana Valley in northern Tajikistan for 195 kilometers (121 miles). Another major northern river, the Zeravshan, crosses Tajikistan from east to west for 316 kilometers (196 miles). Its total length is 781 kilometers (484 miles).

Melting snow and melting glaciers cause Tajikistan's rivers to run high in the spring and summer. In summer, the glacial runoff is a critical aid to irrigation in Tajikistan's northern and western valleys.



Barry Tessman/National Geographic Image Collection

*Glistening in the light, the Obhingo River flows down through the mountain valleys of Tajikistan.*

## 8 DESERTS

There are no desert regions in Tajikistan.

## 9 FLAT AND ROLLING TERRAIN

Western Tajikistan has some scattered areas of steppe that rise into the foothills of its mountains. The steppe vegetation features not only low-growing shrubs and drought-resistant grasses, but also broad fields of wild poppies and even tulips.

In the west, about a third of Tajikistan is comprised of foothills and steppes. The nation's lowest elevations are found in the southwestern river valleys and in the northern spur region that crosses the Fergana Valley.

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# TAJIKISTAN

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## 10 🌐 MOUNTAINS AND VOLCANOES

Nearly half of Tajikistan has elevations exceeding 3,000 meters (9,800 feet). The Pamirs are the dominant mountain range and are among the highest mountains in the world, with an extraordinary mean elevation of 3,965 meters (13,000 feet). Centered in southern Tajikistan, they branch off in every direction, connecting with other great mountain ranges such as the Tian Shan of neighboring China.

Communism Peak (Qullai Ismoili Somoni), in the Pamirs, is the highest mountain in the country at 7,495 meters (24,590 feet). Lenin Peak (Pik Lenina), in the Trans Alai range of the Pamirs in northeastern Tajikistan, is among the world's highest at 7,134 meters (23,406 feet). Many other peaks exceed 6,096 meters (20,000 feet).

The Fedchenko Glacier is one of many glaciers in the Pamirs. It is considered to be the largest continental glacier (outside of the polar regions) in the world, with a length of about 71 kilometers (44 miles) and a width of 2 kilometers (1.5 miles).

## 11 🌐 CANYONS AND CAVES

The rivers have cut numerous steep and winding canyons throughout the country's mountain region. Many of these canyons attract mountain and rock climbers.

## 12 🌐 PLATEAUS AND MONOLITHS

A portion of Tajikistan lies on the high Godesberg Plateau, which also stretches into China and Afghanistan. This great plateau is considered to be part of the Pamirs system.

## 13 🌐 MAN-MADE FEATURES

The Rogun Dam on the Vakhsh River, at 335 meters (1,099 feet) high, is the highest dam in the world. This earth and rock fill dam was built primarily for irrigation and hydroelectric power. The Nurek (Norak) Dam, at 300 meters (984 feet) high, is the second-highest dam in the world. It is also located on the Vakhsh River and provides water and power for the surrounding area, which is a major manufacturing center. Construction and maintenance of the Nurek Dam and its reservoir have been an ongoing concern for engineers, because the stress of the contained water further destabilizes the earth's crust nearby. Seismic activity is closely monitored in the area.

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# Tanzania

- **Official name:** United Republic of Tanzania
- **Area:** 945,087 square kilometers (364,900 square miles)
- **Highest point on mainland:** Mount Kilimanjaro (5,895 meters/19,341 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 1,223 kilometers (760 miles) from north to south; 1,191 kilometers (740 miles) from east to west
- **Land boundaries:** 3,402 kilometers (2,114 miles) total boundary length; Uganda 396 kilometers (246 miles); Kenya 769 kilometers (478 miles); Mozambique 756 kilometers (470 miles); Malawi 475 kilometers (295 miles); Zambia 338 kilometers (210 miles); Burundi 451 kilometers (280 miles); Rwanda 217 kilometers (135 miles)
- **Coastline:** 1,424 kilometers (885 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Tanzania is located on the eastern coast of Africa, bordering on the Indian Ocean. The country shares land boundaries with Uganda, Kenya, Democratic Republic of the Congo, Burundi, Rwanda, Mozambique, Malawi, and Zambia. With a total area of about 945,087 square kilometers (364,900 square miles), the country is slightly larger than twice the size of the state of California. Tanzania is administratively divided into twenty-five regions.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Tanzania has no outside territories or dependencies.

## 3 🌐 CLIMATE

Tanzania lies just south of the equator; therefore, its climate is mostly tropical, becoming temperate in the highlands. The coastal area is tropical and humid with average temperatures of about 27°C (81°F). Further inland, the

central plateau is hot and dry with temperatures that vary by season and time of day. In the more temperate highlands, the days are warm, but the nights are cool.

The rainy seasons in the north occur from November through December and from March through May. The south has only one season of rain, from November to March. On the coast, annual rainfall averages 100 to 193 centimeters (40 to 76 inches), but the central plateau receives only 50 to 76 centimeters (20 to 30 inches). The eastern section of Lake Victoria receives 75 to 100 centimeters (30 to 40 inches) and the western side receives 200 to 230 centimeters (80 to 90 inches).

The islands receive heavy rains in April and May with lighter rains in November and December. Drier weather occurs during the alternating monsoon seasons, which arrive from the northeast from December to March and from the southwest from June to October.

# TANZANIA



## 4 🌐 TOPOGRAPHIC REGIONS

Tanzania lies between one and twelve degrees south of the equator. Most of the country consists of extensive rolling plains demarcated by the Great Rift Valley, a series of immense faults creating both depressions and mountains. Much of the country is above 900 meters (3,000 feet). A small portion, however, including the islands and the coastal plains, lies below about 200 meters (600 feet). The landscape is extremely varied, changing from coastal mangrove swamps to tropical rain forests and from rolling savannahs and high arid plateaus to mountain ranges.

Four major ecological regions can be distinguished: high plateaus, mountain lands, the lakeshore region, and the coastal belt and islands. The mountain ranges and the area around Lake Victoria (Victoria Nyanza) receive generous amounts of rain, but the vast plateau areas in the center of the country are so dry that they cannot support significant cultivation activity. About 5 percent of the land is arable, 1 percent of which is dedicated to permanent crops, 40 percent is utilized as meadows and pastures, and 47 percent is covered in forest and woodland.

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# TANZANIA

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## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Tanzania faces the Indian Ocean on its eastern border. The continental shelf off the coast is relatively narrow; in most places it is only 8 to 10 kilometers (5 to 6 miles) wide, but it extends about 40 kilometers (25 miles) off the shore of the islands of Zanzibar and Mafia. Of the many fringing reef systems offshore, those farther out are better developed and more diversified. The most fully developed are the reefs off the Tanga coast and those near the offshore islands.

### Islands and Archipelagos

The islands of Tanzania are basically composed of coral. Zanzibar, separated from the mainland by a channel that is 35 kilometers (22 miles) wide at its narrowest point, is the largest coralline island on the African coast. It is about 80 kilometers (50 miles) long and 40 kilometers (25 miles) wide, with a total area of 1,657 square kilometers (640 square miles).

Pemba, north of Zanzibar, is smaller. It is 67 kilometers (42 miles) long and 22 kilometers (14 miles) wide, with a total area of 984 square kilometers (380 square miles). Its topography varies, with small steep hills and valleys. Mafia, at 43 kilometers (27 miles) long and about 14 kilometers (9 miles) wide, is a low island situated about halfway down the coast of Tanzania near the mouth of the Rufiji River.

### Coastal Features

The coastal belt is narrow in the north and south, with an average width between 16 and 60 kilometers (10 and 40 miles). It is broader in the center near the lowlands of the Rufiji River valley, where it almost reaches the Uluguru Mountains.

The 800-kilometer- (500-mile-) long coast is difficult to approach because of numerous

coral reefs and shifting sandbars at the mouths of its rivers. The land slopes sufficiently toward the coast to cause rapids on most of these rivers, preventing navigation.

Much of Tanzania's coastline consists of palm-fringed sandy beaches. The best beaches are located on the islands of Zanzibar and Mafia, but a particularly good stretch of shoreline on the mainland is a 32-kilometer- (20-mile-) strip beginning at Dar es Salaam and continuing south.

## 6 🌐 INLAND LAKES

Tanzania's lakes provide the country's residents with transportation, food, and abundant water supplies for irrigation use. With a surface area of 62,940 square kilometers (24,300 square miles), Lake Victoria is the largest lake in Africa and the second-largest freshwater lake on the globe. It is located in the north of Tanzania and is also shared by Uganda and Kenya. About half of the lake is situated within Tanzania. Lake Victoria is a major source for the Nile River.

Along the western border of Tanzania, Lake Tanganyika, the world's second-deepest lake, has a precipitous shoreline and a few poor harbors. Found in the south, Lake Malawi also has poor harbors. To the east of Lake Tanganyika, Lake Rukwa is small and shallow and tends to be brackish (containing both salt water and fresh water). Several small lakes in the northern part of the country also have salty water. Lake Natron is commercially exploited for salt and soda. Other lakes in the Eastern Great Rift Valley include Lake Eyasi and Lake Manyara.

Tanzania's lakes and swamps cover nearly 6 percent of the total land surface, not counting seasonally inundated flood plains and riverine marshes. The Sagara Swamp, which forms most of western Tanzania, is a huge flood-

## DID YOU KNOW?

Tanzania contains both the highest and lowest points on the African continent: Mount Kilimanjaro and the floor of Lake Tanganyika.

plain with an area of 16,614 square kilometers (6,415 square miles). It includes the Moyowosi Game Reserve and is home to many species of wildlife.

### 7 RIVERS AND WATERFALLS

Ruvuma River, the longest river in Tanzania, forms most of the nation's southern border with Mozambique. The Ruvuma originates just east of Lake Malawi, in the hills near Songea, and runs west before arching around to head almost due east to the Indian Ocean, where it ends after traveling 704 kilometers (437 miles). Other streams around Lake Malawi empty into the lake and reach the Indian Ocean via the Zambezi River in Mozambique. A number of short rivers (except for the longer Kagera River in northwestern Tanzania) drain into Lake Victoria and ultimately join the Nile River, which empties into the Mediterranean Sea. Several rivers in western Tanzania, such as the Malagarasi, drain into Lake Tanganyika and ultimately join the Congo River, which empties into the Atlantic Ocean. Streams in the north-central and southwestern sections empty into smaller lakes and interior basins, with the notable exception of the Great Ruaha, which originates in the Mbeya Mountains and flows northeast to the center of the country before turning southwest and eventually feeding into the Rufiji.

In the eastern third of Tanzania, the Pangani, Wami, and Rufiji Rivers all flow into the Indian Ocean.

### 8 DESERTS

There are no desert regions in Tanzania.

### 9 FLAT AND ROLLING TERRAIN

About a third of the country is covered with wooded grassland savannah. Two-thirds of Zanzibar Island is covered with bush and grass.

In the southeast coastal area, outcrops of isolated hill masses rise sharply from the surrounding land. On the western side of Zanzibar, several ridges exceed 60 meters (200 feet). At 119 meters (390 feet), Masingini Ridge is the highest point on Zanzibar. Pemba Island is hilly, with its highest point at 95 meters (311 feet).

### 10 MOUNTAINS AND VOLCANOES

One of three major mountainous zones extends inland from Tanga to near Lake Manyara. It includes the Usambara and Pare ranges, which together form a wedge-shaped mass reaching a height of almost 2,300 meters (7,550 feet), and the Northern Highlands, which contain Mount Kilimanjaro and Mount Meru. Mount Kilimanjaro, the highest point in Africa, rises in two peaks to an ultimate height of 5,895 meters (19,341 feet). The so-called glaciers on top of Kibo, the higher peak, are the rapidly decaying remains of a former, more extensive ice cap. The lower of the two peaks is Mawenzi. Both of Kilimanjaro's peaks are extinct volcanoes. Rainforest conditions prevail on the southern slopes of Mount Kilimanjaro between 1,700 and 2,900 meters (5,600 and 9,500 feet). Another extinct volcano, Mount Meru, is located west of Kilimanjaro and rises to about 4,560 meters (14,960 feet).

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# TANZANIA

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EPD/Saxifraga/Janus Verkerk

*The glaciers on top of Kibo, the higher peak of Mount Kilimanjaro in Tanzania, are rapidly decaying. The visible glacier cap was much smaller as of 2003 than it appears in this photo, taken in the late 1990s.*

The second mountainous zone of the country stretches from the western shore of Lake Natron southward in a series of isolated summits and mountain chains. They are interspersed with lakes and craters and connected with the northern part of the Eastern Great Rift Valley. Between Lake Natron and Lake Manyara are the Winter Highlands, a volcanic region containing Mount Loolmalassin and the Ngorongoro Crater, which is roughly 100 to 110 kilometers (60 to 70 miles) wide and contains one of the heaviest concentrations of wildlife in Africa. The shores of Lake Manyara and the nearby Serengeti Plain also teem with wildlife.

The third major mountainous region stretches from the Nguru Mountains and the Uluguru Mountains to the Kipengere range, which descends sharply toward the

eastern shore of Lake Malawi. Around the northern shore of Lake Malawi, the Mbeya range, which includes Rungwe Mountain at 2,961 meters (9,713 feet), completes the mountains of the south.

## **11** 🌐 **CANYONS AND CAVES**

Olduvai Gorge, located west of the Ngorongoro Crater, is about 48 kilometers (30 miles) long and 90 meters (300 feet) deep. The gorge became famous after the archaeological excavations of Louis and Mary Leakey. In 1959, the Leakeys discovered the fossilized remains of a nearly complete hominid skull, now known as *Zinjanthropus*, or “Nutcracker Man.” The skull is believed to be about 1.75 million years old. In 1961, the Leakeys unearthed the remains of *Homo habilis*, believed to be a more direct ancestor



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to modern humans (*Homo sapiens*). These finds, plus the discovery of thousands of fragments from prehistoric tools, supported the scientists' theories that the first human beings may have come from this region of Africa and that the human species was much older than anyone had suspected. Since then, the Olduvai Gorge has proved to be one of the richest fossil sites in the world; archaeological discoveries here have demonstrated the longest known sequence of early human activity.

The Great Rift Valley, which runs roughly around the western border of Tanzania, is a massive fault system that stretches over 6,400 kilometers (4,000 miles) from the Jordan Valley in Israel to Mozambique. In general, the Great Rift Valley contains a wide range of mountains and canyons, with ranges in elevation from 395 meters (1,300 feet) below sea level at the Dead Sea to 1,830 meters (6,000 feet) above sea level in south Kenya. The western branch contains the troughs and rivers that have become part of the African Great Lakes system and Tanzania's Lake Tanganyika. The eastern branch contains the Olduvai Gorge and Mt. Kilimanjaro. A large number of volcanoes lie along this rift, which was created by the violent underground activity and motions between the African (Nubian) Tectonic Plate to the west and the eastern Eurasian, Arabian, Indian, and Somalian Tectonic Plates.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The high plateaus are characterized by monotonous undulating terrain cut slightly by mostly intermittent rivers. There are two major plateaus, the Central Plateau and the Eastern Plateau. The Central Plateau lies between the two branches of the Great Rift Valley. Its vast expanse forms a huge uplifted basin. Elevation here varies from roughly 900 to 1,800 meters

(3,000 to 5,900 feet). The average elevation is about 1,200 meters (4,000 feet). It is a hard, dry plain dotted with granitic outcrops.

The northern portion of the Central Plateau slopes gently downward to form the large shallow depression containing Lake Victoria, which lies at an elevation of about 1,180 meters (3,700 feet). On the lakeshore are large flooded inlets. The gradual slope of the land permits agricultural development that is not possible along the steep embankments of Lakes Tanganyika and Nyasa. The area is densely populated, and the local people have a close cultural affinity with those living in the Uganda and Kenya portions of the Lake Victoria basin.

The Eastern Plateau is in effect a series of lower plateaus that descend gradually to the coastal lowlands. In the north it consists primarily of the Masai Steppe, an extensive semiarid plain covering almost 70,000 square kilometers (26,000 square miles). Varying in elevation from about 250 to 1,000 meters (800 to 3,500 feet), the steppe is semi-desert, with vast areas of dry bush and scanty grass. The Makonde Plateau in the extreme southeast is a poorly watered tableland of about 3,100 square kilometers (1,200 square miles).

A smaller plateau, the Ufipa Plateau, occupies the southwestern corner of Tanzania, wedged between the Mbeya Mountains, Lake Rukwa, and Lake Tanganyika. The Ufipa Plateau consists mainly of highland swamp with some grassland and forest cover.

## **13** 🌐 **MAN-MADE FEATURES**

The Great Ruaha River is the site of a major hydroelectric station; the Pangani River, which rises in the northeastern highlands, has three hydroelectric stations.

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# TANZANIA

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# Thailand

- **Official name:** Kingdom of Thailand
- **Area:** 514,000 square kilometers (198,457 square miles)
- **Highest point on mainland:** Doi Inthanon (2,576 meters/8,451 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 7 P.M. = noon GMT
- **Longest distances:** 1,648 kilometers (1,024 miles) from north to south; 780 kilometers (485 miles) from east to west
- **Land boundaries:** 4,863 kilometers (3,022 miles) total boundary length; Laos 1,754 kilometers (1,090 miles); Cambodia 803 kilometers (499 miles); Malaysia 506 kilometers (314 miles); Myanmar (Burma) 1,800 kilometers (1,118 miles)
- **Coastline:** 3,219 kilometers (2,000 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Thailand is located in Southeast Asia, bordering the Andaman Sea and the Gulf of Thailand in the south. The country shares boundaries with Laos to the northeast, Cambodia to the southeast, Malaysia to the south, and Myanmar (Burma) to the west. With an area of about 514,000 square kilometers (198,457 square miles), the country is slightly more than twice the size of the state of Wyoming. Thailand is divided into seventy-six provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Thailand has no outside territories or dependencies.

## 3 🌐 CLIMATE

Most of Thailand has a tropical monsoon weather pattern, with an equatorial climate affecting the southern peninsula. Three seasons occur each year: the rainy season from May to October, when the southwest monsoon arrives; the cool season from October to March, during the northeast monsoon; and the hot

season from March to May. The country's average annual temperature is 28°C (83°F), with the average temperature in Bangkok varying from 25°C to 30°C (77°F to 86°F). Thailand's humidity averages 82 percent, dropping to 75 percent during the hot season.

The average annual rainfall is 140 centimeters (55 inches). Areas close to the sea receive more rain than inland areas. Northeast Thailand lies in the rain shadow of Indochina's mountains and is very prone to droughts and chronic water shortages. Typhoons sometimes strike in the south. Global warming also threatens Thailand with changes in rainfall patterns and the possibility of major coastal flooding.

## 4 🌐 TOPOGRAPHIC REGIONS

Thailand lies on the Eurasian Tectonic Plate at the center of continental Southeast Asia. Features of the terrain include mountain ranges, an alluvial central plain, and an upland plateau. The mountains of southern

# THAILAND



China and northern Thailand extend down to a fertile central plain formed by the mighty Chao Phraya River. Settlement has tended to concentrate in the Chao Phraya Valley, with its fertile floodplains and tropical monsoon climate so ideally suited to wet-rice cultivation. The Khorat Plateau to the east is arid. From the north-central area, the very narrow Malay Peninsula extends to the south, shared in part with Myanmar and Malaysia. Numerous islands are scattered off of both of the peninsula's coasts. Thailand's part of the continental shelf extends to a depth of 200 meters (656 feet).

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The southwestern shoreline of Thailand meets the Andaman Sea of the Indian Ocean to the west. The south-central coast and the eastern shoreline of the Malay Peninsula both border the Gulf of Thailand (formerly the Gulf of Siam) of the Pacific Ocean. The offshore depths in the Gulf of Thailand range from 30 to 80 meters (98 to 262 feet). Thailand has 2,130 square kilometers (822 square miles) of coral reefs. An estimated 96 percent of Thailand's coral reefs are considered "threatened," as they are endangered by dynamite fishing, pollution, oil spills, shrimp farming, and tourist activities.

### Sea Inlets and Straits

Between the Malay Peninsula and the Indonesian island of Sumatra lies the Strait of Malacca, linking the Andaman Sea to the South China Sea.

Phangnga Bay lies on the western coast of the Malay Peninsula, near the island of Phuket. Many small islands with dramatic limestone formations and caves attract visitors to Phangnga Bay.

The Gulf of Thailand coastline contains Mae Klong Bay, which indents into the country, reaching its apex at the mouth of the Chao Phraya River near Bangkok.

### Islands and Archipelagos

Thailand's three largest islands are: Phuket, 543 square kilometers (210 square miles), in the Andaman Sea; Koh Samui, 240 square kilometers (93 square miles), in the Gulf of Thailand off the Malay Peninsula; and Koh Chang, 219 square kilometers (85 square miles), in the Gulf of Thailand off the southeast coast. Other islands in the Andaman Sea include the nine-island Similian group; the twin islands of Koh

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# THAILAND

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EPD/©Wilko Gijbartsen

*Many small islands and dramatic limestone outcroppings lie in the Andaman Sea. These rocky islands are found near the twin islands of Koh Phi-Phi, Thailand.*

Phi-Phi; Koh Lanta; and the Turatao group, a marine park composed of fifty small islands. Additional islands in the Gulf of Thailand are Koh Samet, a national park off the southeast coast; and Koh Tao and Koh Phangan, both near the peninsula. Many of the islands have been developed for tourism purposes, and some are protected parks.

## Coastal Features

The Isthmus of Kra, which is just 24 kilometers (15 miles) wide, connects the north-central mass of Thailand to its southern peninsula. There have been proposals for digging a canal through it or building a superhighway across the isthmus in order to use it as a transport channel between the Andaman Sea and the Gulf of Thailand, which would link the Indian and Pacific Oceans.

Thailand's Andaman Sea coastline, on the western side of the peninsula, extends south from the Myanmar border to the Malaysian border, with many small islands nearby. The large island of Phuket lies below a promontory that shelters the Andaman Sea's Phangnga Bay.

The Gulf of Thailand coast extends eastward to the Cambodian border and southwest from Mae Klong Bay to the Malaysian border. The shoreline and islands on both the east and west coasts are graced with excellent beaches and harbors for fishing boats.

## 6 🌐 INLAND LAKES

Thale Sap Songkla (1,040 square kilometers/401 square miles) is Thailand's largest inland body of water. It is a lagoon lake on the southern peninsula, with a small inlet from

## DID YOU KNOW?

Thailand has several sites designated as Wetlands of International Importance under the Ramsar Convention on Wetlands. Bung Khong Long, in the north near Nong Khai, has several endemic fish species. Don Hai Lot, in the south on Mae Klong Bay, includes a rare ecosystem of inter-tidal mudflats. The Princess Sirindhorn Wildlife Sanctuary (Pru To Daeng) is a large and very biodiverse peat swamp forest near Narathiwat and the Malaysian border. Kuan Ki Sian, near Thale Sap Songkla, has a varied freshwater ecosystem, and Nong Bong Kai is an important bird habitat in the north.

the Gulf of Thailand. Thale Sap Songkla has a mixture of fresh and brackish water. Two sanctuaries for waterfowl surround the lake's perimeters. Bung Nong Han is a 32-square-kilometer (12-square-mile) freshwater lake in northeast Thailand. Thailand also has several huge man-made reservoirs.

## 7 RIVERS AND WATERFALLS

The Mekong River flows along much of Thailand's border with Laos. Approximately 4,350 kilometers (2,700 miles) in length, it is the longest river in Southeast Asia. The eastern and some of the northern part of Thailand are drained by it. The Mun River, 644 kilometers (400 miles), is the largest river within the northeast. The Mun and its Chi tributary

empty into the Mekong River. Rapids and falls in Laos and Cambodia prevent navigation down the Mekong from Thailand to the South China Sea.

The Chao Phraya, 230 kilometers (143 miles), and its tributaries drain an estimated one-third of the nation's territory. The Chao Phraya and the Mekong River are the main branches of a network of rivers and man-made canals that support wet rice cultivation and provide vitally important transport waterways.

## 8 DESERTS

There are no desert regions in Thailand.

## 9 FLAT AND ROLLING TERRAIN

The central plain is the lowland area dominated by the Chao Phraya and its tributaries. The highly developed irrigation systems of the central region support a large population. Sprawling metropolitan Bangkok, the country's focal point of trade, transportation, and industrial activity, is situated on the southern edge of the plains region at the head of the Gulf of Thailand.

In the dry northeast, scrub grassland is prevalent. Weed-like grasslands are common in the north, where repeated burning of forests for agricultural clearing has taken place. Local and foreign aid groups are attempting to reforest some of these areas. Types of forest in Thailand include mangrove, monsoon, evergreen rainforest, montane, and conifer. Tree plantations for commercial species such as eucalyptus and rubber also exist but are environmentally controversial. Khao Yai National Park, about 200 kilometers (124 miles) north of Bangkok, has natural grasslands that are an important tiger, elephant, and deer habitat.

Hill regions in Thailand include the countryside surrounding the northern city of Chiang Mai; the gem mining region of the

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# THAILAND

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EPD/Saxifraga/Sytske Dijkse

*Mountain chains cover most of northern Thailand.*

southeast near Cambodia; and the picturesque limestone outcroppings along the southern peninsula and on the islands.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Mountain chains cover most of northern Thailand and also rise along the western border with Myanmar to form the spine of the Malay Peninsula. The north consists of an area of high mountains cut by steep river valleys and upland areas that border the central plain. Doi Inthanon, a 2,576-meter (8,451-foot) limestone peak, is Thailand's highest mountain.

Thailand's frontier mountain chains include the northern Tanen and Doi Luang ranges, which are extensions of the Himalayan foothills. The limestone peaks of the Dawna and Bilauktaung ranges are located in the west and the Dangrek and Chanthaburi ranges are in the east, along the Cambodian border.

The Thiu Khao Phetchabun range runs north-south down the middle of the country, setting off the Khorat Plateau. The southern peninsular region has rolling hills and mountainous terrain unbroken by large rivers.

## **11** 🌐 **CANYONS AND CAVES**

The Chaem River forms the narrow, rocky Ob Luang Gorge in the northwest. Phae Muang Phi (City of Ghosts) is a canyon near the town of Phrae with labyrinthine rock formations sculpted by erosion. The small, erosion-formed Sao Din Canyon is also located in the north in the Nan Valley.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Northeast Thailand consists mainly of the dry Khorat Plateau, which has many ecological problems, primarily poor soil. This upland plateau, at 60 to 210 meters (200 to 700 feet)

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# THAILAND

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above sea level, is a gently rolling region of low hills and shallow lakes, drained almost entirely by the Mekong River via the Mun River. Mountains ring the plateau on the west and south, and the Mekong River traces much of the eastern rim. Phu Kadueng, a national park in the north, is a 1,360-meter- (4,462-foot-) high mesa that has wooded slopes and savannah (mixed grassland and forest) at the top. Phu Wiang and Phu Keaw are other mesas in the north.

## 13 MAN-MADE FEATURES

Thailand has twenty-eight large dams, constructed for irrigation, domestic and industrial water supply, and electric power generation. The dams created the following reservoirs: Srinakarin (419 square kilometers/300 square miles), near the Bilauktaung Mountains; Khao Laem (388 square kilometers/150 square miles); Bhumiphol (300 square kilometers/116 square miles); Sirikit (260 square kilometers/100 square miles), in the north on the Nan River; and Rajjaprabha (165 square kilometers/64 square miles). Each dam project sparked environmental and social controversy.

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# Togo

- **Official name:** Republic of Togo
- **Area:** 56,785 square kilometers (21,925 square miles)
- **Highest point on mainland:** Mount Agou (986 meters/3,235 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** Noon = noon GMT
- **Longest distances:** 510 kilometers (317 miles) from north to south; 140 kilometers (87 miles) from east to west
- **Land boundaries:** 1,647 kilometers (1,023 miles) total boundary length; Benin 644 kilometers (400 miles); Burkina Faso 126 kilometers (78 miles); Ghana 877 kilometers (545 miles)
- **Coastline:** 56 kilometers (35 miles)
- **Territorial sea limits:** 56 kilometers (30 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Togo is a long, narrow country in West Africa, sandwiched between Ghana and Benin. With an area of 56,785 square kilometers (21,925 square miles), it is almost as large as the state of West Virginia.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Togo has no territories or dependencies.

## 3 🌐 CLIMATE

Located only eight degrees north of the equator, Togo has a tropical climate. The northernmost part of the country, which is farther from the coast, has the greatest variations in temperature. The average high and low temperatures in the northern town of Mango are 35°C (95°F) and 15°C (59°F), compared with 30°C (86°F) and 23°C (73°F) in Lomé, which is on the southern coast.

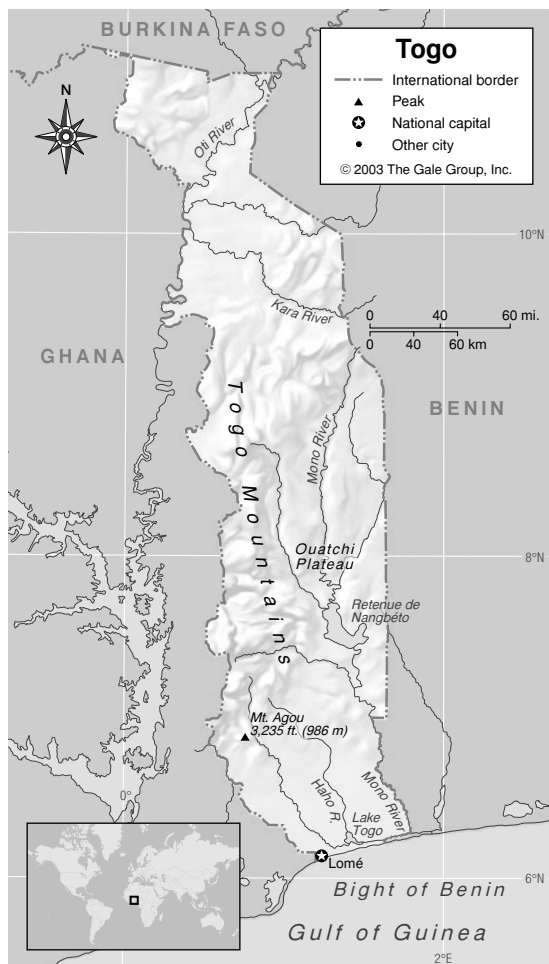
Togo's climate, while moist, is drier than those of its neighbors on the Gulf of Guinea. The coast receives an annual average rainfall

of about 78 centimeters (31 inches), although it has two rainy seasons: one between April and early August, and a second, shorter one in October and November. The plateau region to the north experiences only the April-to-August rainy season but still averages 100 centimeters (40 inches) of rainfall annually. The heaviest rainfall occurs in the Togo Mountains, which receive an average of around 150 centimeters (60 inches) of rain per year.

## 4 🌐 TOPOGRAPHIC REGIONS

Togo's dominant physical feature is a chain of low mountains that stretches across the country from southwest to northeast. Several different types of terrain lie to the north and south of these mountains. At the southernmost end is a narrow coastal strip, bordered by the low Ouatchi Plateau, which, in turn, gives way to the higher plateau that rises to the mountains. North of the Togo Mountains is yet another plateau, drained by the Oti River and crossed from southwest to northeast by granite escarpments.

# TOGO



## 5 🌐 OCEANS AND SEAS

Togo is bounded on the south by the Bight of Benin, which is part of the Gulf of Guinea.

## Seacoast and Undersea Features

The waters off Togo's coast have a strong undertow, making its beaches generally unsafe for swimming; one coastal area, however, is protected by a natural coral reef. Fishing is possible from the shoreline or from boats. Whales can often be seen nearby.

## Coastal Features

Togo's narrow coast is fringed with sandy beaches separated from the rest of the land by lagoons and tidal flats, which give this area a swampy character.

## 6 🌐 INLAND LAKES

Lake Togo is the largest of the inland lagoons lining Togo's coast; it is also Togo's largest natural body of inland water.

## 7 🌐 RIVERS AND WATERFALLS

The Mono River flows north to south, traversing more than half the length of Togo before flowing into the Gulf of Guinea. Together with its tributaries, it drains most of Togo south of the central mountain chain. North of the mountains is the Oti River, a major tributary of the Volta River and Togo's longest river, traveling a total length of 550 kilometers (340 miles). Besides the Mono and the Oti, Togo's two other major waterways are the Kara River, which crosses the Togo Mountains in the north, and the Haho River in the south, which drains into Lake Togo.

## 8 🌐 DESERTS

There are no deserts in Togo.

## 9 🌐 FLAT AND ROLLING TERRAIN

Togo has a flat, low-lying coastal plain, from which plateaus rise gradually to the central mountains. In the far north, there is rolling savannah terrain to the north of the Oti River.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Togo Mountains, which cross Togo from southwest to northeast, belong to a mountain system that extends from the Atakora Mountains in Benin to Ghana's Akwapim Hills. Togo's highest peak, Mt. Agou, is located at the southern edge of these mountains, rising to a height of 986 meters (3,235 feet).

## 11 🌐 CANYONS AND CAVES

Togo has no significant caves.



EPD/Joe Filscher

*A shepherd's son and their animals enjoy the shallow waters of the Bight of Benin along Togo's southern coast.*

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Togo has three different plateaus. The Ouatchi Plateau, which borders the coastal strip, is a transitional belt of reddish, lateritic clay soil. At elevations of between 61 and 91 meters (200 and 300 feet), it extends some 32 kilometers (20 miles) from the edge of the coastal region to a higher plateau drained by the Mono River. This second plateau stretches northward to the edge of the Togo Mountains. North of the mountains, the Oti River drains a third sandstone plateau traversed by granite ridges in the northwest.

## **13** 🌐 **MAN-MADE FEATURES**

The reservoir of the Nangbeto Dam, on the Mono River at the Togo-Benin border, is Togo's largest inland body of water.

## **14** 🌐 **FURTHER READING**

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# Tonga

- **Official name:** Kingdom of Tonga
- **Area:** 748 square kilometers (289 square miles)
- **Highest point on mainland:** Kao Island (1,033 meters/3,389 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Western
- **Time zone:** 1 A.M. (the following day) = noon GMT
- **Longest distances:** 631 kilometers (392 miles) from north-northeast to south-southwest; 209 kilometers (130 miles) from east-southeast to west-northwest
- **Land boundaries:** None
- **Coastline:** 419 kilometers (260 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Tonga, also known as the Friendly Islands, is an archipelago consisting of 171 islands in the South Pacific Ocean. Tonga is about one-third of the way from New Zealand to Hawaii. The nearest island groups are the Nieu Islands to the east, the Kermadec Islands to the south, Fiji to the west, and Wallis and Futuna to the north. Tonga's area of 748 square kilometers (289 square miles) is just over four times that of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Tonga has no territories or dependencies.

## 3 🌐 CLIMATE

Most of Tonga is far enough from the equator to have a pleasant subtropical climate moderated by trade winds. There are only two real seasons: the warmer season, from December to May, and the cooler season from May to December. Temperatures range from 16°C to 21°C (60°F to 70°F) in the coolest months of June and July, and average 27°C (80°F) in December, the hottest month.

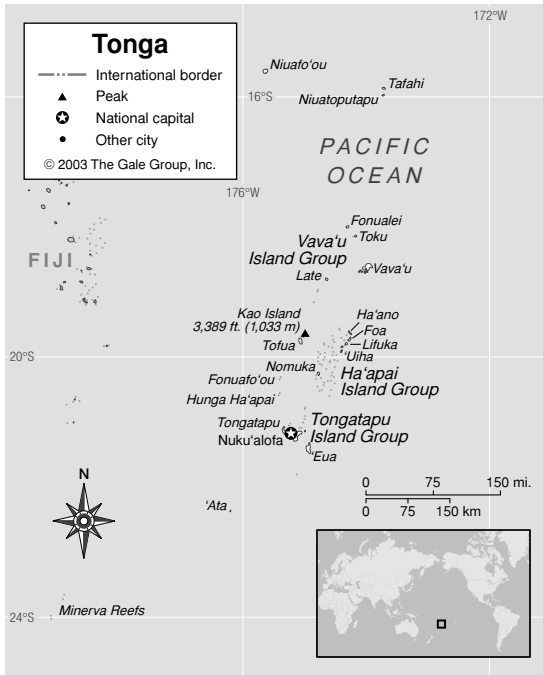
Rainfall and humidity increase from south to north. Average annual rainfall ranges from 160 centimeters (63 inches) in Tongatapu, to 221 centimeters (87 inches) in Vava'u, to 257 centimeters (101 inches) in Niuatoputapu.

## 4 🌐 TOPOGRAPHIC REGIONS

From north to south, the islands are clustered in three major groups: Vava'u to the north, Ha'apai in the middle, and Tongatapu to the south. There is also a smaller, more remote group, called the Niuas, situated farther north, as well as individual islands both to the north and south.

Tonga's islands are the tops of submerged volcanoes, four of which are still active on the islands of Tofua and Niuafu'ou. The islands of all the groups, from north to south, align into two parallel rows. Those in the western row are purely volcanic in origin; those in the eastern row consist of submerged volcanoes capped by coral and limestone formations.

# TONGA



## 5 🌐 OCEANS AND SEAS

Tonga is located in the South Pacific Ocean.

## Seacoast and Undersea Features

The South Pacific Ocean surrounding Tonga is very seismically active. The region's continuing seismic activity created a new island, called Metis Shoal, in 1995. The long underwater channel called the Tonga Trench is 10,800 meters (35,400 feet) deep. The trench, which reaches from Tonga to New Zealand, has one of the greatest ocean depths in the world. Several of Tonga's islands are formed from coral reefs, and there are many other submerged reefs in the surrounding waters, including the Minerva Reefs at the islands' southern end.

## Sea Inlets and Straits

The Piha Passage separates the main island of the Tongatapu group from the smaller islands to its northeast.

## Islands and Archipelagos

The northernmost island group, Vava'u, has thirty-four islands; the Ha'apai group in the middle has thirty-six. The Tongatapu group to the south is composed of the island of Tongatapu, one other major island ('Eua), two much smaller ones, and a number of reefs. With an area of 256 square kilometers (99 square miles), Tongatapu is the largest single island and the site of the kingdom's capital.

## Coastal Features

Tonga has many white sandy beaches and magnificent swimming, diving, and snorkeling locations.

## 6 🌐 INLAND LAKES

There are lakes on the islands of Vava'u, Nomuka, Tofua, and Niuatou'ou, some of which have waters that are very good for swimming, but none of which are of significant size.

## 7 🌐 RIVERS AND WATERFALLS

Tonga has no rivers. The island of 'Eua has creeks, and there is a single stream on Niuatoputapu.

## DID YOU KNOW?

**B**ecause it is immediately west of the International Dateline, Tonga is the first nation to greet each new day, leading to the saying "Tonga is where time begins." Tourists flocked to the islands on December 31, 1999, to be among the first to greet the new millennium.

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# TONGA

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Susan D. Rock

*Tonga has many beaches.*

## 8 🌐 DESERTS

There are no deserts in Tonga.

## 9 🌐 FLAT AND ROLLING TERRAIN

Hills rising to elevations between 152 and 305 kilometers (500 and 1,000 feet) are found on islands in the Vava'u group.

## 10 🌐 MOUNTAINS AND VOLCANOES

Tonga's highest point is on Kao Island, in the central Ha'apai group, at an altitude of 1,033 meters (3,389 feet). A volcanic ridge on the island of 'Eua, the second-largest island in the Tongatapu group, rises to 329 meters (1,078 feet).

## 11 🌐 CANYONS AND CAVES

The island of 'Eua, in the Tongatapu group, has numerous limestone caves and sinkholes, and there are also caves in the Ha'apai and Vava'u island groups.

## 12 🌐 PLATEAUS AND MONOLITHS

Tonga has no plateaus and no significant monoliths.

## 13 🌐 MAN-MADE FEATURES

A mammoth thirteenth-century stone monument called the Ha'amonga'a Maui Trilithon is located at the easternmost end of the island of Tongatapu. There are also more than two dozen pyramid-shaped stone burial tombs on the island of Mu'a.

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# Trinidad and Tobago

- **Official name:** Republic of Trinidad and Tobago
- **Area:** 5,128 square kilometers (1,980 square miles)
- **Highest point on mainland:** Mount Aripo (Cerro del Aripo) (940 meters/3,085 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** Trinidad: 143 kilometers (89 miles) from north to south; 61 kilometers (38 miles) from east to west. Tobago: 42 kilometers (26 miles) from northeast to southwest; 12 kilometers (7.5 miles) from northwest to southeast
- **Land boundaries:** None
- **Coastline:** 362 kilometers (225 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The islands of Trinidad and Tobago are located off the northeast coast of the South American continent, between the Caribbean Sea and the Atlantic Ocean and northeast of Venezuela. With an area of about 5,128 square kilometers (1,980 square miles), the country is slightly smaller than the state of Delaware. Trinidad and Tobago is divided into eight counties, three municipalities, and one ward.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Trinidad and Tobago has no outside territories or dependencies.

## 3 🌐 CLIMATE

The temperature varies minimally throughout the year. For the entire nation, the annual average temperature is 21°C (70°F). In Port-of-Spain, the capital, the minimum average temperature in January is 20°C (68°F) and the maximum is 30°C (86°F). In July, the temperature ranges from 23 to 31°C (73 to 88°F). In Trinidad's Northern Range, an increase in elevation causes a corresponding decrease in temperature. Nighttime temperatures are usu-

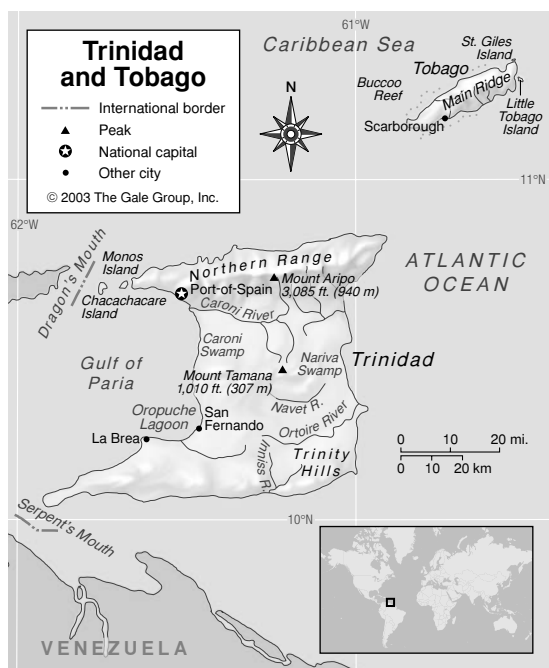
ally cool. For the most part, Tobago is cooler than Trinidad, owing to the more constant northeast trade winds.

Annual rainfall exceeds 250 centimeters (100 inches) in Trinidad's northern and central hill areas and throughout Tobago. In certain areas, the rainfall exceeds 380 centimeters (150 inches). Most hills receive 200 centimeters (80 inches) or more of rain, while in the lowlands the average is below 165 centimeters (65 inches). The wet season occurs between June and December, followed by a relatively dry season from January to May. The dry season is not a season of drought, however, since rain still falls every few days in most areas.

## 4 🌐 TOPOGRAPHIC REGIONS

Trinidad and Tobago are situated on the continental shelf of South America and are geographically, but not geologically, part of the West Indies. Trinidad, the larger of the two, is within sight of the Venezuelan coast and was once a part of the mainland. Tobago, a few miles northeast of Trinidad, is part of a sunken mountain chain related to the

# TRINIDAD AND TOBAGO



Dragon's Mouth Strait (Boca del Dragon) or from the south through Serpent's Mouth Strait (Boca de la Sierpe), both of which were named by Christopher Columbus.

## Islands and Archipelagos

The Chacachacare and Monos Islands, as well as most of the numerous small islands close to the Trinidad shoreline, are located in or near the Dragon's Mouth Strait. Tobago has several small satellite islands. The largest are Little Tobago Island and St. Giles Island (Melville).

## Coastal Features

On the north coast of Trinidad, the shoreline is heavily indented and the bays are rockbound. There is no coastal plain between the tidewater and the steep mountain cliffs. On the south, the water is shallow and the bays are narrow. The eastern coast is bordered by the Atlantic Ocean and features several beaches. On the west, the land slopes gently from the Gulf of Paria to an interior of fertile hills and plains.

Although the town of Scarborough on Tobago is the only important port, there are several small harbors and the coastline is indented by numerous inlets and sheltered beaches.

## 6 🌐 INLAND LAKES

There are no significant natural lakes, but extensive swamps occur along the eastern, southern, and western coasts on Trinidad. Some are mangrove swamps, separated from the sea by wide sandbars. The most extensive of the swamplands are the Caroni Swamp and the Oropuche Lagoon on the Gulf of Paria, and the Nariva Swamp on the Atlantic coast to the east. The waters of most rivers and streams ultimately drain through these swamplands.

continent. Trinidad, second-largest of the Commonwealth Caribbean islands, is roughly rectangular in shape with peninsular extensions at the northeast, northwest, and southwest corners. Tobago lies to the northeast of Trinidad and is separated from its sister island by a channel about 32 kilometers (20 miles) in width. Both islands sit on the South American Tectonic Plate.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

The Trinidad and Tobago islands are surrounded by the Caribbean Sea to the north and west and by the Atlantic Ocean to the east. In the Caribbean, southwest of Tobago, the Buccoo Reef houses coral gardens.

### Sea Inlets and Straits

An oval-shaped body of water, the Gulf of Paria, separates Trinidad from Venezuela. The Gulf of Paria can be entered from the north by



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# TRINIDAD AND TOBAGO

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AP Photo/Piero Guerrini

*In 2000, local residents blocked plans to build a port complex in the area of this beach, which is a nesting site for leatherback turtles on the island of Trinidad.*

## **7** 🌐 **RIVERS AND WATERFALLS**

Rivers and streams on Trinidad and Tobago are numerous but short. The longest rivers are located on Trinidad. The Ortoire is the nation's longest river, extending 50 kilometers (31 miles) eastward to the Atlantic Ocean in the south. The second-longest river, the Caroni at 40 kilometers (25 miles) long, runs westward to the Gulf of Paria in the north. The Navet River begins in the dead center of the island and flows east to the ocean. Flowing to the southern coast is the Inniss.

The only notable river on Tobago is the Courland River, which runs westward into the Caribbean Sea between the coral platform and the Main Ridge (a series of mountains near the northeastern coast).

There are several beautiful waterfalls in Trinidad and Tobago. The Blue Basin Falls and pool is located near Port-of-Spain, in the Diego Martin River. The Paria Waterfall is located on the Paria River.

## **8** 🌐 **DESERTS**

There are no desert regions in Trinidad and Tobago.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The Caroni Plain, between the Northern and Central Ranges, is the country's most extensive lowland. South of the Central Range the land is undulating, with the Nariva Plain to the southeast and the Naparima Plain to the southwest. Each of the plains has a large swampy area: the Caroni Swamp, the Nariva Swamp, and the Oropouche Lagoon. Throughout the lowlands, the terrain

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# TRINIDAD AND TOBAGO

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ranges from flat to gently undulating. Narrow patches of coastal plain are found around the mouth of the Courland River on Tobago.

About 31 percent of the land is covered by forests, with four-fifths of this forestland owned or administered by the government. Much of this land is located in the hill regions.

## 10 🌐 MOUNTAINS AND VOLCANOES

Trinidad is traversed by three mountain ranges: the Northern Range, the Central Range, and the Southern Range. The principal mountain system is the Northern Range, a rugged chain that covers the entire northern portion of the island. It includes the highest point in the country, Mount Aripo (Cerro del Aripo), with an elevation of 940 meters (3,085 feet). The Central Range runs diagonally across the island. Average elevations for the Central Range are 61 to 152 meters (200 to 500 feet), with a maximum elevation at Mount Tamana: 307 meters (1,010 feet). Along the southern coast, the low and discontinuous Southern Range reaches a maximum elevation of a little less than 304 meters (1,000 feet) in the Trinity Hills of the southeast.

Tobago is generally mountainous. It has an uneven terrain dominated by the Main Ridge, a series of mountains near the northeast coast about 29 kilometers (18 miles) long, with elevations reaching a maximum of about 548 meters (1,800 feet). South of the Main Ridge on Tobago are lower hills in which rivers have cut numerous deep and fertile valleys. The southwestern part of the island consists of an extensive and fairly level coral platform.

## 11 🌐 CANYONS AND CAVES

The Aripo Caves near Mount Aripo are part of the most extensive cave system in Trinidad and serve as home to many different types of birds.

The Gasparee Caves are located on the offshore island of Gasparee. These caves were formed as the underground limestone deposits dissolved through a combination of wave action, acidic rainfall, and percolating groundwater. The Blue Grotto is one of the larger caverns of the Gasparee Caves. It is lined with stalactites and stalagmites that sometimes form columns where they have joined. The caves house bats, yellow-headed parrots, rufus-necked wood rails, and pelicans.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no significant plateau regions in Trinidad and Tobago.

## 13 🌐 MAN-MADE FEATURES

There are no major man-made structures affecting the geography of Trinidad and Tobago.

## 14 🌐 FURTHER READING

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# Tunisia

- **Official name:** Republic of Tunisia
- **Area:** 163,610 square kilometers (63,170 square miles)
- **Highest point on mainland:** Mount Ash-Sha' nabī (1,544 meters/5,065 feet)
- **Lowest point on land:** Chott el Gharsa (17 meters/56 feet) below sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** 350 kilometers (217 miles) from east to west; 792 kilometers (492 miles) from north to south
- **Land boundaries:** 1,424 kilometers (884 miles) total boundary length; Algeria 965 kilometers (600 miles); Libya 459 kilometers (285 miles)
- **Coastline:** 1,148 kilometers (713 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Tunisia juts into the Mediterranean Sea on the northern coast of the African continent. Along with Algeria, Morocco, and the northwestern portion of Libya, Tunisia is situated in the Maghreb, a region in which fertile coastal lands give way to the Atlas Mountains of North Africa and then to the expanses of the Sahara Desert. Tunisia has a total area of 163,610 square kilometers (63,170 square miles), or slightly more than the state of Georgia.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Tunisia has no territories or dependencies.

## 3 🌐 CLIMATE

Along the Mediterranean coast, temperatures are moderate—the average temperature is 18°C (64°F). Temperatures in the southern interior, which forms part of the Sahara Desert, are very hot. The summer season in the north (May–September) is hot and dry. In the winter months (October–April), the climate is mild with frequent rains. Temperatures at the capital city of Tunis range from 6°C (43°F) to 14°C (57°F) in January, and 21°C (70°F) to

33°C (91°F) in August. Rainfall reaches a high of 150 centimeters (59 inches) in the northern part of the country, while in the extreme south, yearly rainfall averages less than 20 centimeters (8 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Tunisia can be divided into northern, southern, and central regions, determined in part by topography and quality of the soil and in part by the incidence of rainfall, which decreases progressively from north to south. The Mediterranean Sea influences the climate in the north, and the Sahara Desert influences the weather in the south.

## 5 🌐 OCEANS AND SEAS

The Mediterranean Sea forms Tunisia's northern and eastern borders.

### Sea Inlets and Straits

In the north, the shoreline is indented by the Gulf of Tunis. Immediately to the south of Cape Bon is the Gulf of Hammamet. Farther to the south is the largest of Tunisia's gulfs, the Gulf of Gabès.

# TUNISIA



## Islands and Archipelagos

Jerba and Qarqannah Islands are located in the Gulf of Gabès.

## Coastal Features

The eastern shoreline is smooth and sandy, and the northern shoreline is rocky. Lagoons and salt flats fringe the narrow, gravelly coast

of southern Tunisia. Cape Bon forms the southeastern shore of the Gulf of Tunis, with the coast curving sharply to the south.

## 6 🌐 INLAND LAKES

Two large *chotts* or *shatts* (salt lakes) are located in Tunisia's southern region: the Chott el Djerid (the largest lake in the country) and the Chott el Gharsa (the nation's lowest point). The Chott el Djerid is dry during half the year, but it floods to form a shallow salt lake during the winter months.

## 7 🌐 RIVERS AND WATERFALLS

The most important river system in Tunisia, the Medjerda, rises in Algeria and drains into the Gulf of Tunis. It is the only river that flows perennially; Tunisia's other watercourses fill only seasonally. In the central Tunisian steppes, occasional waterways flow southward out of the Dorsale after heavy rains, but they evaporate in salt flats without reaching the sea.

## 8 🌐 DESERTS

Southern Tunisia is part of the Sahara Desert. The interior of the desert is almost totally barren and uninhabited except for oases that occur along a line of springs. The Grand Erg Oriental, at the edge of the Saharan dunes, is interrupted by the flat-topped Monts des Ksour.

## 9 🌐 FLAT AND ROLLING TERRAIN

The western part of central Tunisia along the border with Algeria is moderately elevated and known as the High Steppes. There are many hills in the desert region of the south.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Atlas Mountains, which begin in southwestern Morocco, terminate in northeastern Tunisia. The principal sub-mountain chain within the Atlas, the Dorsale, slants northeastward across the country from the Algerian border to Cape Bon. The country's

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# TUNISIA

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EPD/Saxifraga/Adriaan Dijkssen

*A caravan travels on a route just south of Chott el Djerid in Tunisia.*

highest point, Mount Ash-Sha' nabī—which reaches 1,544 meters (5,065 feet) near the Algerian border—is part of this range; most of the peaks, however, average less than 300 meters (984 feet) and rarely exceed 1,000 meters (3,280 feet). The Dorsale is cut by several transverse depressions, among them the Kasserine (Al Qasrayn) Pass.

## **11** 🌐 **CANYONS AND CAVES**

Tunisia's famous Roman Caves, west of El-Hauaria on the Cape Bon peninsula, are actually ancient, eroded sandstone mines that date to the sixth century B.C. The oasis of Mides is known for the canyons that border it on two sides. The canyons that form the Selja Gorge have walls as high as 200 meters (656 feet).

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Northern Tunisia, a generally mountainous region that comprises about 25 percent of the country, is sometimes referred to as the Tell. It is a heavily populated area of high ground located close to the Mediterranean Sea. The region is bisected from east to west by the Medjerda River and is divided into subregions made up of the Medjerda Valley and the several portions of the Tell.

The western part of central Tunisia, along the border with Algeria, is moderately elevated and known as the High Steppes. The Tunisian portion of the Sahara Desert consists of plateaus, tablelands, and eroded hills.

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# TUNISIA

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## DID YOU KNOW?

**E**l-Jem, an ancient colosseum almost as large as the one in Rome, is located on a plateau south of the capital city, Tunis. It could seat an estimated thirty thousand people.

### 13 MAN-MADE FEATURES

Roman ruins can be found throughout the country.

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# Turkey

- **Official name:** Republic of Turkey
- **Area:** 780,580 square kilometers (301,382 square miles)
- **Highest point on mainland:** Mount Ararat (5,166 meters/16,949 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 1,600 kilometers (994 miles) from southeast to northwest; 650 kilometers (404 miles) from northeast to southwest
- **Land boundaries:** 2,627 kilometers (1,632 miles) total boundary length; Armenia 268 kilometers (167 miles); Azerbaijan 9 kilometers (6 miles); Bulgaria 240 kilometers (149 miles); Georgia 252 kilometers (157 miles); Greece 206 kilometers (128 miles); Iran 499 kilometers (310 miles); Iraq 331 kilometers (206 miles); Syria 822 kilometers (511 miles)
- **Coastline:** 7,200 kilometers (4,474 miles)
- **Territorial sea limits:** 11 kilometers (6 nautical miles) in the Aegean Sea, 22 kilometers (12 nautical miles) in the Black and Mediterranean Seas

## 1 🌐 LOCATION AND SIZE

Turkey is located in the Middle East, with territory in both Europe and Asia. The country shares borders with Bulgaria, Greece, Iraq, Syria, Armenia, Azerbaijan, Iran, and Georgia. It also has coastal borders on the Black Sea, the Mediterranean Sea, and the Aegean Sea. With a total area of about 780,580 square kilometers (301,382 square miles), the country is slightly larger than the state of Texas. Turkey is administratively divided into eighty provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

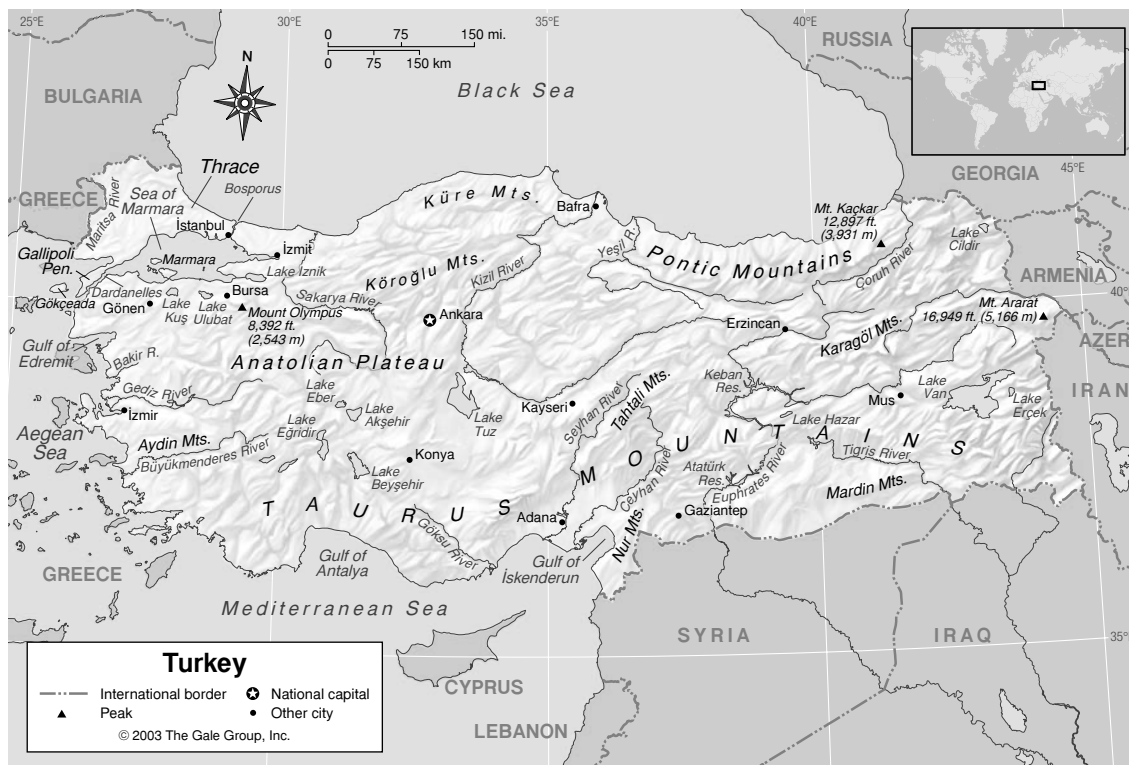
Turkey has no outside territories or dependencies.

## 3 🌐 CLIMATE

The southern part of Turkey enjoys a Mediterranean climate, with a mean annual temperature of 17°C to 20°C (63°F to 68°F). In Istanbul, temperatures average 4°C (40°F) in winter

and 27°C (81°F) in summer. The northern area along the Black Sea is slightly cooler, with a mean annual temperature range from 14°C to 16°C (57°F to 60°F). In the north, winter temperatures average about 7°C (45°F) and summer temperatures average 23°C (69°F). The central plateau region experiences wider daily and seasonal temperature variation, with cold winters and hot summers; annual mean temperatures range from 8°C to 12°C (46°F to 54°F). The eastern region has higher elevations and temperatures there are cooler, with the yearly mean between 4°C to 9°C (39°F to 48°F). Winters can be severe in the east, with 120 days of snow cover and minimum temperatures of -30°C to -38°C (-4°F to 3°F). The average winter temperature in the east is -13°C (21°F) and in summer, the average is 17°C (63°F).

# TURKEY



Adequate rainfall of about 58 to 130 centimeters (23 to 51 inches) occurs along the Mediterranean coast and the western coast of the Aegean Sea. The region bordering the Black Sea is also well watered, with annual rainfall in the range of 71 to 220 centimeters (28 to 87 inches). The Taurus Mountains along the Mediterranean prevent rain from reaching the heart of the country, which is therefore much drier, with annual rainfall between 56 to 71 centimeters (22 to 28 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

About 3 percent of the territory in Turkey belongs to the European region known as Thrace. This region shares borders with Greece and Bulgaria. It is separated from the Asian portion of Turkey by a series of waterways that connect the Black Sea with the Aegean

Sea. The rest of the country is located in Asia, mostly on the peninsula of Asia Minor, which is the westernmost extension of the continent. This region is also called Anatolia, or simply Asiatic Turkey.

Turkey's terrain is structurally complex and divides into five regions: the Black Sea region in the north; the Sea of Marmara region in the northwest; the Aegean Sea region in the far west; the Mediterranean Sea region in the south; and the Anatolian Plateau region in the country's center. All of the regions share a generally mountainous terrain, and many large lakes and rivers appear throughout the country.

Turkey is located on the Eurasian Tectonic Plate; however, the southern borders of the country rest atop the boundaries with the Arabian Tectonic Plate and the



African Tectonic Plate. There is also a major fault line beneath the northern part of Asia Minor. As a result of its geological location, the country is subject to a very high level of seismic activity. The tremors cause massive damage to buildings and numerous deaths and injuries, especially if they occur at night during the winter months. The most earthquake-prone region centers on an arc that stretches from the general vicinity of the Sea of Marmara to the area north of Lake Van (Van Gölü), on the border with Georgia and Armenia.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Turkey has coastlines on four different seas: the Black Sea, the Sea of Marmara, the Aegean Sea, and the Mediterranean Sea. The northern coast of Turkey is on the Black Sea, an inland body of water that separates Europe from Asia. The Black Sea contains calm waters that are free of tides and dangerous marine life. Called the “Hospitable Sea” by the ancient Greeks, the Black Sea is only half as saline as the Mediterranean Sea and has gentle sandy slopes, making it ideal for swimming.

The Mediterranean Sea, which lies on Turkey’s southern coast, is an almost completely landlocked sea. It links to the Atlantic Ocean at its western point through the Strait of Gibraltar and to the Red Sea at its southeastern shore through the Suez Canal. The Aegean Sea to the west of Turkey is an extension of the Mediterranean.

The Sea of Marmara (Marmara Denizi) is a small inland sea that is situated between Asiatic and European Turkey. It has a surface area of about 11,350 square kilometers (4,382 square miles).

## DID YOU KNOW?

The term “Middle East” was coined by western Europeans as a geographic designation for those countries of southwest Asia and northeast Africa that stretch from the Mediterranean Sea to the borders of Pakistan and Afghanistan, including nations on the Arabian Peninsula. This area was considered to be the midpoint between Europe and East Asia, which was usually called the Far East. In a cultural sense, the term sometimes includes all the countries in the region that are primarily Islamic. In this sense, the Middle East includes the countries of Afghanistan and Pakistan, as well as some of the North African countries that border the Arabian Peninsula.

### Sea Inlets and Straits

The Dardanelles Strait (also known as Çanakkale Boğazi) connects the Sea of Marmara to the Aegean Sea in the west, while the Bosphorus Strait (also known as Istanbul Boğazi or Karadeniz Bogazi) connects it to the Black Sea in the northeast. The great city of Istanbul (formerly known as Constantinople and Byzantium) is located on the Golden Horn (Haliç) estuary of the Bosphorus. These two straits and the Sea of Marmara itself are what separate Europe and Asia.

## DID YOU KNOW?

The Temple of Artemis was built around 550 B.C. in the ancient Greek city of Ephesus, which is now a part of western Turkey. In Greek mythology, Artemis (known as Diana to the Romans) was the daughter of Zeus and goddess of the hunt and of the moon. The temple at Ephesus constructed in her honor was one of the largest and most complex temples built at that time. The foundation was about 61 meters (200 feet) wide and 122 meters (400 feet) long, with a large marble sanctuary containing over 106 columns, each one about 18 meters (60 feet) tall. Fire destroyed the temple in 356 B.C. but it was later rebuilt on the same site; this second temple also burned in 262 A.D. Sculptures and other surviving artifacts are currently owned by the British Museum in London. The foundation site still remains mostly intact. Along with the Mausoleum at Halicarnassus, also located in Turkey, the Temple of Artemis is one of the Seven Wonders of the Ancient World.

Along the Aegean Sea coast are a number of inlets, including the Gulf of Edremit. This protected gulf encloses clear Aegean waters. The shores lining the gulf feature sandy beaches surrounded by olive groves. The Gulf of Antalya indents the middle of the southern

coast and the Gulf of İskenderun marks the southeastern edge of Asia Minor.

### Islands and Archipelagos

There are numerous islands off the western coast in the Aegean Sea, but almost all of them belong to Greece. One of the few exceptions is the island of Gökçeada (İmroz). Turkey's largest island, located not far from the Dardanelles, is covered with pine and olive trees and surrounded by sparkling clear water. There is also an archipelago of nine small islands in the Sea of Marmara, where wealthy Turks have summer homes.

### Coastal Features

There are narrow coastal lowlands along the Black Sea and Mediterranean coasts. The Aegean coastline is extremely irregular, with dramatic mountain faces rising perpendicularly from the sea and many islands just off shore (most of which belong to Greece). The Gallipoli Peninsula extends southwest from Thrace to form the northern side of the Dardanelles.

### 6 INLAND LAKES

The largest lake in the country, Lake Van (Van Gölü), is situated near the border with Iran. It covers an area of about 3,713 square kilometers (2,545 square miles). Other lakes in this eastern region include Ercek, Cildir, and Hazar. Turkey's second-largest lake, the shallow and salty Lake Tuz (Tuz Gölü), lies in central Anatolia directly south of Ankara. Lakes Akşehir and Eber lie west of Lake Tuz. Further to the southwest, in the Taurus Mountains west of Konya, are Lakes Beyşehir and Eğirdir. Lying around the Sea of Marmara are numerous small lakes, the largest of which are Kuş, Ulubat, and Iznik.

Turkey has extensive wetlands, most of which provide protected habitat for birds. The most important wetland area forms part

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# TURKEY

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of Kuscenneti National Park near Lake Kuz, where the habitat supports more than 225 bird species and an estimated three million individual migratory birds. Kuscenneti was established as a national park in 1959. Eleven other parks protect wetland bird habitats.

## **7** 🌐 **RIVERS AND WATERFALLS**

The Euphrates (Firat) River has its source in eastern central Turkey. With a total length of about 2,800 kilometers (1,750 miles), it is the longest river in Turkey and in all of the Middle East. The Euphrates flows west initially, then curves south, crosses the Taurus Mountains, and enters Syria. It eventually flows southeast through Iraq and into the Persian Gulf. There are two large reservoirs on the Euphrates in Turkey, the Keban and the Atatürk. The Tigris (Dicle) river also has its source in Turkey, somewhat farther south and west than that of the Euphrates in the Taurus Mountains. It follows a southeasterly path and soon exits Turkey for Iraq, where, hundreds of miles later, it joins the Euphrates shortly before reaching the Persian Gulf.

The longest river that flows completely within Turkey is the Kizil (Kizilirmak, Halys) with a length of about 1,355 kilometers (847 miles). It follows a twisting path through central Anatolia. It forms a broad half-circle just east of Ankara, first flowing southwest and then curving all the way to the northeast to empty into the Black Sea at the headland of Bafra. Other rivers that empty into the Black Sea are the Yeşil in the east and the Sakarya in the west. The Çoruh River, renowned for its whitewater rafting, rises in the mountains of eastern Turkey and reaches the Black Sea through neighboring Georgia.

The Gediz and Büyükmeanderes Rivers flow westward to the Aegean Sea in Anatolia. The Maritsa River also empties into the Aegean in Europe and marks most of Turkey's border

with Greece. The Seyhan, Ceyhan, and Göksu rivers flow southward into the Mediterranean Sea. Lying 76 kilometers (47 miles) south of Kayseri is the Kapuzbasi waterfall, which features a 70-meter (230-foot) cascade that is fed by seven underground springs.

Southwest of the Sea of Marmara region lies Gönen, where hot springs bubble from deep underground, reaching the earth's surface at about 82°C (180°F). Gönen has been the site of therapeutic mineral baths since the fifth century. In and around Bursa, thermal springs and therapeutic baths may also be found.

## **8** 🌐 **DESERTS**

There are no desert regions in Turkey.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The Ergene Plain is a lowland region in Thrace that extends along rivers that discharge into the Aegean Sea or the Sea of Marmara. There are many grassland areas in Anatolia. To the east and south of the Sea of Marmara, fertile plains stretch from west to east, following the flow of the Gediz and Bakir Rivers. Grassland plains reach an elevation of about 899 meters (2,967 feet) around Lake Tuz (Tuz Gölü). Relatively flat land is also found to the east of Konya and south of Ankara. A fertile broad valley lies west of Lake Van, centered on Mus.

Slightly more than 10 percent of Turkey is covered by forest, most of which lies in protected national reserves or parks. Forests are found in the mountainous areas near the Black Sea, Sea of Marmara, Aegean Sea, and the Mediterranean Sea. Small pine forests are found in central Anatolia, but the most common forest type is oak.

There are regions of moderate hills in Thrace and in the region along the eastern border with Syria.

## DID YOU KNOW?

In about 353 B.C., the Greek architects Satyrus and Pythius built a huge white marble tomb in the ancient city of Halicarnassus to hold the remains of King Mausolus (a ruler of the Persian Empire) and his wife Artemisia. It was designed and built to stand about 135 feet tall with a beautiful ornamental frieze (a decorative band or border) sculpted around the top. The grandeur and beauty of Mausolus's tomb became so well known throughout the ancient world that the word "mausoleum" began to be used to indicate any large decorative tomb. In the fifteenth century, an earthquake caused serious damage to the tomb. The structure was eventually dismantled and several of its sculptures are now installed in the British Museum in London. The foundation of the building remains near the modern city of Bodrum, Turkey. The Mausoleum at Halicarnassus is one of the Seven Wonders of the Ancient World.

## 10 MOUNTAINS AND VOLCANOES

Except for a relatively small segment along the Syrian border that is a continuation of the Arabian Platform, Turkey is part of the great Alpine-Himalayan mountain belt. The inten-

sive folding and uplifting of this mountain belt during the Tertiary Period was accompanied by strong volcanic activity and intrusions of igneous rock material, followed by extensive faulting in the Quaternary Period. As a result, mountain ranges can be found throughout most of the country.

The most important mountain range in the south is that of the Taurus Mountains (Toros Dağları). They run along the entire Mediterranean coast and extend far inland to the border with Iran. They also include many peaks of over 3,048 meters (10,000 feet). Smaller mountain ranges surround the Taurus on all sides, including the Aydin, Nur, Tahtali, Karagöl, and Mardin Mountains.

Another series of mountain ranges runs along the northern coast on the Black Sea. Principal among these are the Koroğlu, Küre, and Pontic Mountains. In the Marmara region of the northwest, the highest peak is Mount Olympus (Ulu Dağ), which rises to 2,543 meters (8,392 feet) and provides a center for winter sports. Further east, the mountains rise as high as 3,931 meters (12,897 feet) at Mount Kaçkar (Kaçkar Dagi).

The nation's highest peak is the extinct volcano Mount Ararat (Buyuk Agri Dagi), which rises to 5,166 meters (16,949 feet) in the far east near the border with Iran. To its southwest is a 3,896-meter- (12,857-foot-) high peak known as Little Mount Ararat. A plateau of lava covers the territory between the two peaks.

## 11 CANYONS AND CAVES

In the central Anatolian region, the Melendiz River has eroded the Ihlara Valley to produce a deep canyon. The walls of the canyon have been carved to form Byzantine chapels, featuring many frescoes. Dwellings and tombs have also been found hewn

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# TURKEY

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EPD/Cynthia Bassett

*Archaeologists have found underground settlements carved into the rocky canyons of Turkey's Cappadocia region.*

into the rock. In a nearby region known as Cappadocia, early Christians chiseled villages into the canyons and lived there in hiding to avoid persecution. Archaeologists have uncovered five complete underground settlements here, all of which have been preserved and are open to the public. These rock sites of Cappadocia have been designated as UNESCO World Heritage Sites.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The large, central Anatolian Plateau is wedged between the northern and southern mountain ranges. It is composed of uplifted blocks and downfolded troughs, covered by recent deposits and giving the appearance of a plateau with rough terrain. This plateau is the heartland of the country, with altitudes rising from west to east from 600 to 1,200 meters (1,980 to 3,960 feet). Except in the northwest,

the mountains act as formidable barriers between the coastal regions and the plateau. The plateau is crossed by many rivers and also contains several large lakes.

In the tourist center of Ürgüp, between Lake Tuz and Kayseri, exposed rock has eroded into strange monolithic formations called fairy chimneys. These resemble mushrooms, inverted cones, and obelisks; various civilizations throughout history have further shaped the fairy chimneys to provide living space.

## **13** 🌐 **MAN-MADE FEATURES**

Twenty-two dams and nineteen hydroelectric stations along the Tigris and Euphrates Rivers distribute irrigation and electricity throughout the country. The largest is the Atatürk Dam, which stands at 184 meters (604 feet) high and 1,820 meters (5,971 feet)

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# TURKEY

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ARAMCO/Ergun Cagatay

*The Bosphorus II Bridge, completed in 1988, connects the European and Asian sections of Istanbul, Turkey.*

long. The Atatürk is one of the tallest dams in the world, as well as one of the largest earth and rock fill dams.

The Bosphorus Bridge, which crosses the Bosphorus Strait at Istanbul and connects the continents of Europe and Asia, is one of the world's longest suspension bridges. Completed in 1973, the bridge spans 1,074 meters (3,524 feet). Ancient writings indicate that there may have been a type of bridge constructed at this same crossing as early as 512 B.C.; if this is true, that structure would have been the first intercontinental bridge in the world. In 1988 a second bridge, Bosphorus II, was built at a narrower point on the strait, north of the first bridge.

## 14 FURTHER READING

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# Turkmenistan

- **Official name:** Turkmenistan
  - **Area:** 488,100 square kilometers (188,456 square miles)
  - **Highest point on mainland:** Mount Ayribaba (3,139 meters/10,299 feet)
  - **Lowest point on land:** Akchanaya Depression (81 meters/266 feet below sea level)
  - **Hemispheres:** Northern and Eastern
  - **Time zone:** 5 P.M. = noon GMT
  - **Longest distances:** Not available
  - **Land boundaries:** 3,736 kilometers (2,321 miles) total boundary length; Afghanistan 744 kilometers (462 miles); Iran 992 kilometers (616 miles); Kazakhstan 379 kilometers (235 miles); Uzbekistan 1,621 kilometers (1,007 miles)
  - **Coastline:** None
  - **Territorial sea limits:** None
- 

## 1 🌐 LOCATION AND SIZE

Turkmenistan is located in central Asia, sharing borders with Kazakhstan, Uzbekistan, Afghanistan, and Iran. The country also has a western shore on the Caspian Sea. With a total area of about 488,100 square kilometers (188,456 square miles), the country is slightly larger than the state of California. Turkmenistan is administratively divided into five welayatlar.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Turkmenistan has no outside territories or dependencies.

## 3 🌐 CLIMATE

Turkmenistan's subtropical desert climate features exceedingly hot summers followed by cold winters, with temperature ranges that are fairly uniform for the country as a whole. In January, temperatures range from  $-6^{\circ}\text{C}$  to  $5^{\circ}\text{C}$  ( $21^{\circ}\text{F}$  to  $41^{\circ}\text{F}$ ); in July, the range is generally between  $27^{\circ}\text{C}$  and  $32^{\circ}\text{C}$  ( $81^{\circ}\text{F}$  and  $90^{\circ}\text{F}$ ).

Annual rainfall amounts in some parts of the country can vary from 8 to 40 centimeters (3 to 16 inches), but nearly two-thirds of Turkmenistan receives less than 15 centimeters (6 inches) of precipitation.

## 4 🌐 TOPOGRAPHIC REGIONS

The terrain of Turkmenistan is mostly low and flat, with nearly all of the western and central portions of the country covered by the great Kara-Kum (Garagum) Desert. The Kara-Kum is itself a part of the Turan Lowlands, a vast area of desert and steppe that extends throughout Central Asia.

The desert gives way to mountains in the south. The eastern region is a plateau called the Garabil. Although Turkmenistan is considered landlocked, it borders the saltwater Caspian Sea on the west. Turkmenistan is on the Eurasian Tectonic Plate. Violent earthquakes are frequent in the mountains of the south.

# TURKMENISTAN



## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Turkmenistan is landlocked with no ocean coasts. It does lie along the Caspian Sea, however, which forms its entire western border for 1,768 kilometers (1,096 miles). The Caspian Sea is a saltwater lake and the largest inland body of water in the world. Its area is 371,000 square kilometers (143,000 square miles). Its mean depth is about 170 meters (550 feet), deepest in the south. Although connected to the Baltic Sea, the White Sea, and the Black Sea by extensive inland waterways (chief of which is the Volga River), the Caspian Sea has no natural outlet.

### Islands and Archipelagos

Ogurchinskiy Island is located in the Caspian Sea south of the tip of the Cheleken Peninsula.

## Coastal Features

The Cheleken Peninsula juts into the Caspian Sea in the middle of the western shoreline.

## 6 🌐 INLAND LAKES

Kara-Bogaz Lake (Kara-Bogaz Gol) was once a bay of the Caspian Sea. Through evaporation, however, the water level has dropped so much that the bay is now separated from the Caspian Sea by a strip of dry land, turning the bay into a salt lake. The water level (as well as the area) of the lake varies greatly because of this continued net water loss. Evaporation also allows for natural salt deposits along the shores of this lake. The largest natural inland lake in Turkmenistan is Lake Sarygamysh, which covers a total area of about 800 square kilometers (309 square miles). It is shared with Kazakhstan.



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# TURKMENISTAN

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## 7 🌐 RIVERS AND WATERFALLS

The Atrek River flows along part of the border with Iran, emptying into the Caspian Sea. The Amu Dar'ya (Amu River) is the country's longest river. Though it has a total length of about 2,540 kilometers (1,580 miles), only part of the river flows through Turkmenistan. The river enters from Afghanistan and then flows westward into Turkmenistan to form a section of the border with Uzbekistan. It flows northwest near the northeastern border and eventually empties into Lake Sarykamysh in the north.

Two other significant rivers are the Morghāb and the Harīrūd (Tejen), both of which originate in Afghanistan. These waters flow northwest into Turkmenistan before drying up in the desert. No significant rivers originate in Turkmenistan.

## 8 🌐 DESERTS

Covering an area of about 284,900 square kilometers (110,000 square miles), the Kara-Kum desert is one of the world's largest sand deserts. It extends westward from the Amu Dar'ya almost to the Caspian Sea and stretches from the Ust-Urt Plateau in the north to the Kopet-Dag Mountains in the south. The Kara-Kum occupies almost all of the country.

The name "Kara-Kum" means "black sand" in the Turk language, which aptly characterizes the coloration of much of this vast wasteland. The desert's chief features are rolling sand dunes as well as extensive regions of hard-packed clay and rock. Little in the way of vegetation can be found there, although in the southeast steppe areas some bushes and flowering plants do survive.

East of the Amu Dar'ya is the Sundukli Desert. This desert is an extension of the Kyzyl Kum Desert in Uzbekistan.

## 9 🌐 FLAT AND ROLLING TERRAIN

In the northeast, where the great Turan lowland dips into Turkmenistan, there is steppe land (a semiarid, grassy plain).

To the north of the Kopet-Dag Mountains is a chain of foothills, which features a belt of oases fed by its mountain streams. Otherwise, Turkmenistan is notably low in elevation, averaging less than 500 meters (1,640 feet). The lowest point occurs in the Akchanaya Depression (Vpadina Akchanaya) of north central Turkmenistan, which is 81 meters (266 feet) below sea level.

## 10 🌐 MOUNTAINS AND VOLCANOES

The highest point in the country is Mount Ayribaba (Gora Ayribaba), which stands at about 3,139 meters (10,299 feet). It is located in the small part of the Kugitang range of mountains that extends across the border from Afghanistan in the east. The Kopet-Dag Mountains rise south of the Kara-Kum Desert and straddle the Turkmenistan-Iran border. One of the highest points in this mountain range is Mount Shahshah, at 2,912 meters (9,554 feet). Frequent, violent earthquakes occur in these mountains.

## 11 🌐 CANYONS AND CAVES

The Kugitang Mountains, which are part of the Kugitang State Nature Reserve in Turkmenistan, contain many deep canyons. The longest canyon is Hodjachilgazbaba, which has a total length of about 28 kilometers (17 miles). Daraya Canyon is one of the steepest, with vertical walls that reach up to 600 meters (1,969 feet) high. The Umbardepe Canyon features twenty-eight beautiful waterfalls. The reserve also contains karst (limestone) caves, including the Karluick Caves. Scientists here study the caves' rock formations, their underground thermal springs, and species of cave fish that live there.

# TURKMENISTAN

## 12 🌐 PLATEAUS AND MONOLITHS

Two plateaus occupy portions of Turkmenistan. The larger of these is the Garabil Plateau, which lies in the eastern portion of the country near the Afghanistan border. In the north, the fringes of the Ust-Urt (Ustyurt) plateau extend across the border.

## 13 🌐 MAN-MADE FEATURES

The Kara-Kum Canal, which runs east to west across southern Turkmenistan for more than 1,400 kilometers (870 miles), is one of the longest canals in the world. It starts at the Amu Dar'ya near the Afghanistan border, extending across Turkmenistan to Krasnovodsk on the Caspian Sea. About 300 kilometers (188 miles) of the canal is an enclosed aqueduct, but for most of its length it remains uncovered. Small river craft can navigate the canal for nearly half its length.

The Kara-Kum Canal provides irrigation water to most of southern Turkmenistan. In the northeast, other lesser canals redirect the Amu Dar'ya's waters to irrigate portions of the country along the Uzbekistan border. Without these river-fed canal systems, Turkmenistan would have limited freshwater resources for cultivating crops or providing drinking water. The diversion of so much water, however, has contributed to the drying up of the Aral Sea (the body of water into which the Amu Dar'ya empties).

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## DID YOU KNOW?

Located within the Kugitang State Nature Reserve, Dinosaur Plateau contains nearly three thousand well-preserved dinosaur footprints in the Jurassic rock layers of the region. The tracks seem to belong to a variety of dinosaurs, with the smallest prints (of a three-toed dinosaur) at about 18 to 20 centimeters (7 to 8 inches) long and the largest (a megalosaur print) at about 71 centimeters (28 inches) long. The plateau contains the longest set of dinosaur tracks in the world. Within the thousands of dinosaur footprints, scientists have found two human footprints as well.

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# Tuvalu

- **Official name:** Tuvalu
- **Area:** 26 square kilometers (10 square miles)
- **Highest point on mainland:** Unnamed location (5 meters/16 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** Midnight = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** None
- **Coastline:** 24 kilometers (15 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Tuvalu is an island group consisting of nine coral atolls located in the southwestern Pacific Ocean region of Oceania, about equidistant from Hawaii and Australia. With a total area of about 26 square kilometers (10 square miles), the country is one-tenth the size of Washington, D.C.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Tuvalu has no outside territories or dependencies.

## 3 🌐 CLIMATE

Tuvalu has a tropical climate with little seasonal variation. The annual mean temperature is 30°C (86°F), moderated by easterly trade winds that blow from March to November. Tuvalu is very wet. Annual rainfall averages more than 355 centimeters (140 inches). Westerly gales bring heavy rain from November to March. Although the islands lie north of the main cyclone belt, Funafuti was devastated by cyclones in 1894, 1972, and 1990.

## 4 🌐 TOPOGRAPHIC REGIONS

Tuvalu (formerly the Ellice Islands) is one of the smallest and most remote countries on

Earth. Located just south of the equator on the Pacific Tectonic Plate, Tuvalu consists of a cluster of nine low-lying coral islands, plus several islets. These remote atolls lie in a 595-kilometer-long (370-mile-long) chain extending over some 1,300,000 square kilometers (500,000 square miles) of ocean. Too remote and too small to develop a tourist industry, Tuvalu is ranked by the United Nations as among the least-developed countries.

## 5 🌐 OCEANS AND SEAS

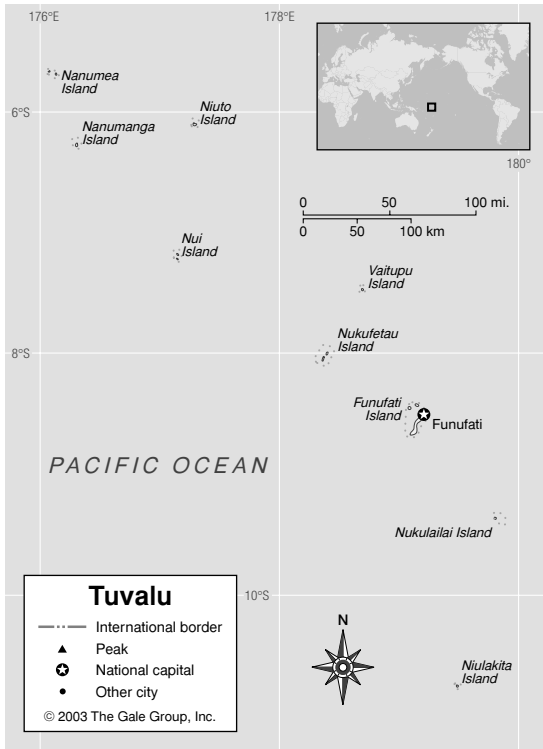
### Seacoast and Undersea Features

The South Pacific Ocean surrounds Tuvalu in a region that is known as Oceania. Oceania refers to the islands in the central and southern Pacific Ocean and its adjacent seas. The boundaries for the region are the Tropic of Cancer in the north and the southern tip of New Zealand.

### Sea Inlets and Straits

Coral reefs on five islands enclose sizeable lagoons, including the very large unnamed lagoon of Funafuti. Funafuti and Nukufetau are the only islands with natural harbors for ocean liners.

# TUVALU



## DID YOU KNOW?

Tuvalu is located in a time zone that lies on the International Date Line. The International Date Line is an imaginary line on the earth's surface that generally follows the 180° meridian of longitude. This meridian is exactly halfway around (or on the opposite side of) the globe from the Prime Meridian, designated as 0° longitude. An international agreement stated that travelers crossing the line would also experience a change in dates. For instance, travelers who head east on a Saturday will end up on Friday as soon as they cross the line. If the party heads west across the line, it will move from Saturday to Sunday.

## Islands and Archipelagos

Tuvalu's islands are coral reefs on the outer arc of ridges formed by pressure from the Central Pacific Tectonic Plate against the ancient Australian landmass. All the islands are low lying with elevations no higher than 5 meters (16 feet). The main islands in the chain are Funafuti, Nanumea, Nanumanga, Niulakita (formerly uninhabited), Niuto, Nui, Nukufetau, Nukulailai, and Vaitupu.

## Coastal Features

The Tuvalu islands are so low that if the sea level rises significantly in the twenty-first century, most of these islands will be completely submerged.

## 6 🌐 INLAND LAKES

There are no rivers, lakes, or streams on the islands. Five of the atolls do enclose sizable lagoons, but there is still no fresh water available other than rainfall that can be caught and stored.

## 7 🌐 RIVERS AND WATERFALLS

There are no rivers in Tuvalu.

## 8 🌐 DESERTS

There are no desert regions in Tuvalu.

## 9 🌐 FLAT AND ROLLING TERRAIN

Coconut plantations have replaced most of Tuvalu's indigenous vegetation of scrubby forest. Its soil is poor, however, and much of its vegetation has been cleared for fuel.

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# TUVALU

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EPD/Peter Langer

*All the islands of Tuvalu are low-lying, with elevations no higher than 5 meters (16 feet).*

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

There are no mountain or volcano regions on Tuvalu.

## **11** 🌐 **CANYONS AND CAVES**

There are no major caves or canyons in Tuvalu.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

There are no plateau regions on Tuvalu.

## **13** 🌐 **MAN-MADE FEATURES**

Of all nine islands in Tuvalu, Funafuti is the only one with an airport: a single grass strip too small to support jet aircraft. There are no other major man-made features affecting the geography in Tuvalu.

## **14** 🌐 **FURTHER READING**

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# Uganda

- **Official name:** Republic of Uganda
- **Area:** 236,040 square kilometers (91,136 square miles)
- **Highest point on mainland:** Margherita Peak (5,110 meters/16,765 feet)
- **Lowest point on land:** Lake Albert (621 meters/2,037 feet)
- **Hemispheres:** Northern, Southern, and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 787 kilometers (489 miles) from north-northeast to south-southwest; 486 kilometers (302 miles) from east-southeast to west-northwest
- **Land boundaries:** 2,698 kilometers (1,676 miles) total boundary length; Sudan 435 kilometers (270 miles); Kenya 933 kilometers (580 miles); Tanzania 396 kilometers (246 miles); Rwanda 169 kilometers (105 miles); Democratic Republic of the Congo 765 kilometers (475 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Uganda is located in eastern Africa, west of Kenya, south of Sudan, east of the Democratic Republic of the Congo, and north of Rwanda and Tanzania. With an area of about 236,040 square kilometers (91,136 square miles), the country is slightly smaller than the state of Oregon. Uganda is divided into forty-five districts.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Uganda has no outside territories or dependencies.

## 3 🌐 CLIMATE

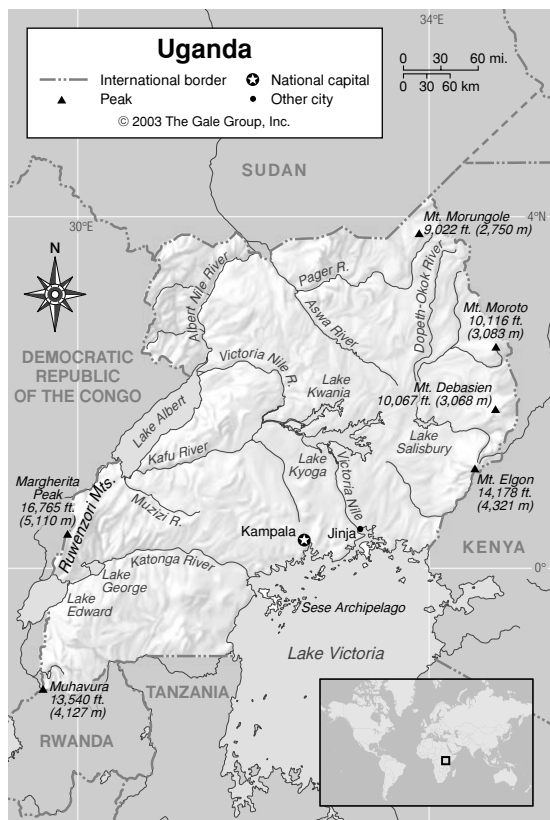
Situated right on the equator, temperatures do not vary much on the plateau. At Lake Albert, annual temperatures range only from 22° to 29°C (72° to 84°F). Temperatures drop significantly at the higher altitudes, however. At Kampala, for instance, the average extremes are 17°C to 27°C (63°F to 81°F).

While most of Uganda receives an annual rainfall of at least 140 centimeters (40 inches), the northeast receives only 69 centimeters (27 inches). The areas around the lakes receive more rainfall on average. The city of Entebbe, on Lake Victoria, receives 162 centimeters (64 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Uganda lies on the great plateau of east-central Africa straddling the equator. Surrounding the plateau are rows of volcanoes along the eastern and western branches of the Great Rift Valley. Its location on the middle of the African Tectonic Plate is a relatively stable geological position. Recently, however, the warping that created the western rift valley has led to an accumulation of waters in the lower zone to the east that now forms the basin of Lake Victoria along the southern border.

# UGANDA



## 5 OCEANS AND SEAS

Uganda is a landlocked country.

## 6 INLAND LAKES

Lakes Albert, Edward, and George are troughs in the western Great Rift Valley system, while Lakes Victoria and Kyoga are shallow basins on the plateau. Uganda shares Lake Albert and Lake Edward with the Democratic Republic of the Congo; Lake George, which is connected to Lake Edward by the Kazinga Channel, is wholly within Uganda.

All of the lakes are relatively shallow. The maximum depth recorded in Lake Victoria is 82 meters (270 feet); in Lake Albert, 51 meters (168 feet); in Lake Edward, 117 meters (384 feet); in Lakes Kyoga and Kwania, 7.3 meters

(24 feet); and in Lake George, 3 meters (10 feet). A large swamp surrounds Lakes Kyoga and Kwania in the center of the country. Lake Salisbury, to the northeast of Lake Kyoga, provides an outlet for the waters north of Mount Elgon to the Nile River system. West of Lake Victoria, in the south, six lakes are connected by swampland. In the upland areas of the southwest, a number of swampy areas have been reclaimed.

Lake Victoria is the second-largest freshwater lake in the world, with its water volume estimated to be about 2,760 trillion liters (729 trillion gallons). Only Lake Superior in North America is larger. Lake Victoria has an indented coast with many deep gulfs and tributary outlets. Of Lake Victoria's 69,484 square kilometers (26,828 square miles), 20,430 square kilometers (11,749 square miles) are in Uganda; the remainder is divided between Kenya and Tanzania. Within the lake are many archipelagos, reefs, and more than two hundred species of fish. The Sese Archipelago, a chain of sixty-two islands in the lake off the coast southwest of Kampala, contains inhabitants known as the Basese, most of whom are fishermen. The Basese are a distinct tribal group with their own language, culture, and folklore. The densely populated Ukerewe is the largest of the islands. It rises over 200 meters (650 feet) above the lake's surface.

## 7 RIVERS AND WATERFALLS

With a total length of 6,693 kilometers (4,160 miles), the Nile River is the longest river in the world, although others carry more water. The Nile begins in Uganda, where Lake Victoria overflows at a low point near Jinja to form the Victoria Nile. The Victoria Nile flows through Lake Kyoga to Lake Albert. Lake Albert drains through what is called the Albert Nile, which flows north into Sudan, where it becomes known as the White Nile. From the Owen Falls at Jinja to the point at which the Albert

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# UGANDA

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EPD/Saxifraga/Sytske Dijkse

*Savannah in Ruwenzori Mountains National Park in southwest Uganda.*

Nile crosses the northern border with Sudan, the river descends over more than 518 meters (1,700 feet), accomplished for the most part through a series of falls and rapids. The Nile continues through Sudan and Egypt, where it drains into the Mediterranean Sea.

In Uganda, nearly 5,180 square kilometers (2,000 square miles) of swamp lie in the lowland area that borders the Nile. The Nile River Basin, which includes all the generally fertile lands surrounding the river as it cuts through the Sahara Desert, is the world's largest oasis.

Most other rivers in Uganda are sluggish; in fact, some are not much more than vegetation-covered swamps. The Katonga runs into a swamp at the northeast corner of Lake Victoria. The Kafu flows into the western end of Lake Kwana, but its headwaters connect with those of the Muzizi, flowing west-

ward into the southern end of Lake Albert. Other major rivers are the Aswa, Pager, and Dopeth-Okok of the northeast and the Mpongo, a tributary of the Kafu. Clear, swiftly flowing streams run only through the hills and along the slopes of the Western Rift Valley.

## **8** 🌐 **DESERTS**

There are no significant desert regions in Uganda.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Scattered patches of elephant grass dominate the southern reaches of the country, while long grasses colonize the western highlands. The drier northern savannah consists mostly of grassland, but the grass here is significantly shorter. Open woodlands of thorn trees, borassus palms, and scrub can also be found in the north.



# UGANDA

West of the mountains on the eastern border are a number of other smaller mountain ranges including the Labwor Hills, which range from 1,798 to 2,530 meters (5,900 to 8,300 feet). These hills are more or less isolated from one another, rising abruptly out of the plains.

## 10 MOUNTAINS AND VOLCANOES

In the extreme southwest are the Mufumbiro Volcanoes, of which only the northern side is in Uganda. From these volcanic highlands, an elevated area that is more than 1,524 meters (5,000 feet) above sea level extends northeastward through Kigezi District into western Ankole District. The Mufumbiro range includes the 3,645-meter- (11,960-foot-) high Mount Sabinio, the intersection of borders between three neighboring countries: Uganda, Rwanda, and Democratic Republic of the Congo. Uganda's highest mountain is Muhavura, at 4,127 meters (13,540 feet).

These highlands are separated from the Ruwenzori Mountains, also known as the Mountains of the Moon, by a low valley containing Lake George and the Kazinga Channel, an outlet into Lake Edward. The Ruwenzori range, skirting the western border with the Democratic Republic of the Congo, is about 80 kilometers (50 miles) long and rises into a number of peaks which exceed 4,267 meters (14,000 feet), the highest of which is Margherita Peak, at 5,110 meters (16,765 feet). Above 4,267 meters (14,000 feet), the mountains are capped with snow and large glaciers.

To the east, volcanic centers and hills mark the approach to the Kenya borderlands. Mount Elgon, between Sebei District and Kenya, is 4,321 meters (14,178 feet) at its highest point. Mount Debasien, in Karamoja District, is 3,068 meters (10,067 feet); while

## DID YOU KNOW?

Uganda has two national parks which have been designated as UNESCO Natural World Heritage Sites. Bwindi Impenetrable National Park, located in southwestern Uganda, contains more than 160 species of trees and more than 100 species of ferns. It also serves as a habitat for the mountain gorilla, which is an endangered species.

Ruwenzori Mountains National Park covers the main part of the Ruwenzori mountain chain in the west and includes its highest peak. The park contains glaciers, waterfalls, and lakes and also serves as a habitat for many endangered species and unique plant life, such as the giant heather.

Mount Moroto, still further north, is 3,083 meters (10,116 feet). Mount Morungole near the northeast border is 2,750 meters (9,022 feet); and Mount Zulia in the extreme northeast is 2,148 meters (7,048 feet) high. Along the northern border are the southern outlines of the Imatong Mountains of the Sudan, all of which reach 1,828 meters (6,000 feet).

## 11 CANYONS AND CAVES

The western branch of the Great Rift Valley forms the border between Uganda and Democratic Republic of the Congo. The

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# UGANDA

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Great Rift Valley is a massive fault system that stretches over 6,400 kilometers (4,000 miles) from the Jordan Valley in Israel to Mozambique. In general, the Great Rift Valley ranges in elevation from 395 meters (1,300 feet) below sea level at the Dead Sea to 1,830 meters (6,000 feet) above sea level in south Kenya. The western branch contains the troughs and rivers that have become part of the African Great Lakes system. One of these lakes, Lake Albert, marks the lowest point in Uganda at 621 meters (2,037 feet).

## 12 PLATEAUS AND MONOLITHS

Between the east and west mountain masses, Uganda's prominent relief feature is a plateau dissected by numerous rivers, swamps, and lakes. The plateau is fairly regular, with an altitude between 800 and 2,000 meters (2,600 and 6,600 feet) above sea level. In the southwest this region is known as the Ankole, named after the native kingdom that used to occupy the land.

## 13 MAN-MADE FEATURES

The Owen Falls Dam, near Jinja on the Nile, is a hydroelectric power station that supplies most of the electricity in Uganda.

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# Ukraine

- **Official name:** Ukraine
- **Area:** 603,700 square kilometers (233,090 square miles)
- **Highest point on mainland:** Mount Hoverlya (2,061 meters/6,762 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 1316 kilometers (818 miles) from east to west; 893 kilometers (555 miles) from north to south
- **Land boundaries:** 4,558 kilometers (2,832 miles) total boundary length; Belarus 891 kilometers (554 miles); Hungary 103 kilometers (64 miles); Moldova 939 kilometers (583 miles); Poland 428 kilometers (266 miles); Romania 531 kilometers (330 miles); Russia 1,576 kilometers (979 miles); Slovakia 90 kilometers (56 miles)
- **Coastline:** 2,782 kilometers (1,729 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Ukraine is the second-largest country in Eastern Europe. It shares borders with Belarus, Moldova, Romania, Russia, Hungary, Poland, and Slovakia. It has a southeastern shoreline on the Sea of Azov and a south-central coast along the Black Sea. With a total area of about 603,700 square kilometers (233,090 square miles), the country is slightly smaller than the state of Texas. Ukraine is administratively divided into twenty-four oblasts, one autonomous republic, and two municipalities.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Ukraine has no outside territories or dependencies.

## 3 🌐 CLIMATE

The climate of Ukraine is considered moderate and continental, with warm summers and cold winters. The climate is Mediterranean along the southern Crimean coast, with mild, wet winters and hot, dry summers. In Kiev, the July temperature averages 20°C (69°F), while in January the average

is -6°C (21°F). Summers are warmer and winters are colder in eastern Ukraine, where the weather is influenced by large air masses from the steppes of Central Asia.

Ukraine's mild-to-moderate climate includes moderate levels of precipitation, averaging around 50 centimeters (20 inches) per year, although the amount varies by region. Rainfall is most frequent in summer; the highest amounts occur in the Carpathian Mountains and the lowest occur on the Black Sea coast, which proves favorable for the Crimean tourism industry.

## 4 🌐 TOPOGRAPHIC REGIONS

Due to its great size, Ukraine features a wide variety of terrain and climate conditions. The center of the country is predominantly a rolling upland plain, or steppe. This plain is crossed by many of Eastern Europe's major rivers. Other lower plains are found along the Black Sea coast, while the southwestern corner of the country is part of the delta

# UKRAINE



of the Danube River. The Polesye Marshes consist of low-lying swamps and wooded bogs in northern Ukraine, extending into Belarus. The Carpathian Mountains rise in the west. Lower mountains dot the Crimean Peninsula (an autonomous republic considered part of Ukraine) and the southeastern Donets region. Ukraine is located on the Eurasian Tectonic Plate.

## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

Ukraine's coastline lies entirely on the Black Sea in the south. Only the southwestern coast is on the Black Sea proper, however; the rest is on the Sea of Azov, an arm of the Black Sea that is formed by Ukraine's Crimean Peninsula. The Black Sea is an inland body of water that lies between the continents of Europe and Asia. It contains

calm waters that are free of tides and dangerous marine life. Called the "Hospitable Sea" by the ancient Greeks, the Black Sea is only half as saline as the Mediterranean Sea and has gentle sandy slopes, making it ideal for swimming.

### Sea Inlets and Straits

Estuaries of the Dnieper, Southern Bug, and Dniester Rivers, as well as the delta of the Danube in the southwest, empty into the Black Sea. Karkinit Bay indents the coast deeply, nearly separating the Crimean Peninsula from the mainland. On the far side of the peninsula, the Kerch Strait connects the Black Sea to the Sea of Azov. The Sea of Azov is otherwise completely enclosed by Ukraine in the west and Russia in the east. It has an area of 14,517 square miles (37,599 square kilometers). Its coastline in Ukraine consists of uplands and

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# UKRAINE

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steppes. In the northeast, it extends deeply into Russia at the Gulf of Taganrog. In the west, the Sivash Lagoon nearly reaches Karkinit Bay in the Black Sea, separated only by the narrow Isthmus of Perekop.

## Coastal Features

The coast on the Black Sea itself is a lowland area, with clay soils.

The Crimean Peninsula, also known as the Crimea, is an autonomous republic in southeastern Ukraine. The peninsula extends well into the Black Sea, measuring 175 kilometers (110 miles) from north to south and 320 kilometers (200 miles) from east to west, with a total area of 25,993 square kilometers (10,036 square miles). The narrow Isthmus of Perekop joins the peninsula to the mainland in the north and the Kerch Peninsula extends to the east, almost linking it with Russia. The Arabat Spit is a long stretch of sand along the northeast coast of Crimea that helps to form the Sivash Lagoon.

The climate along the southern Crimean coast is mild and the land is scenic, with an abundance of vineyards, fruit orchards, and resorts. Although the southeastern section of the peninsula is mountainous, most of the interior is a flat plain or steppe. In contrast to the Mediterranean-like southern coast, the Crimean plains experience cold, windy winters and arid summers.

## 6 🌐 INLAND LAKES

More than twenty thousand small lakes dot the Ukraine landscape, covering a total area of about 18,139 square kilometers (7,000 square miles). The largest lakes in the country are all artificial, as the many dams on the Dnieper have created huge reservoirs. The Kremenchuk Reservoir and the Kakhovka Reservoir are the largest. The Kiev, Kaniv, and Dniprodzherzhynsk Reservoirs are also noteworthy.

The largest natural lake is Lake Yalpuh (220 square kilometers/136 square miles) in the Danube flood plain. Lake Svityaz (27 square kilometers/17 square miles) is a lake in the Polesye Marshes of the northwest.

## 7 🌐 RIVERS AND WATERFALLS

Ukraine's most important river is the Dnieper. It flows south across the middle of the country for about 980 kilometers (610 miles), curving first east, then west, then finally south again before entering the Black Sea. It flows for a total of 2,290 kilometers (1,420 miles) from its source in Russia, making it the third-longest river in Europe. Only the Volga and Danube Rivers are longer.

Over half of Ukraine's rivers belong to the Dnieper system, draining a vast area of nearly 518,000 square kilometers (200,000 square miles). Passing through Ukraine's most agriculturally developed and industrialized areas, the Dnieper River is used to ship grain, lumber, and metals. In Ukraine the river is entirely navigable, although it freezes during the winter. The capital city of Kiev is located on the upper Dnieper. There are numerous hydroelectric dams and large reservoirs all along the Dnieper in Ukraine. Important tributary rivers include Berezina, Desna, and Pripyat' (Pripet).

The northernmost channel of the Danube River forms Ukraine's southwestern border with Romania. At 2,850 kilometers (1,771 miles), it is the second-longest river in Europe. Thus, while it flows through Ukraine for only a short distance before emptying into the Black Sea, the Danube is the longest river that passes through the country. The Danube has been a vital commercial and communications link since ancient times, connecting the interior of Eastern and Central Europe to the Black Sea.

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# UKRAINE

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EPD/Saxifraga/Peter Lina

*Central Ukraine is characterized by grasslands.*

The Dniester River originates in the Carpathian Mountains near Drohobych in western Ukraine. It then flows southeast for 1,400 kilometers (870 miles) through western Ukraine and eastern Moldova (forming part of the border with that country), before emptying into the Black Sea southwest of Odessa. Its average width is 152 to 229 meters (500 to 750 feet), but near the mouth it reaches a maximum width of 427 meters (1,400 feet) and also forms a broad, marshy lagoon called the Dnistrovskyy Lyman. For most of the year, grain, vegetables, sunflower seeds, cattle, and lumber produced in the Dniester River Basin are shipped down the river to the Black Sea and on to European and Asian markets. The Dniester Basin encompasses some 77,700 square kilometers (30,000 square miles). In winter the river remains largely frozen.

The Donets River (1,015 kilometers/631 miles) has its source in Russia and flows south into Ukraine, then curves east across the easternmost part of the country and reenters Russia. A tributary of Russia's Don River, which empties into the Sea of Azov, the Donets has long been used as a transportation artery. The Donets Basin is an important center of industry and population in Ukraine.

The Bug River (Western Bug) originates in western Ukraine and flows north, forming part of the border with Poland. Another river of the same name, the Southern Bug, rises in northwestern Ukraine and flows southeast, eventually emptying into the Black Sea near the mouth of the Dnieper. Navigation is possible only for about 160 kilometers (100 miles) because of shallow conditions and rough water. At 856 kilometers (532 miles) in length,

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# UKRAINE

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the Southern Bug is the longest river that lies entirely within Ukraine.

The Tisza River, noted for its abundance of fish, is formed by the confluence of the Black Tisza and the White Tisza rivers in the Ukraine's Carpathian Mountains. It then flows northeast into Romania, curving southwest and then south, running for a total of some 970 kilometers (600 miles) before finally joining the Danube in northern Serbia.

The Polesye Marshes are a lowland in northern Ukraine and southern Belarus, located along the Pripyat' River and covering about 270 square kilometers (105 square miles), making them the largest wetland in Europe. The land consists mostly of flat, sandy, bog soils, interspersed by a few low hills. Forests cover about a third of the marshes. The marshes range in elevation from 100 meters (328 feet) in the northeast to 250 meters (820 feet) in the south.

## **8** 🌐 **DESERTS**

There are no desert regions in Ukraine.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Central Ukraine is characterized by mixed forest-steppe, with grasslands interspersed with various deciduous trees, primarily oak. A true steppe zone (grassy plains) covers the lower third of the country, thinning out in the drier, more arid south. Along the southern Crimean coast lies a narrow Mediterranean zone of mixed shrubs, grasses, and evergreens.

Ukraine has well-defined forest zones, with beech trees in the west; linden, oak, and pine forest in the north and northwestern swamps and meadows; and spruce trees in the northeast. About 18 percent of the country is blanketed by forest; the densest tree cover occurs in the Carpathian Mountains and in the Polesye Marshes.

Outside of its mountains, Ukraine has several areas of hills and uplands. The most noteworthy are the Azov Upland north of the Sea of Azov, the Donets Hills, and the Dnieper Upland, which is the watershed between the Dnieper and the Southern Bug.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The Carpathian Mountains in the extreme west are the highest peaks in the country. Mount Hoverlya, the tallest summit in the country (2,061 meters/6,762 feet), emerges from the Carpathians. The Crimean Mountains at the southern end of Crimea are also noteworthy, reaching a maximum height of 1,545 meters (5,068 feet) at Mount Roman-Kosh.

## **11** 🌐 **CANYONS AND CAVES**

The Giant Gypsum Caves of Western Ukraine are located within the region north of the Carpathian Mountains. One of the most famous is Optimistic Cave, which has labyrinth passages that stretch for a total distance of about 212 kilometers (132 miles), making it the largest cave on the continent and one of the largest in the world.

The Monastery of the Caves, near Kiev, is a fifty-six-acre complex that started out as a small cave dwelling for a single Russian Orthodox monk. Around the year 1051, as others joined him in his monastic life, the small cave was dug into a larger underground community of cells (residences for the monks) and a church. Eventually, the monks moved above ground and began to use the caves as a burial site. Today, the caves and the more recent cathedral structures have been designated as an UNESCO World Heritage Site.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

There are no major plateau regions in Ukraine.

## 13 MAN-MADE FEATURES

Ukraine has a large number of dams built along nearly all of the major rivers of the country. The largest ones are located on the Dnieper River. These include the Kremenchuk, the Kakhovka, the Kiev, the Kaniv, and the Dniprodzerzhynsk Dams. They are used primarily for hydroelectric power, flood protection, and irrigation. All of these dams have created large reservoirs throughout the course of their respective rivers.

## 14 FURTHER READING

### Books

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Magocsi, Paul Robert. *Ukraine: A Historical Atlas*. Toronto: University of Toronto Press, 1985.

Subtelny, Orest. *Ukraine: A History*. Toronto: University of Toronto Press, 1988.

### Periodicals

Edwards, Mike. "Ukraine." *National Geographic*, May 1987, 595-631.

## DID YOU KNOW?

In April 1986, a reactor at the Chernobyl nuclear power station in northern Ukraine experienced an explosion and core meltdown. Radioactive contamination spread through the air over northern Ukraine and southern Belarus and seeped into the ground, poisoning the water supply and the nearby farmland. The devastating effects of this accident on human health and the environment continue into the twenty-first century.

### Web Sites:

*The Embassy of Ukraine in Washington, DC.*  
<http://www.ukremb.com>  
(accessed May 9, 2003).



# United Arab Emirates

- **Official name:** United Arab Emirates
- **Area:** 82,880 square kilometers (32,000 square miles)
- **Highest point on mainland:** Mount Yibir (1,527 meters/5,010 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 4 P.M. = noon GMT
- **Longest distances:** 544 kilometers (338 miles) from northeast to southwest; 361 kilometers (224 miles) from southeast to northwest
- **Land boundaries:** 867 kilometers (539 miles) total boundary length; Oman 410 kilometers (255 miles); Saudi Arabia 457 kilometers (284 miles)
- **Coastline:** 1,318 kilometers (819 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

The United Arab Emirates is located in the eastern part of the Arabian Peninsula, bordering the Persian Gulf. Seven emirates (states) make up the United Arab Emirates (UAE): Abu Dhabi, Dubayy, Ash Shāriqah, Ra's al Khaymah, Al Fujayrah, Umm al Qaywayn, and 'Ajmān. With an area of 82,880 square kilometers (32,000 square miles), the UAE is nearly as large as the state of Maine.

## 2 🌐 TERRITORIES AND DEPENDENCIES

The United Arab Emirates has no territories or dependencies.

## 3 🌐 CLIMATE

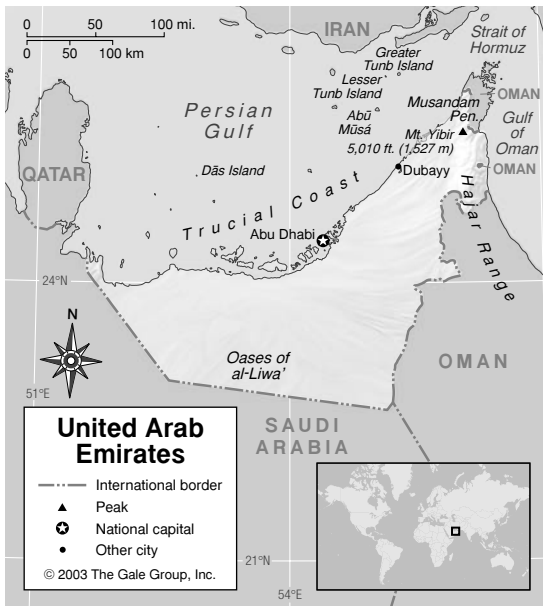
The climate is arid and subtropical. The months between May and October are extremely hot, with shade temperatures of between 39° and 49°C (100° and 120°F). Humidity on the coast can exceed 85 percent. Winter temperatures can fall as low as 2°C (36° F) but average

between 17°C and 20°C (63°F and 68°F). It is cooler in the eastern mountains. Normal annual rainfall is from 5 to 10 centimeters (2 to 4 inches), with considerably more in certain regions; the mountains receive an average of 14 to 20 centimeters (5 to 8 inches) and the eastern coast receives an average of 10 to 14 centimeters (4 to 5 inches). The wettest months are February and March. Prevailing winds, including the cool *Shamal* from the northeast and the *Khamsin* from the south, produce sandstorms. Influenced by monsoons, they vary by season and location.

## 4 🌐 TOPOGRAPHIC REGIONS

Abu Dhabi, extending along the Persian Gulf coast and into the interior of the Arabian Peninsula, occupies about four-fifths of the UAE's territory. The remaining six emirates are clustered together on the Musandam Peninsula to the northeast. The UAE is mostly a flat, sandy desert except for the easternmost

# UNITED ARAB EMIRATES



region, where the northern tip of the Al Hajar Mountains stretches into the country from Oman to the east.

## 5 OCEANS AND SEAS

The northern, and longest, part of the UAE's coastline borders the Persian Gulf, with a short section to the east bordering the Gulf of Oman.

## Seacoast and Undersea Features

There are coral reefs in the shallow waters off the UAE's eastern coast on the Gulf of Oman. Shoals lie off the UAE's Persian Gulf coast, which has no natural deepwater harbors, unlike the Gulf of Oman coast, which has several.

## Sea Inlets and Straits

The UAE is situated at a strategic location along southern approaches to the Strait of Hormuz, which connects the Persian Gulf and the Gulf of Oman and is a vital transit point for global crude oil shipments.

## Islands and Archipelagos

The UAE includes more than one hundred islands, most of them owned by Abu Dhabi. The country's capital, the city of Abu Dhabi, is located on an island of the same name. Other islands, including the island of Dās, are used for oil and gas operations related to offshore drilling.

## Coastal Features

Six of the emirates have coasts on the Persian Gulf, while the seventh, Al Fujayrah, lies along the Gulf of Oman to the east. The Persian Gulf coast has numerous islands as well as lagoons and other indentations, and the shore is sandy with many salt flats (called *sebkhas*). The alluvial flats bordering the Gulf of Oman on the eastern coast are an extension of the fertile coastal strip that runs between the mountains and the sea in Oman, known as the Al Batinah coast.

## 6 INLAND LAKES

There are no lakes in the UAE.

## 7 RIVERS AND WATERFALLS

There are no perennial rivers in the UAE; however, there are small areas of wetlands.

## 8 DESERTS

More than two-thirds of the UAE's total area is a sandy and largely uninhabited desert, running from the westernmost tip of Abu Dhabi east to the land border with Oman and north to the Musandam Peninsula. Sand dunes in the southeast can reach heights of 100 meters (330 feet). The two major oases are the al-Liwa' Oasis in south-central Abu Dhabi and the Buraimi Oasis at Al 'Ayn, on the border with Oman.

## 9 FLAT AND ROLLING TERRAIN

Most of the UAE is very flat, including its coastal lowlands and desert interior.

# UNITED ARAB EMIRATES



ARAMCO/Brynn Bruijn

*Horsemen gallop up sand dunes in Dubai, United Arab Emirates.*

## 10 MOUNTAINS AND VOLCANOES

The UAE's eastern region comprises barren, rugged mountains that are the northernmost extension of neighboring Oman's Al Hajar range. The highest peak in the country, Mount Yibir, which rises to 1,527 meters (5,010 feet), is located in this region.

## 11 CANYONS AND CAVES

There are many caves in the Al Hajar Mountains in the eastern part of the UAE.

## 12 PLATEAUS AND MONOLITHS

Except for the mountainous area in the east, the UAE is a low-lying country with no significant plateaus.

## 13 MAN-MADE FEATURES

All of the UAE's major ports are man-made, including Port Jabal 'Ali and Port Rashid, two

of the largest artificial harbors in the Middle East. Irrigation canals support farming near the Buraimi Oasis at Al 'Ayn.

## 14 FURTHER READING

### Books

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### Web Sites

*Etisalat: UAE Pages*. <http://www.uae.org.ae/general/contents.htm> (accessed April 18, 2003).

*Ministry of Information and Culture: UAE Interact*. <http://www.uaeinteract.com/default.asp> (accessed April 18, 2003).

# United Kingdom

- **Official name:** United Kingdom of Great Britain and Northern Ireland
- **Area:** 244,820 square kilometers (94,526 square miles)
- **Highest point on mainland:** Ben Nevis (1,343 meters/4,406 feet); on South Georgia Island, Mount Paget (2,934 meters/9,626 feet)
- **Lowest point on land:** Fenland (4 meters/13 feet below sea level)
- **Hemispheres:** Northern Hemisphere; divided between Eastern and Western Hemispheres
- **Time zone:** Noon = noon GMT
- **Longest distances:** 965 kilometers (600 miles) from north to south; 485 kilometers (300 miles) from east to west (Great Britain only)
- **Land boundaries:** 360 kilometers (224 miles), all with Ireland
- **Coastline:** 12,429 kilometers (7,723 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 LOCATION AND SIZE

The United Kingdom (U.K.) is located on the British Isles, an archipelago off the northwestern coast of Europe. The major islands in the British Isles are Great Britain (often simply called Britain) and Ireland; numerous smaller islands are found nearby. Only the northern part of Ireland belongs to the United Kingdom, with the rest of the island comprising the Republic of Ireland. At 244,820 square kilometers (94,526 square miles), the United Kingdom occupies a slightly smaller area than the state of Oregon.

## 2 TERRITORIES AND DEPENDENCIES

The United Kingdom has numerous overseas territories and dependencies scattered around the world. Dependencies in the Caribbean Sea include the British Virgin Islands (the eastern half of the Virgin Islands), Anguilla, Montserrat, and the Cayman Islands. The Turks and Caicos Islands, which also belong to the U.K.,

are located in the Atlantic Ocean at the southeastern end of the Bahamas. Other territories situated in the Atlantic are the archipelagos of Bermuda and Saint Helena. Further south in the Atlantic are the Falkland Islands (Islas Malvinas), the largest of the United Kingdom's dependencies, as well as South Georgia and the South Sandwich Islands. Other dependencies include the Chagos Archipelago in the northern Indian Ocean; the Pitcairn Islands in the south central Pacific Ocean; and Gibraltar, south of Spain's Mediterranean coastline.

Several islands near Great Britain are crown dependencies; they belong to the country's royal family but are not technically part of the United Kingdom. They include the Isle of Man in the Irish Sea and the Channel Islands in the English Channel.

# UNITED KINGDOM



## 3 🌐 CLIMATE

Warmed by the North Atlantic Drift, the United Kingdom enjoys a temperate climate, with the temperature rarely exceeding 32°C (90°F) in the summer months or dropping below

-10°C (14°F) in the winter. During the winter, mean monthly temperatures range from 3°C (37°F) to 5°C (41°F). Mean summertime temperatures range from 12°C to 16°C (54°F to 61°F). Rainfall is lightest along the eastern

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## UNITED KINGDOM

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EPD/Saxifraga/Jan van der Straaten

*A hiker climbs the trail on Maiden Moor in the Cumbrian Mountains of northwest England, United Kingdom.*

and southeastern coasts, and heaviest on the western and northern heights, where annual precipitation can exceed 380 centimeters (150 inches). Average annual rainfall across the country is just over 100 centimeters (40 inches), with rain distributed evenly throughout the year.

#### **4** 🌐 **TOPOGRAPHIC REGIONS**

The United Kingdom has four primary regions: England (130,373 square kilometers/50,337 square miles), Wales (20,767 square kilometers/8,018 square miles), and Scotland (78,775 square kilometers/30,415 square miles), all on the island of Great Britain; and Northern Ireland (14,120 square kilometers/5,452 square miles), on the island of Ireland. Each has a distinctive topography.

England and Wales occupy the southern half of Great Britain. England is composed

mostly of rolling hills. The highest elevations are found in the north. In the northwest, a region known as the Lake District includes a number of small lakes, and the terrain reaches higher elevations in a range known as the Cumbrian Mountains. In the north-central region, there are limestone hills known as the Pennine Chain. In the southwest, a peninsula with low plateaus and granite outcroppings makes up the region known as the West Country.

Wales is a rugged region with extensive tracts of high plateau. The Cumbrian Mountains cover almost the entire area and include Wales's highest point, Mount Snowdon (1,085 meters/3,560 feet). There are also narrow coastal plains in the south and west and small lowland areas in the north.

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# UNITED KINGDOM

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## DID YOU KNOW?

**D**ug between 1988 and 1991, the Channel Tunnel opened for use in 1994, at a final cost of \$21 billion. At 50 kilometers (31 miles) long, it is among the longest tunnels on Earth; 38 kilometers (24 miles) of the tunnel are submerged beneath the English Channel.

Scotland, which occupies the northern half of Great Britain, is primarily mountainous. Its Highlands contain the highest peaks in the United Kingdom. South of the Highlands are the Central Lowlands, containing the valleys of the Tay, Forth, and Clyde Rivers. Beyond this are the Southern Uplands, with moorland cut by many valleys and rivers.

Northern Ireland consists mostly of low-lying plateaus and hills.

## 5 OCEANS AND SEAS

The United Kingdom is surrounded by water. The British Isles are bordered by the Atlantic Ocean on the north and northwest and the North Sea on the east. The Irish Sea lies between the islands of Great Britain and Ireland. South of Ireland and west of the southernmost tip of Great Britain is the Celtic Sea. Northwest of Great Britain is the Sea of the Hebrides. Beyond that sea and its islands are the open waters of the North Atlantic Ocean.

### Seacoast and Undersea Features

About 200 kilometers (125 miles) off the coast of Dundee, Scotland, lies the Devil's Hole, a series of deep trenches in the North Sea that reach depths of 230 meters (760 feet). Britain

has coldwater coral reefs at ocean depths of 200 to 1,000 meters (656 to 3,281 feet).

### Sea Inlets and Straits

The English Channel lies along the southern coast of Great Britain, separating it from the European mainland. The narrowest point in the channel, known as the Strait of Dover, is 34 kilometers (21 miles) wide. The northern part of the Irish Sea, which separates Great Britain from Ireland, is known as the North Channel, while the southern part is called St. George's Channel. The narrow channel between the main island and the Isle of Wight is called the Solent. The Bristol Channel separates Cornwall in southeastern England from Wales.

### Islands and Archipelagos

By far the largest of the British Isles is the island of Great Britain (228,300 square kilometers/88,150 square miles), the largest island in Europe. Ireland is the second-largest isle. Several smaller archipelagos near Great Britain are part of the United Kingdom. The most extensive are the Hebrides, off the northwest coast of Scotland. The Orkney Islands are a smaller archipelago, located just north of Scotland. Much further north, in the North Sea, are the Shetland Islands. The Isles of Scilly lie at the other end of the country, off the southwest tip of England in the Celtic Sea. Besides these archipelagos, there are also many isolated islands, large and small, near Great Britain. These include the Isle of Wight in the English Channel, the Isle of Anglesey in the Irish Sea, and Arran, off the western coast of Scotland.

### Coastal Features

The coasts of both Great Britain and Northern Ireland are very irregular, with many long peninsulas and deep bays, firths (estuaries), and inlets. The most even part of the nation's

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# UNITED KINGDOM

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coastline is the eastern coast of England. Along the southeast coast, white chalk cliffs that rise to 250 meters (825 feet) border the Strait of Dover. Several short promontories, including Dungeness and Beachy Head, mark England's southern coast. The whole of southwestern England is a peninsula called Cornwall, which extends 120 kilometers (75 miles) west into the Atlantic.

The western coast of Wales curves around Cardigan Bay, at the east edge of St. George's Channel, with the Llyn Peninsula at its northern end. The coastline features rugged cliffs, coves, and sandy beaches. Further east are Liverpool Bay and Morecambe Bay on England's northwestern coast. As the coast approaches Scotland, both in the west and the east, it becomes even more irregular than in the rest of the country. The broad Solway Firth marks the end of England's northwestern coast and the beginning of Scotland. It is separated from the North Channel by a long, narrow peninsula, ending in the Mull of Galloway. Further north are two more great firths, the Firth of Clyde and the Firth of Lorn, with another long peninsula, Kintyre, between them. Further north on the western coast there are numerous narrower but still lengthy inlets. Cape Wrath marks the northwestern end of Great Britain.

The eastern coast of Scotland has two deep, broad, indentations, with a headland between them. Further south is the Firth of Forth. Along the eastern coast of Northern Ireland is a large sea inlet known as the Strangford Lough.

## **6** 🌐 **INLAND LAKES**

The largest lake in the United Kingdom is Lough Neagh (396 square kilometers/153 square miles), in the center of Northern Ireland. Southwest of Lough Neagh are the Upper and Lower Lough Erne, which extend across the country and into Ireland. Scotland

is a region of many lakes; here they are called Lochs. Loch Lomond (70 square kilometers/27 square miles) is the largest lake in Great Britain. Loch Ness is famous for its legendary Loch Ness monster. There are no large lakes in England or Wales. On the northwest coast of England, however, near the border with Scotland, there is a region called the Lake District containing many small, picturesque lakes.

## **7** 🌐 **RIVERS AND WATERFALLS**

Rivers are plentiful throughout the United Kingdom, but most are short, as the sea is always nearby. The longest rivers are found in England and Wales. The Severn River is the longest in the nation (352 kilometers/220 miles). The Thames (322 kilometers/200 miles) is England's best-known river and the second-longest in the U.K., with more than forty locks. Other English and Welsh rivers include the Humber, Tees, Tyne, and Great Ouse in the east, and the Avon, Wye, Dee, and the Exe in the west. Scotland's river system is largely separate from that of England. The two major rivers of Scotland's central lowland are the River Clyde and the River Forth. Scotland's longest river, the River Tay (188 kilometers/117 miles), is farther north. Northern Ireland's major rivers are the Erne and the Foyle, which marks part of the border with Ireland.

## **8** 🌐 **DESERTS**

There are no deserts in Great Britain.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Most of England consists of low plains and rolling downs (uplands), particularly in the south and the southeast, where the land does not rise higher than 305 meters (1,000 feet) at any point. Running from east to west on the Scottish border are a series of sandstone ridges known as the Cheviot Hills, and from north to south from the Scottish border to central England are the Pennines. South of the Pennines lie the Central Midlands, a plains region with



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# UNITED KINGDOM

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EPD/Saxifraga/Jan van der Straaten

*Bleaberry Fell in the Lake District, England, United Kingdom.*

low, rolling hills and fertile valleys. Southern England is the site of three ranges of low hills, the Cotswolds in the west and the North and South Downs in the east. The Rannock moor lies in the center of Scotland, at an elevation of 303 meters (1,000 feet). Foothills surround the mountains of Scotland and Wales. The majority of Northern Ireland consists of low plateaus and hills. In the east, small hills called *drumlins* surround the area of Strangford Lough.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The United Kingdom has no tall mountains by world standards, but there are many lower, rugged ranges. The Highlands of Scotland are dominated by the Grampian Mountains and their subsidiary mountain ranges. Ben Nevis (1,343 meters/4,406 feet), the highest peak in the United Kingdom, is in this region, and there are more than forty peaks that rise higher than 900 meters

(3,000 feet). At the southern end of Scotland are the Southern Uplands, with summits of 838 meters (2,750 feet).

The Cumbrian Mountains are the highest mountains in England. They are located in the northwestern Lake District. Scafell Pike (978 meters /3,210 feet) is the highest peak in the range. Farther south, the Cambrian Mountains occupy most of Wales and house its highest peak, Mount Snowdon. The Black Mountains and Brecon Beacons are located in southern Wales.

## **11** 🌐 **CANYONS AND CAVES**

Numerous caves of all sorts are distributed throughout Great Britain. Many are in limestone karst terrain in England and Wales. Sea caves are abundant in Scotland, including Fingal's Cave, which inspired a composition of the same name by the nineteenth-century German composer Felix Mendelssohn.

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# UNITED KINGDOM

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## 12 🌐 PLATEAUS AND MONOLITHS

The West Country of England, located on the southwestern Cornwall Peninsula, is the site of Exmoor and Dartmoor, low plateaus with granite projections. The Cairngorm Plateau in Scotland, located adjacent to the mountains of the same name, is a broad, barren desert-like region with an elevation of more than 1,220 meters (4,000 feet).

## 13 🌐 MAN-MADE FEATURES

The Channel Tunnel is a set of tunnels underneath the Strait of Dover that connects southeastern England to northeastern France. An extensive series of canals in England links many of its southern rivers and cities. A canal runs across Scotland to connect the Clyde and the Forth, while the Caledonian Canal cuts across northwestern Scotland. There is also a canal connecting Lough Neagh with the Irish Sea. Great Britain's major bridges include the Clifton suspension bridge in Bristol; the Humber Bridge in Yorkshire; the Forth rail bridge in Scotland; and London Bridge, the Tower Bridge, and the Millennium Bridge, all in London.

## 14 🌐 FURTHER READING

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# United States of America

- **Official name:** United States of America
- **Area:** 9,629,091 square kilometers (3,717,813 square miles)
- **Highest point on mainland:** Mount McKinley (6,194 meters/20,322 feet)
- **Lowest point on land:** Death Valley (86 meters/282 feet below sea level)
- **Hemispheres:** Northern and Western
- **Time zones:** Eastern, 7 A.M. = noon GMT; Central, 6 A.M. = noon GMT; Mountain, 5 A.M. = noon GMT; Pacific 4 A.M. = noon GMT; Yukon, 3 A.M. = noon GMT; Alaska and Hawaii, 2 A.M. = noon GMT; western Alaska, 1 A.M. = noon GMT.
- **Longest distances:** 4,662 kilometers (2,897 miles) from east-northeast to west-southwest; 4,583 kilometers (2,848 miles) from south-southeast to north-northwest
- **Land boundaries:** 12,219 kilometers (7,593 miles) total boundary length; Canada 8,893 kilometers (5,526 miles); Mexico 3,326 kilometers (2,067 miles)
- **Coastline:** 19,924 kilometers (12,380 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

The United States of America, the world's third-largest country, occupies the central part of the North American continent, between Canada and Mexico, and also includes the states of Alaska, at the northwestern edge of the continent, and Hawaii, an island state in the Pacific Ocean. The United States is comprised of fifty states.

## 2 🌐 TERRITORIES AND DEPENDENCIES

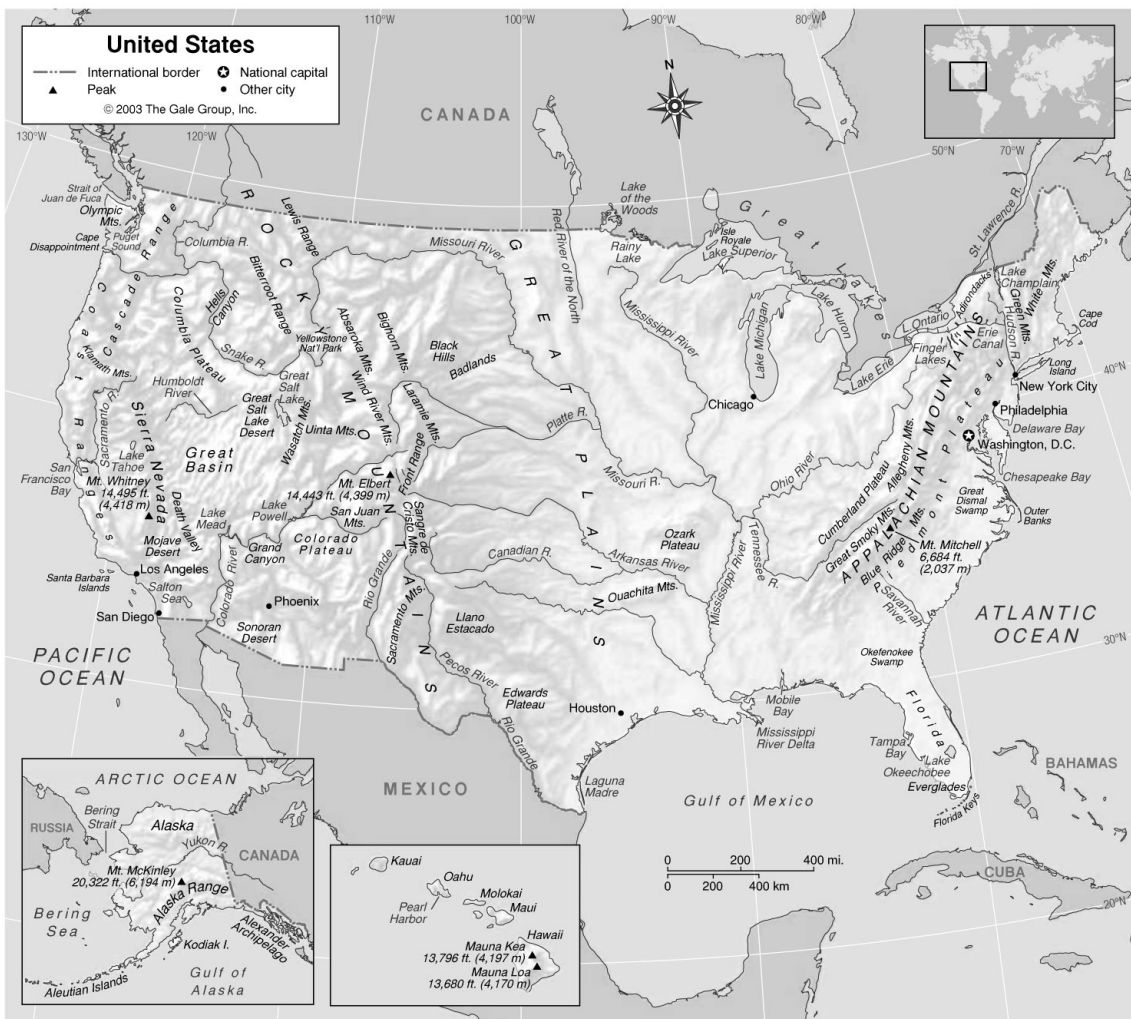
Except for Puerto Rico (see entry on Puerto Rico), U.S. territories and dependencies consist of very small islands. The U.S. Virgin Islands and Navassa Island are located in the Caribbean; the rest are in the Pacific Ocean. These include American Samoa, Guam, Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Palmyra Atoll, and Wake Island.

## 3 🌐 CLIMATE

Although the continental (forty-eight contiguous) United States lie within the Northern Hemisphere's temperate zone, there are wide variations in climate, including extremes in temperature and violent weather disturbances. The states along the eastern seaboard have a continental climate despite their proximity to the Atlantic Ocean, as do the states of the Midwest. The mean annual temperature in Miami, Florida, is 24°C (76°F), while that in Boston, Massachusetts, is 11°C (51°F). In the country's vast central lowlands, there is an even greater tendency toward sharp contrasts and sudden changes. The northern Great Plains has seen summer highs of 49°C (121°F) and winter lows of -51°C (-60°F).

In contrast to the continental climate experienced in much of the country, the U.S. West Coast, with its proximity to the

# UNITED STATES OF AMERICA



Pacific Ocean, has a maritime climate with warm summers and mild winters. Seattle, Washington, on the northern part of the Pacific coast, has average temperatures of 4°C (39°F) in January and 18°C (65°F) in July. Farther south along the coast, Los Angeles, California, averages 13°C (56°F) in January and 21°C (69°F) in July.

The panhandle region of southern Alaska has a mild maritime climate, while the interior of the state has extremes of both heat and cold. The far north, within the Arctic Circle, has a

uniformly frigid arctic climate. By contrast, Hawaii has a stable, even climate with temperatures averaging 23°C (73°F) in January and 27°C (80°F) in July.

Average annual rainfall is more than 100 centimeters (40 inches) in an area covering roughly the eastern two-fifths of the country. The prairie and Great Plains states to the north and west are considerably drier, however, with average rainfall as low as 46 centimeters (18 inches) per year, dropping to 25 centimeters (10 inches) in the northern

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# UNITED STATES OF AMERICA

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plains. In the Rocky Mountains, precipitation varies according to altitude, with the higher elevations receiving more rain. The deserts to the west of the Rockies are the driest parts of the country, with unevenly distributed precipitation in the region ranging from annual averages of 8 centimeters (3 inches) in Yuma, Arizona, to as much as 152 centimeters (60 inches) in central Idaho and Washington State. Annual rainfall in the Pacific coastal area varies widely with latitude, from 4.5 centimeters (1.8 inches) in Death Valley to more than 356 centimeters (140 inches) in the Olympic Mountains of Washington State.

In Alaska, the panhandle and the southern arc of the Aleutian Islands have a wet maritime climate, while the interior is, on the whole, quite dry, despite its snow. Hawaii is generally moderately rainy (71 centimeters/28 inches annually), with very heavy rainfall occurring at higher elevations.

## 4 🌐 TOPOGRAPHIC REGIONS

In its broadest topographic outline, the continental United States comprises a large, central lowland—accounting for close to half its total area—bordered on the east and west by highlands. The western highland area, which begins with the Rocky Mountains, is by far the more extensive of the two, accounting for about one-third of the total area of the country. The band of highlands on the east, which is lower and less extensive, consists of the Appalachian Mountains. The Mississippi River and its tributaries dominate the lowland in between, with the Great Lakes to the north. The western part of this lowland is known as the Great Plains. East and south of the Appalachian Mountains are coastal plains.

Alaska has seven topographical regions: the southeastern coastal mountains; the glaciated coast; south-central Alaska; the Alaska Peninsula and the Aleutian Islands;

interior Alaska; the Seward Peninsula and the Bering Coast Uplands; and the Arctic Slope. The Hawaiian Islands are basaltic volcanoes near the middle of the Pacific Ocean along a northwest-trending ridge.

## 5 🌐 OCEANS AND SEAS

The continental United States are bordered on the east by the Atlantic Ocean, on the southeast by the Gulf of Mexico, and on the west by the Pacific Ocean. Alaska lies amidst several bodies of water: on the north are the Beaufort Sea and the Arctic Ocean; on the west are the Chukchi Sea, the Bering Strait, and the Bering Sea; and on the south is the Gulf of Alaska. The Hawaiian Islands lie in the North Pacific Ocean.

### Seacoast and Undersea Features

Off the Atlantic coast, the continental shelf is more than 161 kilometers (100 miles) wide; beyond this, the ocean floor plunges to depths of more than 3.2 kilometers (2 miles). The continental shelf along most of the Pacific coast is quite narrow. Two major mountain ridges extend about 2,414 kilometers (1,500 miles) westward from the coast into the Pacific Ocean. Oceanic trenches line the southern shores of the Alaska Peninsula and the Aleutian Islands. The Aleutian Trench, at 7,620 meters (25,000 feet) below sea level, is the lowest point bordering North America.

### Sea Inlets and Straits

The major inlets on the Atlantic coast are Long Island Sound and the Delaware and Chesapeake Bays to the north, and Albemarle and Pamlico Sounds farther south, in the Sea Islands area. The Straits of Florida separate the state of Florida from the Bahamas to the southeast.

Puget Sound in the state of Washington is the major inlet on the Pacific coast; the Strait of Juan de Fuca connects Puget Sound

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# UNITED STATES OF AMERICA

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to the ocean. The Sacramento River in northern California drains into the Pacific at San Francisco Bay.

## Islands and Archipelagos

There are few large islands off the coast of the continental United States. Long Island, near the mouth of the Hudson River, is the largest of these (4,462 square kilometers/1,723 square miles). The Florida Keys are a series of small islands arcing southwest from the south coast of Florida into the Gulf of Mexico. There are numerous smaller islands in Chesapeake Bay, the Outer Banks, and off the northeastern coast. The largest islands off the Pacific coast are the Santa Barbara Islands, and the only other islands of any significant size are found in Puget Sound.

The state of Hawaii consists of five large islands—Hawaii, Maui, Molokai, Oahu, and Kauai—with four smaller islands close by—Kahoolawe, Lanai, Kaula, and Niihau. Hawaii itself is the most easterly and largest of the islands, with an area of 10,414 square kilometers (4,021 square miles). There are many islands located off the Alaskan coast. The southern part of Alaska is the site of the coastal Alexander Archipelago. Further east is the Alaska Peninsula, with the Aleutian Islands extending from its tip.

## Coastal Features

The Atlantic coastline can be divided into three sections. Large peninsulas characterize the northern (or embayed) section, which stretches from the northeastern end of the country halfway down the coast to Chesapeake Bay. South of the embayed section is the Sea Islands section, a region of coastal lagoons and islands. The Outer Banks are the most famous and extensive of these. The final segment of the eastern coast is the smooth, sandy, eastern coast of the Florida Peninsula. The southern,

or Gulf, coast has multiple indentations in its eastern section, including Tampa and Mobile Bays. The irregularly shaped Mississippi Delta juts out in the middle, and the shoreline to the west of the river is smoother.

The Pacific shoreline is straight and fully exposed to the surf, without barrier beaches or lagoons. There are two major indentations in the Pacific coast: Puget Sound and San Francisco Bay. The coast of Alaska is deeply embayed to the west, southwest, and south. Point Barrow on the Arctic Ocean coast is the northernmost point in the country.

The northern New England coast is rocky, while the Atlantic coast south of New England is a plain with extensive sandy beaches. In the Sea Islands section of the Atlantic coastal plain, the islands off the coast have attractive sandy beaches facing the ocean. Sandy beaches also rim much of the Gulf Coast, except for the Mississippi Delta area, where marshes, swamps, and bayous extend to the sea. Much of the Pacific coast is mountainous, and a narrow coastal plain rings Puget Sound. Alaska's coast is mostly low-lying in the north and west and mostly mountainous in the south and in both panhandles. The Hawaiian Islands are ringed with mostly narrow coastal plains.

## 6 INLAND LAKES

The five Great Lakes make up the world's largest group of freshwater lakes, and Lake Superior has the greatest surface area of any freshwater lake on Earth (82,362 square kilometers/31,800 square miles). Outside of the Great Lakes, the next largest body of water in the country is the much smaller Great Salt Lake in Utah, with an area of about 5,957 square kilometers (2,300 square miles). Other major lakes in the western United States include Sevier Lake, Crater Lake, Lake Tahoe, and Yosemite Lake. Florida and Minnesota are also known for their many lakes. New York is

## DID YOU KNOW?

**Y**ellowstone National Park is thought to contain roughly ten thousand hot springs and geysers, more than half of all such features on Earth.

home to the Finger Lakes and Lake Champlain. The Okefenokee Swamp in northeastern Florida, with an area of around 1,813 square kilometers (700 square miles), is the largest single swamp in North America. Occupying the tip of the Florida peninsula, south of Lake Okeechobee, is the vast network of swamps and marshes known as the Everglades.

## 7 RIVERS AND WATERFALLS

With few exceptions, the rivers to the east of the Continental Divide drain into the Atlantic Ocean and the Gulf of Mexico; those to the west drain into the Pacific. There are many short rivers east of the Appalachian Mountains that flow into the Atlantic; chief among them is the Hudson River. Even the longest of these waterways flows for only several hundred miles, however.

The Mississippi River and its tributaries drain most of the central United States. The Mississippi is one of the world's great rivers in terms of both volume and length (4,127 kilometers/2,348 miles). It flows south across the country, somewhat east of its center, and empties into the Gulf of Mexico in a great delta. The Arkansas, Ohio, and Missouri Rivers are three of its most important tributaries. The Missouri is the longest river in the country, as well as the longest on the continent of North America.

The principal river of the Colorado Plateau is the Colorado River (2,350 kilometers/1,450

miles). The Colorado flows southwest and receives all of the other large rivers in the region, including the Green, San Juan, and Gila, before traveling into Mexico and eventually emptying into the Pacific Ocean. The Columbia River and its large tributary, the Snake River, dominates the Columbia Plateau. In Alaska, the Yukon is the state's longest river (3,185 kilometers/1,979 miles).

## 8 DESERTS

The Great Basin is a vast area in the western United States that has no drainage to the ocean. Arid areas of bare rock characterize both the Great Basin and the Colorado Plateau, with sparse vegetation elsewhere. Included in this region are the Great Salt Lake Desert, Death Valley, and the Sonoran Desert region, which extends southward into Mexico and also includes the Mojave Desert in southern California. The true deserts of the southwest support only scrub and a few annuals that appear intermittently, after it rains.

## 9 FLAT AND ROLLING TERRAIN

A low-lying coastal plain extends for more than 3,200 kilometers (2,000 miles) along the eastern and southeastern fringes of the country, encompassing the coasts of both the Atlantic Ocean and the Gulf of Mexico. The plain is narrow in New England but reaches a maximum width of about 320 kilometers (200 miles) farther south. Between the Rocky Mountains and the Appalachian Mountains is a vast area of grasslands and plains, which extends from the coastal plains of the south well into northern Canada. West of the Mississippi, the rolling prairies are known as the Great Plains. Other extensive plains occur in the structural basins of the western mountains. Death Valley, the lowest point in North America, lies along the southwestern edge of the Great Basin. There are foothills associated with all of the major mountain ranges of the

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# UNITED STATES OF AMERICA

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United States. The Black Hills in the northern Great Plains are actually dome mountains; some summits rise to elevations of over 610 meters (2,000 feet).

## **10** **MOUNTAINS AND VOLCANOES**

Mountains cover one-quarter of the country. The central plains are flanked on the east by the Appalachian Mountains and on the west by the Rocky Mountain system. More high mountains can be found along the Pacific coast, as well as in Alaska and Hawaii.

The Appalachians are the major mountain range in the eastern United States. Although they are neither as high nor as rugged as the Rocky Mountains, they are very extensive. They enter the United States from Canada in the northeast and extend southwest most of the way to the Gulf of Mexico. Their highest peak is Mount Mitchell (2,037 meters/6,684 feet). The Appalachian Highlands consist of several distinct ranges, including the Great Smoky Mountains, the Blue Ridge Mountains, and the Allegheny Mountains. The Adirondack Mountains in northern New York State have a domelike structure.

The Southern Rockies, the highest section of the Rocky Mountains, contain many peaks of elevations over 4,267 meters (14,000 feet). Among the Southern Rockies are the Laramie, San Juan, and Sacramento Mountains, as well as the highest peak in the Rocky Mountains: Mt. Elbert (4,399 meters/14,433 feet). Major ranges in the Middle Rockies include the Bighorn, Absaroka, Wind River, Uinta, and Wasatch. The Northern Rockies, the lowest part of the chain, contain the Bitterroot and Lewis ranges.

The Pacific mountain system parallels, and in some places extends to, the western coast, covering an area of about 518,000 square kilometers (200,000 square miles). It includes

several different mountain ranges, as well as valleys and deserts. The major divisions of the Pacific mountain system are the Cascade and Sierra Mountains, the Coast Ranges, and the Lower California Peninsular Range. Mount Whitney, in the Sierra Nevada, is the highest point in the United States outside of Alaska, at 4,418 meters (14,495 feet).

The Coast Ranges, a series of mountains along the Pacific coastline, contain summits that do not exceed 1,219 meters (4,000 feet). The Lower California Peninsular Range, located mostly in Mexico, extends across the border into the extreme southwest of the United States.

Alaska's major mountain ranges are found in the south-central part of the state. The north and south peaks of Mt. McKinley (Denali), at 6,194 meters (20,322 feet) and 5,934 meters (19,470 feet), respectively, are the highest peaks on the North American continent. Lower mountains are found in the northern part of the state.

The Hawaiian Islands in the Pacific Ocean all are volcanic in origin and thus have mountainous interiors.

The island of Hawaii is the site of two great volcanoes, Mauna Kea and Mauna Loa, which erupt frequently but gently. More than a dozen volcanoes in the western part of the continental United States have been classified as potentially active by the U.S. Geological Survey, as well as seven in Hawaii and many more along the Alaskan coastline and on neighboring islands. The most recent volcanic eruption in the lower forty-eight states was that of Mount St. Helens in Washington State in 1980; the unexpected explosion killed more than sixty people.



# UNITED STATES OF AMERICA



Photodisc "Panoramics" CD

*The Grand Canyon is found in Arizona, United States of America.  
It is more than 1.6 kilometers (1 mile) deep.*

## 11 🌐 CANYONS AND CAVES

The country's most dramatic canyons are in the Intermontane Region between the Rocky Mountains and the Pacific coastal mountains, carved by the major rivers located here. In the Colorado Plateau, the Colorado River passes through the picturesque Grand Canyon, which is more than 1,600 meters (5,280 feet) deep and 349 kilometers (217 miles) long. Farther north are the Canyonlands of southeastern Utah; the pinnacles and spires of red rock in southwestern Utah's Bryce Canyon are among the most remarkable sights in the country. In the Columbia Plateau is found the single deepest canyon in the United States: Hell's Canyon. Its average depth is 2,000 meters (6,600 feet), and it extends for 200 kilometers (125 miles).

Mammoth Cave in Kentucky is the world's largest cave system, with 563 kilometers (350 miles) of caves mapped out to date. Another of the nation's major cave sites is the Carlsbad Caverns National Park in New Mexico, home to some one hundred caves.

## 12 🌐 PLATEAUS AND MONOLITHS

About a quarter of the country rests on plateaus. The eight major ones are the Piedmont, Appalachian, and interior low plateaus in

the east; the Ozark Plateau, Edwards Plateau, and the Llano Estacado in the central U.S.A.; and the Colorado and Columbia Plateaus, both of which belong to the Intermontane Plateau region of the west. The Colorado Plateau—between the Southern Rockies, the Sierra Nevada, and the Great Basin—is the most colorful part of the United States, with spectacular geological features, including volcanoes, mesas, and dome mountains. The Grand Canyon is located in the southwestern part of this region. Yellowstone National Park is located on the Yellowstone Plateau east of the Snake River plain, at the southeastern edge of the Columbia Plateau.

## 13 🌐 MAN-MADE FEATURES

The Mount Rushmore National Memorial in South Dakota contains sculptures of four U.S. presidents (George Washington, Thomas Jefferson, Abraham Lincoln, and Theodore Roosevelt), each of which is 18 meters (60 feet) tall, carved into the granite face of a peak that rises to 1,707 meters (5,600 feet). Major bridges in the United States include the Brooklyn Bridge and the Verrazano Narrows and George Washington Bridges, all in New York City, and the Golden Gate and San Francisco-Oakland Bay Bridges in San Francisco.

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# UNITED STATES OF AMERICA

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The New York State Barge Canal, a modification and extension of the former Erie Canal, links the Hudson River and Lake Champlain to the Great Lakes. Both the Colorado and Columbia Rivers in the western United States feed into major reservoirs, including Franklin D. Roosevelt Lake behind Grand Coulee Dam. The Grand Coulee Dam is the country's largest hydroelectric project, and Lake Mead is its largest man-made reservoir.

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# Uruguay

- **Official name:** Oriental Republic of Uruguay
- **Area:** 176,220 square kilometers (68,039 square miles)
- **Highest point on mainland:** Cerro Catedral (514 meters/1,686 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Western
- **Time zone:** 9 A.M. = noon GMT
- **Longest distances:** 555 kilometers (345 miles) from north-northwest to south-southeast; 504 kilometers (313 miles) from east-northeast to west-southwest
- **Land boundaries:** 1,564 kilometers (972 miles) total boundary length; Brazil 985 kilometers (612 miles); Argentina 579 kilometers (612 miles)
- **Coastline:** 660 kilometers (410 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Small Uruguay forms a flat wedge between its giant neighbors, Brazil and Argentina. The great Río de la Plata estuary and the Atlantic Ocean border Uruguay's southern coast; on the west, the Río Uruguay separates it from Argentina. With an area of 176,220 square kilometers (68,039 square miles), Uruguay is almost as large as the state of Washington.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Uruguay has no territories or dependencies.

## 3 🌐 CLIMATE

Uruguay has a temperate climate with four seasons: spring, from September to November; summer, from December to March; autumn, from April to June; and winter, from July to August. Average temperatures are 17°C (63°F) in spring; 25°C (77°F) in summer; 18°C (64°F) in autumn; and 12°C (54°F) in winter. Winds often sweep across Uruguay from the Atlantic Ocean; the *pampero* is a cold winter

wind from Argentina. Most of Uruguay's rain falls in the winter months of July and August. The yearly average precipitation is 105 centimeters (41 inches). Humidity averages 65 percent. Although freezing temperatures occur, snow is rare.

## 4 🌐 TOPOGRAPHIC REGIONS

Well-watered grasslands predominate, with elevations rising into hills in the north. Swamps and lagoons mark eastern Uruguay.

## 5 🌐 OCEANS AND SEAS

Uruguay is bounded on the south and southwest by the South Atlantic Ocean.

### Sea Inlets and Straits

The Río de la Plata estuary is located on an inlet of the South Atlantic Ocean.

### Islands and Archipelagos

A few small islands lie off the coast of Uruguay. Isla de Lobos, with an area of 0.4 square kilometers (0.16 square miles), has one of

# URUGUAY



the largest sea lion populations in the world. It is situated offshore from the mainland town of Punta del Este.

## Coastal Features

Beaches and rocky headlands characterize Uruguay's coastline, and swamps and lagoons dot the eastern coast. It then curves west and leaves the open Atlantic, running for more than 322 kilometers (200 miles) along the Río de la Plata estuary to reach the mouth of the Río Uruguay. At the center of the southern coastline, the city of Montevideo has nine beaches on the Atlantic. East of Montevideo is Punta del Este, a peninsular beach resort.

## 6 🌐 INLAND LAKES

Lagoons appear along the eastern coast. The largest is Lagoa Mirím (Laguna Merín), which extends across the border into Brazil.

## 7 🌐 RIVERS AND WATERFALLS

The largest of Uruguay's rivers is the Río Uruguay itself, which flows for 435 kilometers (270 miles) through the country. It marks the entire western boundary with Argentina and extends farther to the north along the Argentina-Brazil frontier. The Uruguay merges with the Río Parana to form the Río de la Plata, a vast estuary of the Atlantic Ocean. It is saline except at its western extremity, where the Parana and Uruguay gush enormous quantities of fresh water into it. The Río Negro rises in southern Brazil, then bisects Uruguay as it flows southwestward to join the Uruguay. Its principal tributaries are the Ríos Yi and Tacuarembó. Smaller rivers are found throughout the country, with the Cuareim and Jaguarón flowing along parts of the border with Brazil.

## 8 🌐 DESERTS

There are no deserts in Uruguay.

## 9 🌐 FLAT AND ROLLING TERRAIN

Uruguay's interior plateau features ranges of low hills that become more prominent in the north as they merge into the highlands of southern Brazil. The most important of Uruguay's *cuchillas* (hill ranges) are the Grande Range and the Haedo Hills. Only in these and in the Santa Ana Hills along the Brazilian frontier do altitudes exceed 183 meters (600 feet) with any frequency. Vast expanses of undulating grasslands cover more than 90 percent of the country.

## 10 🌐 MOUNTAINS AND VOLCANOES

Uruguay has no mountain ranges. Cerro Catedral (514 meters/1,686 feet in elevation), near the southern coast, is the country's highest point.

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# URUGUAY

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UNESCO/Raoul Russo

*Uruguay's Río de la Plata is a vast estuary of the Atlantic Ocean.*

## 11 🌐 CANYONS AND CAVES

Uruguay has no significant canyons or caves.

## 12 🌐 PLATEAUS AND MONOLITHS

The interior of Uruguay is a low, broken plateau, which is a transition from the pampas of Argentina to the hilly uplands of southern Brazil.

## 13 🌐 MAN-MADE FEATURES

The Río Negro is the site of several major reservoirs. Embalse del Río Negro, formed by the Río Negro dam in the central part of the country, is the largest artificial lake in South America, with a surface area of more than 10,359 square kilometers (4,000 square miles). Other reservoirs are Lake Palmar, also on the Río Negro, and Lake Salto Grande on the Río Uruguay.

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# Uzbekistan

- **Official name:** Republic of Uzbekistan
- **Area:** 447,400 square kilometers (172,741 square miles)
- **Highest point on mainland:** Adelunga Toghi (4,301 meters/14,111 feet)
- **Lowest point on land:** Sariqarnish Kuli (12 meters/39 feet below sea level)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 5 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** 6,221 kilometers (3,866 miles) total boundary length; Afghanistan 137 kilometers (85 miles); Kazakhstan 2,203 kilometers (1,369 miles); Kyrgyzstan 1,099 kilometers (683 miles); Tajikistan 1,161 kilometers (721 miles); Turkmenistan 1,621 kilometers (1,007 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Uzbekistan is a landlocked country in Central Asia, located north of Turkmenistan and Afghanistan, west of Tajikistan and Kyrgyzstan, and south and east of Kazakhstan. With an area of 447,400 square kilometers (172,741 square miles), it is somewhat larger than the state of California. Nearly 40 percent of western Uzbekistan is known as the Qoraqalpogh Autonomous Republic (known also as Qoraqalpoghistan or Karakalpakstan).

## 2 🌐 TERRITORIES AND DEPENDENCIES

Uzbekistan has no territories or dependencies.

## 3 🌐 CLIMATE

Uzbekistan is a hot, dry country with long summers and mild winters. It has a continental climate, with definite seasonal variations as well as significant differences in weather during the day and at night. July (summer) high temperatures are generally between 26°C and 32°C (79°F and 90°F) but can soar much higher. January highs are usually between -6°C to 2°C (21°F to 36°F). Most precipita-

tion falls during March and April; droughts commonly occur during Uzbekistan's long, hot summers. Although snow falls regularly in the winter months, it seldom accumulates and soon melts. Overall, precipitation is light, with only the best-watered areas receiving more than 30 centimeters (12 inches) of rain or snow annually.

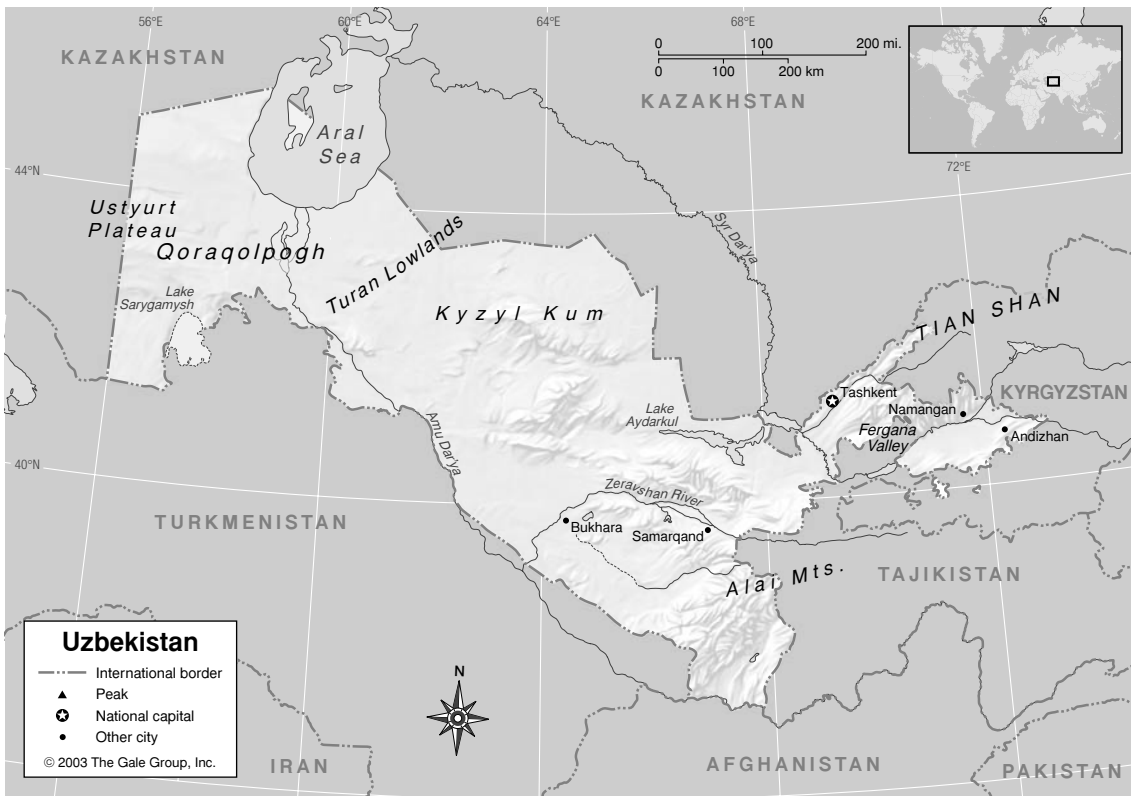
## 4 🌐 TOPOGRAPHIC REGIONS

Uzbekistan's varied terrain includes high mountains and semiarid grasslands in the east, and lowlands and a predominantly flat plateau region in the west. In the center lies the vast Kyzyl Kum, one of the world's largest deserts.

## 5 🌐 OCEANS AND SEAS

Uzbekistan is landlocked, with no ocean coasts or islands. It does surround the southern half of the Aral Sea, with 420 kilometers (260 miles) of shoreline. Despite its name, however, the Aral Sea is technically a landlocked saltwater lake, not a sea.

# UZBEKISTAN



## 6 🌐 INLAND LAKES

The southern half of the Aral Sea is located in northwestern Uzbekistan, with the rest in Kazakhstan. The lake's salty water and large size have led to its being called a sea, but because it lacks an outlet to the ocean, it is technically

## DID YOU KNOW?

The depletion of the Aral Sea is considered one of the worst ecological disasters in the world. As recently as the 1960s, it was the world's fourth-largest lake. Since then, massive irrigation withdrawals have reduced the lake to only half its former size.

a lake. Lake Aydarkul in eastern Uzbekistan is the largest freshwater lake in the country. Lake Sarygamysh extends into the country from Turkmenistan in the southwest.

## 7 🌐 RIVERS AND WATERFALLS

There are three significant rivers in Uzbekistan: the Amu Dar'ya, the Syr Dar'ya, and the Zeravshan. All of these rivers originate in the high mountains east of Uzbekistan. The Amu Dar'ya, the largest of the three, flows west along the southern border with Afghanistan, then curves northwest into Turkmenistan. Further north it becomes the border between Turkmenistan and Uzbekistan. Near the city of Nukus it turns north and spreads out into a delta. The Syr Dar'ya enters the country from Kyrgyzstan in the northeast and flows west through the fertile Fergana Valley.

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# UZBEKISTAN

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EPD/Cynthia Bassett

*The Kyzyl Kum desert covers an immense area, and the majority of it is located in Uzbekistan.*

It cuts across the spur of northern Tajikistan, then turns north back through Uzbekistan and into Kazakhstan. The Zeravshan enters the country from the mountains of Tajikistan to the east, then arcs across southeast Uzbekistan.

## **8** 🌐 **DESERTS**

The Kyzyl Kum desert (named for the red sand that covers most of it) occupies an immense area of some 298,000 square kilometers (115,000 square miles), making it the largest desert in Central Asia. It extends southeast of the Aral Sea, between the valleys of the Amu Dar'ya and Syr Dar'ya, and the bulk of it is located in Uzbekistan. It is an extremely arid and inhospitable area. Another desert, the Mirzachol, lies southwest of the capital, Tashkent, in northeastern Uzbekistan.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The western two-thirds of Uzbekistan consists predominantly of flat steppe and desert terrain, with mountains and the fertile Fergana Valley in the east.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

In the east and northeast, Uzbekistan is predominantly mountainous. In the northeast, the Tian Shan extends into the country from the east. Further south, on the far side of the Fergana Valley, are the Alai Mountains, which belong to the Pamirs. Both ranges are tall, reaching up to 4,301 meters (14,111 feet) at Adelunga Toghi, and rising even higher further to the east in Kyrgyzstan and Tajikistan.



# UZBEKISTAN



EPD/Cynthia Bassett

*Camels are still used for transportation in the desert region of Uzbekistan.*

## 11 🌐 CANYONS AND CAVES

With a depth of 1,415 meters (4,643 feet), the Boj-Bulok cave is one of the deepest in the world.

## 12 🌐 PLATEAUS AND MONOLITHS

West and south of the Aral Sea is the Ustyurt (Ust' Urt) Plateau, a well-defined upland broken up by occasional small mountain ridges. It extends west from the shores of the Aral Sea to the Caspian Sea coastline in Kazakhstan. Its area is roughly 200,000 square kilometers (77,220 square miles).

## 13 🌐 MAN-MADE FEATURES

Uzbekistan has extensive canal systems, most of which were built when the country was part of the former Soviet Union. The Amu-Bukhara canal is the most notable of these.

## 14 🌐 FURTHER READING

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# Vanuatu

- **Official name:** Republic of Vanuatu
- **Area:** 12,200 square kilometers (4,710 square miles)
- **Highest point on mainland:** Mount Tabwemasana (1,877 meters/6,158 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Southern and Eastern
- **Time zone:** 11 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** None
- **Coastline:** 2,528 kilometers (1,570 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

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## 1 🌐 LOCATION AND SIZE

Vanuatu is a Y-shaped chain of more than eighty islands located northeast of Australia in the South Pacific Ocean area known as Oceania. With a total area of about 12,200 square kilometers (4,710 square miles), the country is slightly larger than the state of Connecticut. Vanuatu is divided into six provinces.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Vanuatu has no territories or dependencies.

## 3 🌐 CLIMATE

Vanuatu's climate is tropical, moderated by southeast trade winds from May to September each year. It is hot, with humidity averaging 83 percent year-round. Average midday temperatures in Port-Vila range from 25°C (77°F) in winter to 29°C (84°F) in summer.

Rainfall averages about 239 centimeters (94 inches) per year, with a high of about 406 centimeters (160 inches) in the northern islands. During November to April, the islands are threatened by tropical cyclones.

## 4 🌐 TOPOGRAPHIC REGIONS

The entire island chain of Vanuatu is the result of active volcanism as the Australian and Pacific Tectonic Plates converge at a rate of 9 centimeters (3.5 inches) per year, uplifting Vanuatu around 4 centimeters (1.5 inches) per year. Lying along the Pacific Ring of Fire, the country has active volcanoes on Tanna, Ambrim, and Lopevi. Seventy of the eighty islands in Vanuatu are inhabited.

## 5 🌐 OCEANS AND SEAS

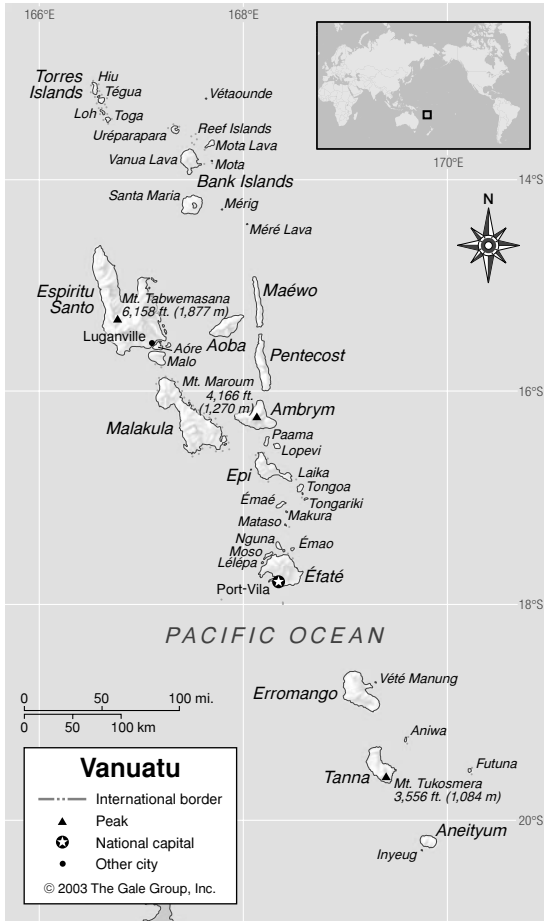
### Seacoast and Undersea Features

The Pacific Ocean surrounding the islands contains many coral reefs that plunge to hundreds of meters below the surface. There are also a number of underwater volcanoes.

### Islands and Archipelagos

The larger islands are of volcanic origin overlaid with limestone formations. The smaller islands are coral and limestone. The thirteen major islands are Torres Islands (Îles Torres), Bank Islands (Îles Banks—Mota Lava, Sola, Gaua), Espíritu Santo, Ambae, Maéwo, Pentecost, Malakula, Ambrim, Epi, Tongoa, Éfaté, Erromango, Aniwa, Tanna, Fortuna,

# VANUATU



## DID YOU KNOW?

Oceania is a term that refers to the islands in the central and south Pacific and adjacent seas. The boundaries for the region are the Tropic of Cancer in the north and the southern tip of New Zealand.

calcium carbonate cements together everything it touches into large blocks of rock. As a result, the beach rock on Espiritu Santo includes large portions of sand and shells welded to the remains of World War II machinery and thousands of glass bottles.

### 6 INLAND LAKES

There are no major lakes on Vanuatu. Some small lakes do exist in extinct volcanic craters and other low-lying areas, however, including Lakes Manaro Ngoro, Manaro Lakua, Voui, and Siwi.

### 7 RIVERS AND WATERFALLS

Because the islands are generally very small, there are no rivers of significant size. Many small streams do drain the mountains, however, including the Jourdain, Sarakana, and Wamb Rivers.

### 8 DESERTS

There are no desert regions on Vanuatu.

### 9 FLAT AND ROLLING TERRAIN

Lowland forests cover the southeastern, or windward, sides of Vanuatu's islands. At approximately 500 meters (1,640 feet) of elevation, *montane* (mountain) forests begin. Hardwood forests cover 75 percent of the land area, but these woodlands are threatened by the logging industry.

and Aneityum. The largest islands are Espiritu Santo, Malakula, and Éfaté.

Vanuatu also makes a disputed claim on Matthew and Hunter Islands east of New Caledonia. Ownership of these would considerably extend Vanuatu's Maritime Economic Zone.

### Coastal Features

The beach rock along Vanuatu's coast is an unusual aspect of the local geology. Rainfall causes the calcium carbonate from decayed shells and zooplankton skeletons to leach onto the beaches, forming a paste-like solution. When the water evaporates, the resulting

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# VANUATU

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AP Photo/HO, Islands Business

*Men and boys of Pentecost Island have proven their manhood by leaping from 25-meter (80-foot) bamboo towers to be brought up a few inches short of the ground by vine ropes tied to their ankles. The Pentecost Jump, as it is known, has become a tourist attraction promoted by the Vanuatu government.*

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

Most of the islands are rugged and mountainous with cultivated narrow coastal plains. The principal peak, Mount Tabwemasana, rises to a height of 1,877 meters (6,158 feet) on Espiritu Santo. Other significant peaks include the 1,270-meter- (4,166-foot-) high Mount Maroum on Ambrim, and Mount Tukosmera, which reaches 1,084 meters (3,556 feet) on Tanna.

## **11** 🌐 **CANYONS AND CAVES**

Vanuatu has a number of underwater and underground caves that have been formed as a result of volcanic activity and the erosion of limestone and ash formations. In Siviri village on the island of Éfaté,

Valeafau Cave has been known to emit a mysterious phosphorous glow when village children jump up and down on the cave floor. A large number of underwater and submerged entrance caves also exist in the coral reefs surrounding the islands. Some of these caverns serve as homes to turtles and other marine life.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

There are no plateau regions on Vanuatu.

## **13** 🌐 **MAN-MADE FEATURES**

There are no major man-made structures affecting the geography of Vanuatu.

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# VANUATU

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## 14 FURTHER READING

### Books

Bonnemaison, Joël. *The Tree and the Canoe: History and Ethnogeography of Tanna*. Honolulu: University of Hawaii Press, 1994.

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<http://www.vanuatutourism.com/geography.htm>  
(accessed May 6, 2003).

*Volcano Live*. <http://www.volcanolive.com/contents.html> (accessed May 6, 2003).

# Vatican City

- **Official name:** State of the Vatican City (also known as The Holy See)
- **Area:** 0.44 square kilometers (less than 1 square mile)
- **Highest point on mainland:** Unnamed location (75 meters/248 feet)
- **Lowest point on land:** Unnamed location (19 meters/63 feet)
- **Hemispheres:** Northern and Eastern
- **Time zone:** 1 P.M. = noon GMT
- **Longest distances:** Not available
- **Land boundaries:** 3.2 kilometers (2 miles) total boundary length; all with Italy
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Vatican City (also known as the Holy See) is a tiny urban, landlocked enclave surrounded by Rome, Italy. It is the world's smallest state, located on the west bank of the Tiber River. The Leonine Wall forms the enclave's western and southern boundaries. Vatican City is the administrative center of the Roman Catholic Church; the Pope resides here in a palace west of Belvedere Park. Among Vatican City's other well-known buildings and landmarks is St. Peter's Basilica, the largest Christian church in the world. The Vatican Gardens comprise about half of the total area of Vatican City.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Vatican City has no dependencies. Situated on about 40 hectares (100 acres) outside of Rome, however, is Castel Gandolfo, the pope's summer villa. The Italian government grants this property special tax exemptions because of its association with Vatican City. Another similar property is Santa Maria de Galeri, covering about 420 hectares (1,037 acres) and located about 19.3 kilometers (12 miles) from Vatican City.

## 3 🌐 CLIMATE

Vatican City has a temperate climate. The temperature in January averages 7°C (45°F) and in July it averages 24°C (75°F). There is little rainfall in the summer (May through September). Winter, the rainier season, lasts from September through April. Average annual rainfall is 50 centimeters (20 inches).

## 4 🌐 TOPOGRAPHIC REGIONS

Although Vatican City is built on a slight hill, the variation in elevation throughout the small country is less than 60 meters (200 feet).

## 5 🌐 OCEANS AND SEAS

Vatican City is a landlocked enclave completely surrounded by Rome, Italy.

## 6 🌐 INLAND LAKES

There are no lakes in Vatican City.

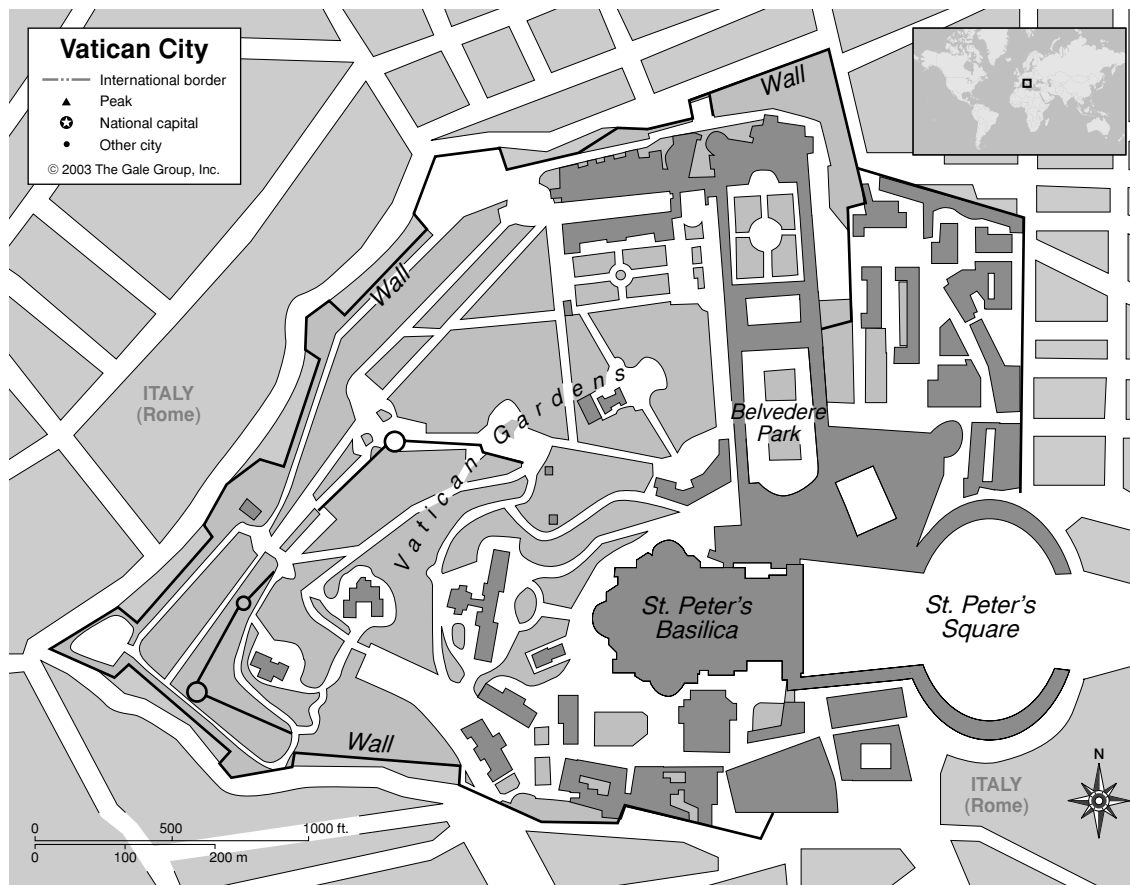
## 7 🌐 RIVERS AND WATERFALLS

Italy's Tiber River flows near the Holy See.

## 8 🌐 DESERTS

There are no desert areas in Vatican City.

# VATICAN CITY



## 9 🌐 FLAT AND ROLLING TERRAIN

There is no flat or rolling terrain in Vatican City.

## 10 🌐 MOUNTAINS AND VOLCANOES

Vatican City contains no mountains or volcanoes.

## 11 🌐 CANYONS AND CAVES

There are no canyons or caves in Vatican City.

## 12 🌐 PLATEAUS AND MONOLITHS

There are no plateaus or rock formations in Vatican City.

## 13 🌐 MAN-MADE FEATURES

The Leonine Wall, dating to the ninth century, forms the south and west boundary of Vatican City. Popes fleeing persecution have escaped from Vatican City through a passageway on the top of the wall.

## 14 🌐 FURTHER READING

### Books

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## VATICAN CITY

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EPD/Peter Langer

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McDowell, Bart. *Inside the Vatican*. Washington, DC: National Geographic Society, 1993.

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Reese, Thomas J. *Inside the Vatican: The Politics and Organization of the Catholic Church*.

Cambridge, MA: Harvard University Press, 1996.

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*Vatican: The Holy See.*

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# Venezuela

- **Official name:** Bolivarian Republic of Venezuela
- **Area:** 912,050 square kilometers (352,144 square miles)
- **Highest point on mainland:** Bolívar Peak (5,007 meters/16,427 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Western
- **Time zone:** 8 A.M. = noon GMT
- **Longest distances:** 1,487 kilometers (924 miles) from west-northwest to east-southeast; 1,175 kilometers (730 miles) from north-northeast to south-southwest
- **Land boundaries:** 4,993 kilometers (3,103 miles) total boundary length; Brazil 2,200 kilometers (1,367 miles); Colombia 2,050 kilometers (1,274 miles); Guyana 743 kilometers (462 miles)
- **Coastline:** 2,800 kilometers (1,740 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Venezuela is located on the Caribbean Sea on the northern coast of South America, sharing borders with Guyana, Brazil, and Colombia. With a total area of about 912,050 square kilometers (352,144 square miles), the country is slightly more than twice the size of California. Venezuela is administratively divided into twenty-three states, one federal district, and one federal dependency.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Eleven offshore island groups containing a total of seventy-two islands are considered to be part of Venezuela.

## 3 🌐 CLIMATE

With a tropical climate, Venezuela has little seasonal variation in temperature; there is considerable variation based on altitude, however, with much cooler weather in the Andean heights of the northwest than on the plains. Temperatures average 26°C to 28°C (79°F to 83°F) in the lowlands and plains that are be-

low 800 meters (2,625 feet). On terrain that has elevations between 800 and 2,000 meters (2,625 to 6,560 feet), temperatures average 12°C to 25°C (54°F to 77°F). At elevations between 2,000 and 3,000 meters (6,560 and 9,840 feet), temperatures average 9°C to 11°C (48°F to 52°F). Finally, in the high mountains above 3,000 meters (9,840 feet), there are permanent snowfields and annual temperatures average below 8°C (46°F).

Two basic seasons occur in Venezuela: a wet season from May through November, which is commonly referred to as winter; and a dry season, or summer, from December through April. The average annual rainfall in Venezuela is 81 centimeters (32 inches), with more rain falling in the mountains and less on the Caribbean coast and islands. Humidity averages 50 to 60 percent. Heavy rains cause periodic flooding; for example, in December 1999, floods caused mudslides that destroyed settlements on the deforested river

# VENEZUELA



banks and hillsides in northern Venezuela, killing thirty thousand people.

## 4 🌐 TOPOGRAPHIC REGIONS

Venezuela occupies a large and varied region of northern South America, with a Caribbean coast, extensions of the Andes Mountains, rainforests, and grassy plains. Geographers divide Venezuela into four regions: the Maracaibo Lowlands, the Northern Mountains, the Orinoco Lowlands, and the Guiana Highlands.

Venezuela is situated on the South American Tectonic Plate. The northern shoreline, however, sits on the border between this plate and the Caribbean Plate. The South American Tectonic Plate is slowly slid-

ing westward while the Caribbean Plate is sliding eastward. Over millions of years, the action of these plates has caused the formation of rocky cliffs on the Caribbean Coast as well as myriad fault lines running through north-central Venezuela. The major fault line, the San Sebastian Fault, runs along the border between the two plates. Earthquakes and landslides often occur here.

## 5 🌐 OCEANS AND SEAS

### Seacoast and Undersea Features

Venezuela's northern shore meets the Caribbean Sea, which is an arm of the Atlantic Ocean. The coral reefs off the coast have been damaged by silt buildups and tourist development.

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# VENEZUELA

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## Sea Inlets and Straits

The Gulf of Venezuela, an inlet of the Caribbean, lies at the far northwestern coastline of the country. This Gulf spills into Lake Maracaibo. On the eastern coast, the Gulf of Paria is partially enclosed by the neighboring island nation of Trinidad and Tobago. The Dragon's Mouth Strait links the Gulf of Paria to the Caribbean and separates northern Trinidad from the tip of the Paria Peninsula. The Serpent's Mouth Strait connects the Paria to the Atlantic Ocean and separates southern Trinidad from Venezuela. Near the Guyana border, the delta of the Orinoco River includes many small inlets.

## Islands and Archipelagos

Seventy-two islands belong to Venezuela. The most important by far is Margarita Island (Isla Margarita), which has an area of about 1,067 square kilometers (412 square miles). Though rocky and receiving little rainfall, it is nevertheless heavily populated and intensively farmed. The other islands vary from coral atolls to sandbars to rocks. The 220-square-kilometer (85-square-mile) La Tortuga Island is located 88 kilometers (55 miles) west of Margarita. The most distant island, the tiny islet of Aves, is situated 483 kilometers (300 miles) north of Margarita. Morrocoy National Park, a wildlife preserve, is a small archipelago off the eastern coast.

## Coastal Features

Venezuela boasts the Caribbean's longest coastline. Nature refuges and tourist resort areas are interspersed along the rocky coast. The Guajira Peninsula at the far northwest coast is shared with Colombia. The Paraguaná Peninsula helps define the Gulf of Venezuela. The central coast has sandy beaches and rocky cliffs as it undulates gently around to the Paria Peninsula, which juts out toward Trinidad.

Along the coast, Venezuela has five sites designated as Wetlands of International

Importance under the Ramsar Convention on Wetlands. The Los Roques Archipelago is a group of forty-five small islands surrounding a lagoon, with coral reefs and mangroves. Ciénaga de Los Olivitos is a coastal salt marsh area and a significant bird habitat that is threatened by salt mining. Cuare, Restinga Lagoon, and Tacarigua Lagoon are also coastal wetlands, with mangroves, birds, and turtles. Other wetlands include the mudflats of the Orinoco Delta, with more than seventy outlets spread out over 23,300 square kilometers (9,000 square miles).

## 6 INLAND LAKES

Lake Maracaibo, covering about 16,316 square kilometers (6,300 square miles), is the largest inland body of water in Latin America. In the north, it is directly connected to the Gulf of Venezuela by an island-dotted channel some 40 kilometers (25 miles) in length. The lake has an average depth of 9 meters (30 feet) and is navigable to its southern end. The connection with the sea makes the lake brackish (a mixture of salt water and fresh water).

Second in importance among Venezuela's hundreds of lakes is Lake Valencia (369 square kilometers/142 square miles), located southwest of Caracas in the heart of the country's best agricultural lands. Originally, this lake drained southward toward the Orinoco, but forest clearing on surrounding mountain slopes and over-planting of adjacent level ground caused its waters to subside until it was left without a surface outlet. Lake Valencia and Lake Maracaibo are both badly polluted by sewage and industrial waste.

Other lakes include the large, mercury-contaminated Guri Reservoir on the Canaima River and other reservoirs formed by hydroelectric dams, as well as numerous small mountain lakes in the Cordillera de Mérida. The coastal lowlands are also scattered with lagoons.



Michael Nichols /National Geographic Image Collection

*Angel Falls in Venezuela, at a total height of 979 meters (3,212 feet), is the highest waterfall in the world.*

## 7 RIVERS AND WATERFALLS

Although there are more than one thousand rivers in Venezuela, the river systems are dominated by the Orinoco River. The Orinoco flows west, then north, and then east for 2,574 kilometers (1,600 miles) to the Atlantic Ocean from its source in the Guiana Highlands at the Brazilian border. This river carries an enormous amount of water, and it is among the greatest rivers in the world in terms of volume. It is as wide as 8 kilometers (5 miles) in some areas. Its flow varies substantially by season. When the river is low, Atlantic tidal effects can reach Ciudad Bolívar, 418 kilometers (260 miles) upstream.

## DID YOU KNOW?

**A**ngel Falls—the highest waterfall in the world at 979 meters (3,212 feet), including a straight drop of 807 meters (2,647 feet)—is a spectacular sight in Venezuela’s Guiana Highlands. Its waters plunge from the 600-square-kilometer (232-square-mile) mesa, Auyán Tepuy, considered the abode of spirits by local Pemon Indians. The waterfall is named after American bush pilot Jimmie Angel, who revealed its existence to the world in 1935.

The Orinoco River system includes 436 tributaries. A few of the longest of these are the Arauca, Apure, Meta, Guaviare, and Ventuari. The Orinoco system provides drainage for about four-fifths of the country. It gathers the interior runoff from the Northern Mountains, most of the water from the Guiana Highlands, and the seasonal waters of the extensive great plains (*llanos*). As the Orinoco passes through the central part of southern Venezuela, it divides its waters. Through the Casiquiare Channel, it sends one-third of its volume through the Negro River to the Amazon River along navigable waterways.

Most of the rivers rising in Venezuela’s Cordillera de Mérida flow southeastward to the Apure River, a tributary of the Orinoco. From its headwaters in the Cordillera de Mérida, the Apure crosses the *llanos* in a generally eastward direction. There are also rivers that flow north from the Cordillera de Mérida into Lake Maracaibo and the Caribbean, including

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# VENEZUELA

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the Tuy River, which drains the country's most prosperous agricultural lands.

The country's other major river is the fast-flowing Caroni, which originates in the Gran Sabana and flows northward to join the Orinoco at Ciudad Guayana. Major hydroelectric projects have been established on its course.

## 8 🌐 DESERTS

There are no desert regions in Venezuela.

## 9 🌐 FLAT AND ROLLING TERRAIN

North of the Orinoco, the *llanos* (grasslands) cover about 300,000 square kilometers (115,800 square miles). These plains, broken by low mesas, are used for cattle grazing. The rivers and streams winding through the llanos seasonally overflow their banks, turning the grasslands into wetlands, which then gradually dry out. These alternately wet and dry grasslands form an extraordinary wildlife habitat with many species of birds (such as ibis, herons, storks), mammals (such as capybaras and pumas), and reptiles (such as anacondas and caimans).

In the Gran Sabana, south of the Orinoco in the Guiana Highlands along the Brazilian frontier, grasslands surround the forested *tepui* (tabletop mountains).

Venezuela suffered the loss of over 8 percent of its forests during the 1980s. The deforestation resulted mainly from agricultural and ranching expansion and also from urbanization, pollution, and logging. About 60 percent of the natural forest north of the Orinoco River was destroyed.

At present, 48 percent of Venezuela still has forest cover, which survives mostly in the northeast around the Orinoco Delta, the southeast, and the south. Mining and logging operations, both legal and illegal, continue to deforest the Guiana Highlands,

however, where much of the remaining natural forest is found.

Efforts are being made to protect the remaining forests, with 35 percent of Venezuela's land use officially regulated and 29 percent of Venezuela's terrain designated as national park land. Huge forest parks include the Biosphere Reserve of the Upper Orinoco-Casiquiare (83,000 square kilometers/32,046 square miles) in the south, which is the world's largest protected tropical rainforest, and Canaima National Park (30,000 square kilometers/11,583 square miles) in the Guiana Highlands.

Hill regions of Venezuela include Tachira (a coffee-growing area in the west), the Sierra de San Luis in the northwest, Margarita Island, and the Paria Peninsula, as well as parts of the south. The capital, Caracas, is surrounded by urbanized, deforested hillsides that are vulnerable to landslides.

## 10 🌐 MOUNTAINS AND VOLCANOES

The Northern Mountains and their spur ranges extend from the Colombian border on the west to the coastal Paria Peninsula on the east. The Andes Mountains rise in Venezuela as the Cordillera de Mérida, containing permanently snow-capped peaks. The highest mountain in Venezuela, Bolívar Peak, at over 5,007 meters (16,427 feet), is located in this chain. The Cordillera de Mérida extends nearly to the Caribbean coast. The Cordillera de Venezuela runs eastward along the coast. This range, where altitudes average over 1,524 meters (5,000 feet) and individual peaks reach from 2,133 to 2,743 meters (7,000 to 9,000 feet), is flanked on the north by narrow coastal plains, except where the mountain slopes descend directly to the Caribbean. Part of the Cordillera de Venezuela terminates at Cape Codera on the Caribbean, but remnants of a parallel range continue eastward, ending near the Unare River.

## DID YOU KNOW?

The term "Latin America" is more of a cultural and political designation than a geographic description. It generally refers to the countries of the Western Hemisphere, south of the United States, where the native language is Spanish, Portuguese, or French. These three languages are Romance languages, which means that they were all derived from Latin, the language spoken by the ancient Romans.

Farther eastward the Cumana Highlands (also called the Eastern Highlands) rise in a broad block and extend to the east, terminating near the Gulf of Paria. At the core of the Cumana Highlands, some peaks reach 2,438 meters (8,000 feet), but most of the system is made up of relatively low, dissected uplands.

In the south, the Guiana Highlands contain many mountain ranges. The Sierra Parima and Pacaraima Mountains form the southeastern borders with Brazil, extending south and east, respectively, from a common point of origin. The Sierra Parima reach heights of 1,524 meters (5,000 feet) while Mount Roraina in the Pacaraima Mountains towers to 2,810 meters (9,218 feet). The Sierra Maigualida form an arc in the center of southern Venezuela.

### 11 CANYONS AND CAVES

Dramatic river canyons cut through the Canaima region of the Guiana Highlands. Devil's Canyon lies at the foot of Angel Falls in southeastern Venezuela. Kavac Canyon is

one of the world's narrowest, with a depth of 122 meters (400 feet) but a width of only 1.2 meters (4 feet). Hacha Canyon is also located in the Canaima region. The Cordillera de Mérida contains several river canyons, such as Santa Catalina Canyon near Mérida.

Oil Bird Cave (La Cueva del Guácharo), located near the town of Caripe, is the largest cavern in the country. The cave is named for the bird species that has inhabited the cave for several generations. The birds are considered to be one of the largest colonies of this unique species, a nocturnal, fruit-eating bird that can grow to a size of 33 centimeters (13 inches) with a wingspan of 91 centimeters (36 inches). Though native inhabitants had explored the entry to the cave in order to hunt the birds, Alexander von Humboldt conducted the first scientific exploration of the cave during his famous expedition to South America (1799-1804).

### 12 PLATEAUS AND MONOLITHS

In the northwest, the Cordillera de Mérida chain broadens northward to form the Segovia Highlands, which consists of heavily dissected plateaus decreasing in altitudes from 1,828 meters (6,000 feet) at their southern extremity to 183 meters (600 feet) in the north.

The Guiana Highlands, rising almost immediately south of the Orinoco River, are considered to be the oldest land areas of the country; erosion over the centuries has caused unusual formations. Comprising about 57 percent of the national territory, the 517,988-square-kilometer (200,000-square-mile) highlands consist principally of plateau areas scored by swiftly running tributaries of the Orinoco. The most conspicuous topographical feature of the region is the Gran Sabana, a deeply eroded high plateau some 36,260 square kilometers (14,000 square miles) high, that rises deep

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# VENEZUELA

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in the interior in abrupt cliffs reaching elevations up to 762 meters (2,500 feet). From its rolling surface emerge massive perpendicular, flat-topped bluffs, called *tepui*s. The loftiest tepui, Mount Roraima (at the intersection of Venezuela, Brazil, and Guyana), exceeds 2,743 meters (9,000 feet).

## 13 MAN-MADE FEATURES

The enormous Guri hydroelectric project on the Caroni River, the second-largest hydroelectric plant in the world, contains one of the world's largest dams. Completed in 1986, the damming of this river caused the flooding of large forest areas. This massive flooding resulted in environmental protests, including vigorous opposition to a plan to run power cables from the Guri project through the Cainama National Park to Brazil. A megadam project to generate electricity for export has been proposed for the Caura River in the central Guiana Highlands. This proposal

is also causing a great deal of controversy among environmentalists.

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# Vietnam

- **Official name:** Socialist Republic of Vietnam
- **Area:** 329,560 square kilometers (127,244 square miles)
- **Highest point on mainland:** Fan-si-pan (3,143 meters/10,312 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 7 P.M. = noon GMT
- **Longest distances:** 1,650 kilometers (1,025 miles) from north to south; 600 kilometers (373 miles) from east to west
- **Land boundaries:** 4,639 kilometers (2,883 miles) total boundary length; Cambodia 1,228 kilometers (763 miles); China 1,281 kilometers (796 miles); Laos 2,130 kilometers (1,324 miles)
- **Coastline:** 3,444 kilometers (2,140 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Vietnam is a long, narrow country at the eastern edge of the Indochina Peninsula in Southeast Asia. Its area of 329,560 square kilometers (127,244 square miles) is slightly greater than that of New Mexico.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Vietnam has no territories or dependencies.

## 3 🌐 CLIMATE

Most of the southern part of the country is warmer than the north. The average annual temperature in Ho Chi Minh City is 27°C (81°F), compared with 23°C (74°F) in Hanoi. Although the Central Highlands are situated in the south, they are cooler because of their higher elevation. The average annual temperature at Da Lat, in the highlands, is 21°C (70°F). Average annual rainfall ranges from 172 centimeters (68 inches) in Hanoi to more than 406 centimeters (160 inches) in the mountains.

Violent typhoons strike the central coastal region between July and November.

## 4 🌐 TOPOGRAPHIC REGIONS

Vietnam has four major topographic divisions: the Red River Delta in the north; the Mekong Delta in the south; the Annamese Cordillera, a mountain system that spans nearly the entire length of the country; and the central lowlands, a narrow coastal plain between the mountains and the sea in the middle of the country.

## 5 🌐 OCEANS AND SEAS

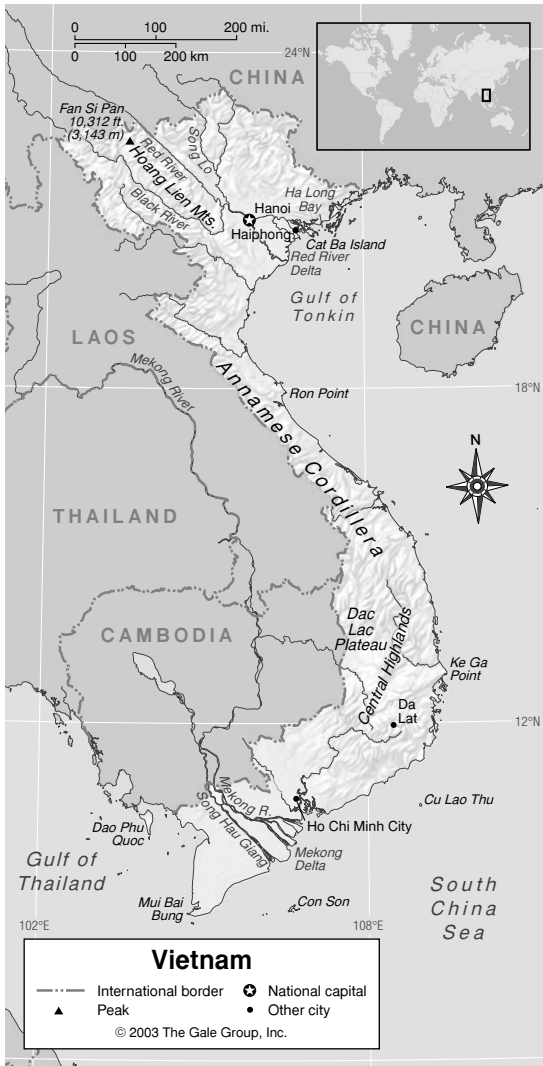
Vietnam is bordered on the northeast by the Gulf of Tonkin, on the southeast by the South China Sea, and on the southwest by the Gulf of Thailand.

## Seacoast and Undersea Features

Coral reefs surround Vietnam's coastline and those of its offshore islands—along more than 90 percent of the entire coastal length.



# VIETNAM



## Sea Inlets and Straits

The Gulf of Tonkin, which borders Vietnam on the northeast, and the Gulf of Thailand, to the southwest, are both inlets of the South China Sea.

## Islands and Archipelagos

Vietnam has a number of offshore islands in Ha Long Bay to the north, in the South China Sea to the east, and near the Mekong River Delta in the south. The largest of the

islands in the north is Cat Ba, with an area of 355 square kilometers (137 square miles).

## Coastal Features

Vietnam's S-shaped coastline is heavily indented at the mouth of the Mekong River in the south, with another major indentation at Haiphong Harbor on the Red River Delta in the north. There are moderate indentations at the mouths of other rivers along the coast. A narrow line of sand dunes fringes much of the shore along the northern half of the coastal plain.

## 6 INLAND LAKES

There are many small lakes scattered across Vietnam; however, most of the country's lakes and waterfalls are found in the Central Highlands. Ho Tay (West Lake), located in western Hanoi, is one of Vietnam's largest lakes, and one of the few in the northern part of the country.

## 7 RIVERS AND WATERFALLS

The Red River, located in the far north, has a total length of about 1,167 kilometers (725 miles). Its two major tributaries are the Song Lo and the Black River. The 4,506-kilometer-(2,800-mile-) long Mekong is one of the great rivers of the world. From its source in the high plateau of Tibet, it flows through China, Laos, and Cambodia, where it branches out at the capital, Phnom Penh, before reaching the Mekong Delta in southern Vietnam. The southern branch, the Song Hau Giang, flows directly to the sea; the larger northern branch splits into four parts about 80 kilometers (50 miles) before reaching the sea. In addition to Vietnam's two major rivers, a number of shorter rivers and streams rise in the Annamese Cordillera and flow to the sea.

## 8 DESERTS

There are no deserts in Vietnam.

# VIETNAM



EPD/Wilko Gijbsbertsen

*Bac Ha lies in northern Vietnam.*

## 9 🌐 FLAT AND ROLLING TERRAIN

The low, level plain of the Mekong Delta rises no higher than 3 meters (10 feet) above sea level at any point. The smaller Red River Delta in the north is a flat, triangular region. Vietnam's central lowlands consist of a narrow coastal strip along the eastern slopes of the Truong Son Mountains. The southern portion of the Central Highlands rises to elevations of over 914 meters (3,000 feet) in many places. The hill city of Da Lat is in the center of this area.

## 10 🌐 MOUNTAINS AND VOLCANOES

Mountains account for three-fourths of Vietnam's terrain. The Annamese Cordillera has two major branches. One projects southward

from Yunnan Province in China, extending along the country's entire border with Laos and separating the Red River Basin from that of the Mekong River. The northern portion of this branch, called the Hoang Lien Mountains, includes Vietnam's highest peak, Fan-si-pan (3,143 meters/10,312 feet). The southern part, called the Truong Son, extends along Vietnam's boundary with Laos and part of its boundary with Cambodia until it reaches the Mekong Delta. Its peaks range in height from about 1,524 meters (5,000 feet) to 2,597 meters (8,521 feet). The second major branch of Vietnam's mountains, sometimes referred to as the Northern Highlands, extends along the border with China, terminating in a series of islands northeast of Haiphong in the Gulf of Tonkin.

## 11 🌐 CANYONS AND CAVES

There are a number of caves in the limestone *karst* surrounding Lake Ba Be. The best known is the Puong Grotto.

## 12 🌐 PLATEAUS AND MONOLITHS

Within the wider, southern portion of the Truong Son Mountains is a plateau area known as the Central Highlands.

## 13 🌐 MAN-MADE FEATURES

Vietnam has a network of dikes to control river flooding, as well as an extensive system of intersecting channels and canals in the Mekong Delta. The nation's largest reservoir is at the Hoa Binh hydroelectric plant in the north. Between the 1940s and 1960s, Vietnamese rebels—fighting first against the French and later against the United States—built the Cu Chi Tunnels northwest of Ho Chi Minh City. These tunnels once extended for 250 kilometers (155 miles) all the way to the Cambodian border, and they constituted an underground city.

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# VIETNAM

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## 14 FURTHER READING

### Books

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Maitland, Derek. *Insider's Vietnam, Laos, and Cambodia Guide*. Edison, NJ: Hunter Publishing, 1995.

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## DID YOU KNOW?

At its narrowest point, Vietnam is only 50 kilometers (31 miles) wide.

### Web Sites

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*Vietnam National Administration of Tourism*. [http://www.vietnamtourism.com/e\\_pages/e\\_index.htm](http://www.vietnamtourism.com/e_pages/e_index.htm) (accessed April 14, 2003).

# Yemen

- **Official name:** Republic of Yemen
- **Area:** 527,970 square kilometers (203,850 square miles)
- **Highest point on mainland:** An-Nabī Shu‘ayb (3,760 meters/12,336 feet)
- **Lowest point on land:** Sea level
- **Hemispheres:** Northern and Eastern
- **Time zone:** 3 P.M. = noon GMT
- **Longest distances:** 540 kilometers (336 miles) from north to south; approximately 1,250 kilometers (777 miles) from southwest to northeast
- **Land boundaries:** 1,746 kilometers (1,085 miles) total boundary length; Oman 288 kilometers (179 miles); Saudi Arabia 1,458 kilometers (906 miles)
- **Coastline:** 1,906 kilometers (1,184 miles)
- **Territorial sea limits:** 22 kilometers (12 nautical miles)

## 1 🌐 LOCATION AND SIZE

Yemen is located in the Middle East on the southwestern part of the Arabian Peninsula, bordering Oman and Saudi Arabia. It has a western coastline on the Red Sea and a southern coast on the Arabian Sea. With a total area of about 527,970 square kilometers (203,850 square miles), the country is slightly larger than twice the size of the state of Wyoming. Yemen is administratively divided into seventeen governorates.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Yemen has no outside territories or dependencies.

## 3 🌐 CLIMATE

Yemen has a very hot, semitropical climate, with temperatures as high as 54°C (129°F). The average temperature varies over the two basic seasons, ranging from 22°C (72°F) in summer to 14°C (57°F) in winter. The Red Sea coast is particularly hot and humid. The interior mountain regions experience frost in winter. Sandstorms

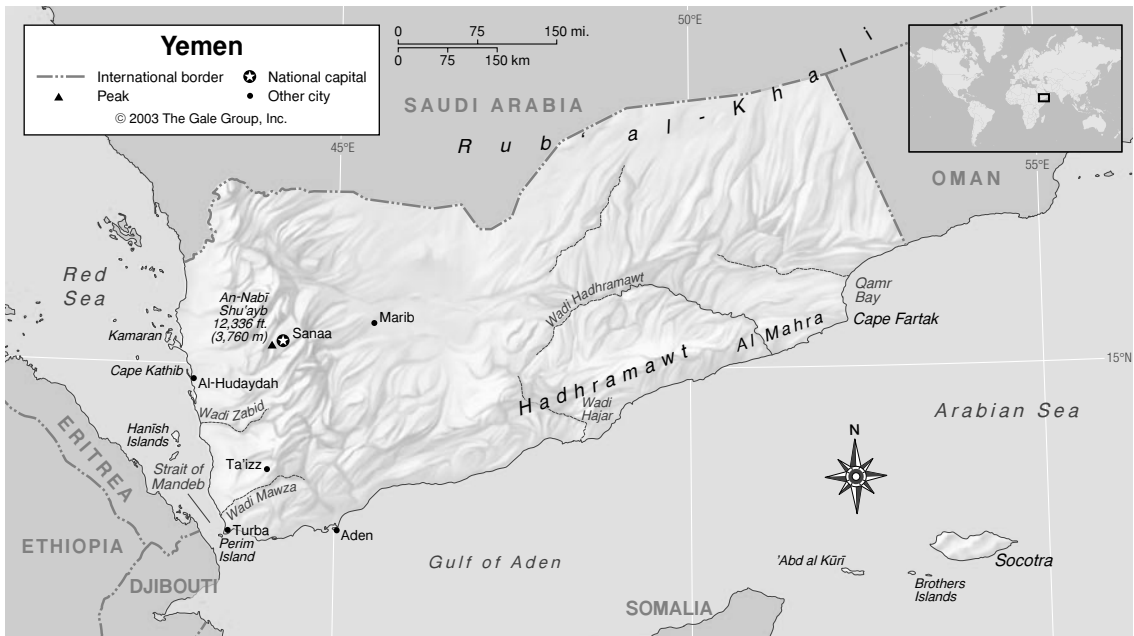
often appear in both summer and winter as winds sweep across Yemen.

Monsoon rains drench much of otherwise dry Yemen twice each year, from March through May and July through September. In the southwest corner of the country there is more consistent rain, with constant fog along the coast. Yemen’s average annual rainfall is 51 to 91 centimeters (20 to 36 inches), with great regional variation. Less than 12 centimeters (5 inches) of precipitation falls on the coastal lowlands, contrasting with 100 centimeters (39 inches) in the highlands above 3,000 meters (9,842 feet).

## 4 🌐 TOPOGRAPHIC REGIONS

Yemen has five principal geographic regions: the Tihama coastal plain; the mountainous interior; the high plateau, the Wadi Hadhramawt region, and the Al Mahra uplands; the Rub‘al-Khali interior desert; and the offshore islands.

# YEMEN



## 5 OCEANS AND SEAS

### Seacoast and Undersea Features

The Red Sea lies to the west of Yemen. The Red Sea is a narrow, landlocked sea that separates Africa from the Arabian Peninsula. It links to the Mediterranean Sea through the Gulf of Suez and the Suez Canal. In the south, the Red Sea links to the Gulf of Aden and the Arabian Sea through the Strait of Mandeb (Bab el Mandeb).

The Arabian Sea, which is an extension of the Indian Ocean, lies to the south of Yemen. The Gulf of Aden, to the southwest of Yemen, is an extension of the Arabian Sea. Some 5 percent of Yemen's coast has nearby coral reefs, with particularly diverse marine habitats in the Red Sea.

### Sea Inlets and Straits

One of the world's most important shipping lanes, the Strait of Mandeb, connects the Red Sea and the Gulf of Aden southwest of Yemen, and separates Yemen from the

African countries of Djibouti and Eritrea. The natural harbor of Aden lies on the Gulf of Aden. The coast curves inward at Cape Fartak, forming the Qamr Bay (Ghubbat al Qamar) near Yemen's border with Oman.

### Islands and Archipelagos

Yemen has more than 115 islands, including Perim in the Strait of Mandeb and the Hanish Islands and Kamaran further north. Yemen also possesses the 3,626-square-kilometer (1,400-square-mile) island of Socotra in the Arabian Sea. Socotra has numerous endemic species, with intact land and marine ecosystems. The Brothers, a chain of small islands near Socotra, also belong to Yemen.

### Coastal Features

Cape Kathib (Ras al Kathib) interrupts the north-south stretch of Yemen's Red Sea coast near the port of Al Hudaydah. The town of Turba marks the corner on the Strait of Mandeb where the Red Sea and Gulf of Aden

# YEMEN



EPD/Peter Langer

*Wadi Da'wan, one of many wadis, or dry river beds, in Yemen.*

coasts converge. Yemen's Gulf of Aden coast runs from southwest to northeast. Coastal plains follow on the Gulf of Aden, with sandy beaches including Cape Sharma and Dhobbah, which are nesting sites for endangered green turtles.

Jebel al Houf, on the coast far to the east, has Yemen's largest forest (200 square kilometers/77 square miles), in an area where mountains trap monsoon moisture to create a foggy, misty zone; it is protected by the local community.

## **6** **INLAND LAKES**

Yemen has no significant natural freshwater lakes. There are some small brackish lagoons along the coast, however, and several hot springs in the highlands.

Wastewater lagoons north of Ta'izz and northeast of Al-Hudaydah, and a treated-sewage outflow area west of the city of Aden, have become important bird habitats. Mudflats, sandbars, and mangroves form wetlands with individual ecosystems along the Red Sea coast.

## **7** **RIVERS AND WATERFALLS**

Yemen's highlands are interspersed with deep *wadis*, or riverbeds. The wadis are usually quite dry with little vegetation, but many of them will fill dramatically during times of heavy rains. Rainfall drains through seven major wadis that can flow west as far as the Red Sea. These are the Rima, Rasyan, Mawr, Surdud, Siham, Zabid, and Mawza. Wadis that drain south into the Gulf of Aden from the eastern regions include Hajar, Jahr, Warazan, and Yemen's longest, Wadi Hadhr-mawt, at 240 kilometers (149 miles).

# YEMEN

## 8 DESERTS

Inland from the mountains and north of the Wadi Hadhramawt valley, gravel deserts transition into the sand dune deserts of the Rub'al-Khali, or Empty Quarter, which extends across the border from Saudi Arabia. Even in this inhospitable region, oases are inhabited during the rainy season. Productive salt pans are found in the Rub'al-Khali.

On the Gulf of Aden coast is a coastal fog desert ecosystem, with vegetation that eventually gives way to the Tihama desert. The Tihama is a narrow, hot, humid, yet almost waterless strip that extends along the Red Sea coast and covers approximately 10 percent of the country.

## 9 FLAT AND ROLLING TERRAIN

Scrub grasslands, with sparse ground cover and shrubbery, are common throughout Yemen. This type of terrain, which covers about 30 percent of Yemen's area, is used for raising livestock. Over-grazing is an environmental threat.

Yemen's eastern mountains slope down into hills that merge with the sands of the Rub'al-Khali desert. Other hill areas include the Hadhramawt and Al Mahra uplands in the east. Throughout Yemen, the foothills of mountain ranges are terraced for farming.

The valleys of Wadi al-Malih and Wadi Warazan near the city of Ta'izz, as well as Wadi Zabid near the port of Al Hudaydah, contain marshes that are decreasing in area due to demands on the groundwater, agricultural conversion, and grazing.

The valley of Wadi Hadhramawt extends from the central part of the country southeastward to the Gulf of Aden. Surrounded by desolate hills and desert, the upper and

middle parts of the Hadhramawt, with their alluvial soil and seasonal floodwaters, are relatively fertile and are inhabited by a farming population. The lower eastern part of the valley, which turns southward to the sea, is barren and largely uninhabited.

## 10 MOUNTAINS AND VOLCANOES

Yemen's interior is quite mountainous, with several ranges running along a north-south axis parallel to the Red Sea and also along an east-west axis parallel to the Gulf of Aden. The mountains, which include extinct volcanoes, reach 2,438 meters (8,000 feet) in the extreme

### DID YOU KNOW?

The term "Middle East" was coined by western Europeans as a geographic designation for those countries of southwest Asia and northeast Africa that stretch from the Mediterranean Sea to the borders of Pakistan and Afghanistan, including the nations on the Arabian Peninsula. This area was considered to be the midpoint between Europe and East Asia, which was often called the Far East.

In a cultural sense, the term sometimes refers to all the countries of that general region that are primarily Islamic. In this sense, the Middle East also includes the countries of Afghanistan and Pakistan, as well as some of the North African countries that border the Arabian Peninsula.

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# YEMEN

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west, gradually tapering off to the east. Elevations in the interior mountains range from 2,133 to 3,048 meters (7,000 to 10,000 feet). Rocky spars and sharp, steep ridges dominate these systems; the rugged landscape limits access to the country's interior.

There are western, central, and eastern ranges. The western mountains, although steep, are terraced to support intensive agriculture. The central mountain range begins in the vicinity of the old city of Ta'izz and includes Arabia's highest peak, An-Nabī Shu'ayb, which rises to 3,760 meters (12,336 feet). Yemen's capital, Sanaa, is located in one of the largest basins of the central range, at an elevation of 2,400 meters (7,874 feet). The eastern highlands rise to heights of 762 to 1,067 meters (2,500 to 3,500 feet).

Efforts are being made to preserve the forests of the mountainous Utma region of the central highlands, which include medicinal and fragrant tree species.

## 11 🌐 CANYONS AND CAVES

Yemen's canyons include the Al Guedam canyon in the mountains north of Sanaa, Wadi Dahero canyon on Socotra Island, and the Bir Maqsur limestone crevasse, also on Socotra. Deeply eroded ravines cut by extinct or seasonally flowing rivers (the *wadis*) fissure much of Yemen's interior.

## 12 🌐 PLATEAUS AND MONOLITHS

Yemen's eastern region occupies the irregular southern end of the Arabian Plateau, which was formed from ancient granite and has been partially covered by sedimentary limestone and sand. The central highlands of Yemen are broken into plateaus ranging in height from 1,200 to 3,000 meters (4,000 to 10,000 feet). The Harra Plateau,

north of Sanaa, is a spectacular landscape of lava rock, sandstone striations, and extinct volcanic cones.

## 13 🌐 MAN-MADE FEATURES

The largest lake in Yemen is the artificial Marib Reservoir, which was created by a dam built in 1986. The 30-square-kilometer (12-square-mile) reservoir is shrinking in size as its water levels have been depleted; it also has been afflicted with algae blooms. Throughout history, Yemeni residents have built small dams and canals along the country's riverbeds in order to collect water for drinking and irrigation. Unfortunately, since few of the rivers are permanent, these dams have not always been helpful. In fact, flash floods have destroyed some of these dams—swept away by the waters they were meant to contain.

## 14 🌐 FURTHER READING

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Wald, Peter. *Yemen.* London: Pallas Athene, 1996.

### Web Sites

*The Food and Agriculture Organization (FAO) of the United Nations: Yemen.* [http://www.fao.org/ag/agl/swlwpnr/y\\_nr/z\\_je/ye.htm](http://www.fao.org/ag/agl/swlwpnr/y_nr/z_je/ye.htm) (accessed May 5, 2003).

*Yemen Gateway.* <http://www.al-bab.com/yemen/about.htm> (accessed May 5, 2003).



# Zambia

- **Official name:** Republic of Zambia
- **Area:** 752,614 square kilometers (290,586 square miles)
- **Highest point on mainland:** Unnamed location in Mafinga Hills (2,301 meters/7,549 feet)
- **Lowest point on land:** Zambezi River (329 meters/1,079 feet)
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 1,206 kilometers (749 miles) from east to west; 815 kilometers (506 miles) from north to south
- **Land boundaries:** 5,664 kilometers (3,519 miles) total boundary length; Angola 1,110 kilometers (690 miles); Democratic Republic of the Congo 1,930 kilometers (1,199 miles); Malawi 837 kilometers (520 miles); Mozambique 419 kilometers (260 miles); Namibia 233 kilometers (145 miles); Tanzania 338 kilometers (210 miles); Zimbabwe 797 kilometers (495 miles)
- **Coastline:** None
- **Territorial sea limits:** None

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## 1 🌐 LOCATION AND SIZE

Zambia, a country slightly larger than the state of Texas, is situated in the tropical south-central portion of Africa.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Zambia has no territories or dependencies.

## 3 🌐 CLIMATE

Because of its high altitude, most of the country enjoys a pleasantly temperate climate. Low-lying areas, such as the valleys of the Zambezi, Luangwa, and Kwafe Rivers and the shores of the country's lakes, have the highest temperatures in the country. The hottest months of the year are August through October, when daily temperatures often reach a high of 30°C to 32°C (86°F to 89°F). The months of May through July are only slightly cooler, with temperatures ranging from 17°C to 26°C (63°F to

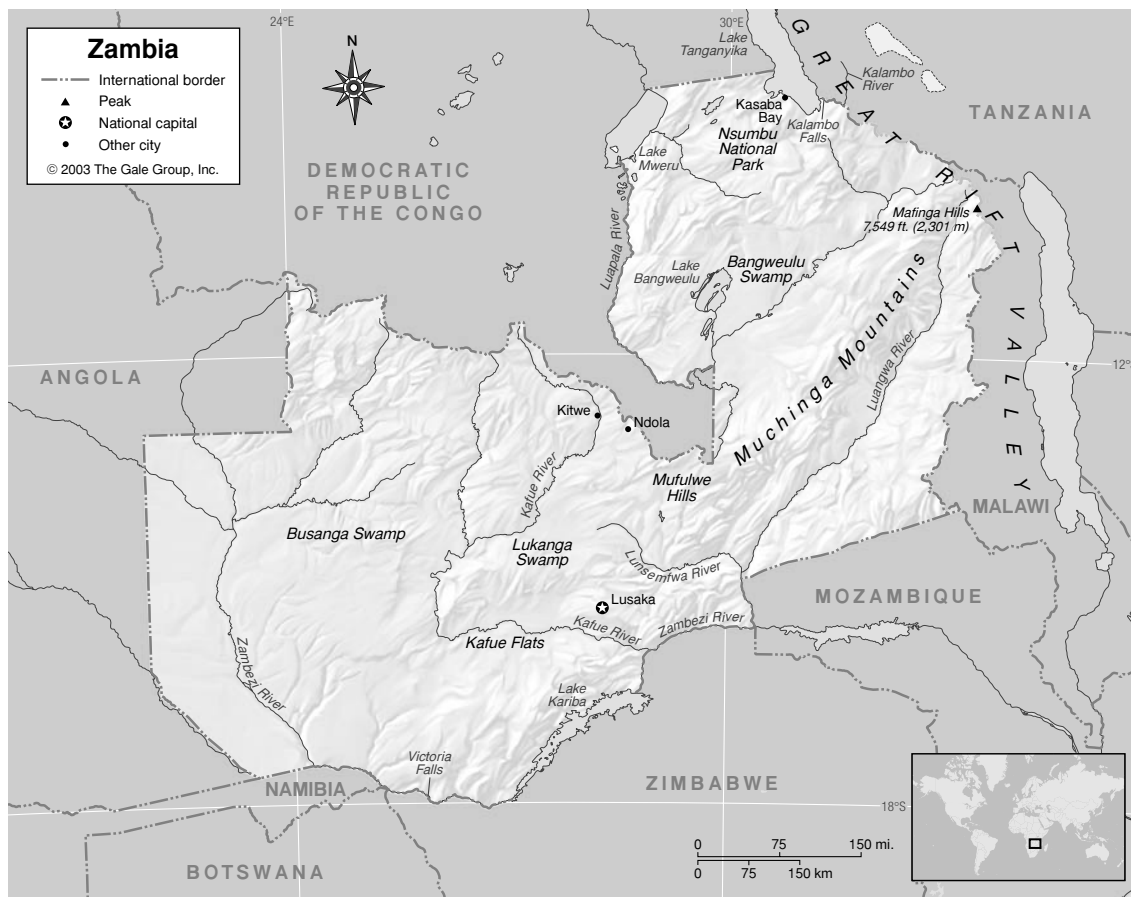
79°F). At night, however, temperatures may drop as low as 23°C (41°F).

The rainy season is long, beginning in the middle of November and lasting until April; heavy tropical storms occur often. Rainfall is generally highest in the northern provinces of Zambia, decreasing from north to south. Average annual rainfall is about 125 centimeters (50 inches) in the north and only 75 centimeters (30 inches) in the south. The capital city of Lusaka receives approximately 81 centimeters (32 inches) of rainfall each year.

## 4 🌐 TOPOGRAPHIC REGIONS

Highest elevations are found in the north-east region of the country, which is home to the Muchinga Mountains. The mountains and plateaus recede as the land is cut by the Luangwa River in the east and the Kafue River in the west, both of which are tribu-

# ZAMBIA



aries of the Zambezi, which flows to the south of the country through the wondrous Victoria Falls and the artificial Lake Kariba.

## 5 🌐 OCEANS AND SEAS

Zambia is landlocked, with no direct access to the ocean. Kasaba, Nkamba, and Ndole Bays indent the coast of Lake Tanganyika.

## 6 🌐 INLAND LAKES

Lakes Bangweulu, Mweru, and Tanganyika all are located in the northern reaches of the country, near its borders with Tanzania and the Democratic Republic of the Congo. Lake Tanganyika is the largest of these three, but only its southern end is situated within Zambia. Lake Mweru is a much smaller and

shallower freshwater basin located along the border with the Democratic Republic of the Congo. Lake Bangweulu is the smallest of the three northern lakes, but it is the largest found entirely within Zambia, with a surface area of 9,840 square kilometers (3,000 square miles). The Luapala River drains Lake Bangweulu; the lake, combined with several smaller bodies of water, forms the Bangweulu Swamp complex, which is the largest swamp area in the country.

## 7 🌐 RIVERS AND WATERFALLS

Most of Zambia's streams ultimately drain into the Indian Ocean via the Zambezi River and its main tributaries. In addition to those streams that enter the Zambezi directly,

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# ZAMBIA

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Corbis "Destination Africa" CD

*The Victoria Falls straddle the border between Zambia and Zimbabwe.*

there are three main tributary systems: the Kafue, Luangwa, and Lunsemfwa Rivers. With a total length of 2,735 kilometers (1,700 miles), the Zambezi River is the longest river in Zambia. The upper Zambezi, running roughly from north to south, passes through floodplains and swamps. After turning eastward, the Zambezi flows over Victoria Falls and through the middle Zambezi Valley. The flow of all watercourses in Zambia is affected by the clear demarcation between rainy and dry seasons.

The world-famous, majestic Victoria Falls, straddling the border between Zimbabwe and Zambia, cascade from a height of 106 meters (350 feet) at their maximum and span a width of nearly 1.5 kilometers (1 mile). Two other significant waterfalls are found in Zambia. Just 300 kilometers (185 miles) from Victoria Falls, Ngonye, or Sioma, Falls, features horseshoe-shaped drops that carry over 300 cubic meters (10,000 cubic feet) of water per second. East of the

Nsumbu National Park are the Kalambo Falls, which flow from the Kalambo River into Lake Tanganyika. These falls are the second-highest continuous waterfalls on the continent, plunging 221 meters (725 feet).

## **8** 🌐 **DESERTS**

There are no deserts in Zambia.

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

The significant areas of lower land are the two rift valleys, one in the east (the Luangwa River Valley) and one in the south (the middle Zambezi River Valley), both of which are bounded by escarpments.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

The highest points in Zambia are found in the northeast corner of the country, along the borders with Tanzania and Malawi. Most significant are the Mbala Highlands near Tanzania, the Mafingi Mountains and the Copperbelt Highlands near Malawi, and the Muchinga Mountains. The highest point in Zambia, an unnamed location at an elevation of 2,301 meters (7,549 feet), is located in the Mafinga Hills.

## **11** 🌐 **CANYONS AND CAVES**

Scenic gorges that are more than 300 meters (984 feet) deep mark the meeting point of the Lunsemfwa and Mkushi Rivers, and a gorge cut by the Kafue River is the site of one of the country's largest hydroelectric plants.

Zambia's rugged terrain also features numerous caves. Some of these contain prehistoric rock paintings, such as the Nachikufu Cave in the northern town of Mpika.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

Most of Zambia lies on the great plateau that dominates central and southern Africa's landmass. Although some parts of this plateau are

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# ZAMBIA

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undulating and some are relatively flat, most sections have elevations that range between 900 and 1,500 meters (2,952 and 4,921 feet). The higher areas in Zambia, namely those above 1,200 meters (3,937 feet), are situated mostly in the north.

## 13 MAN-MADE FEATURES

Lake Kariba, on Zambia's southern border, is one of the largest artificial lakes in the world. It is shared by Zambia and Zimbabwe. The North Bank power station at the Kariba Dam is one of three major hydroelectric plants in Zambia (the other two are located at Victoria Falls and at Kafue Gorge). The country also has six smaller hydroelectric stations.

## 14 FURTHER READING

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### Web Sites

*Lonely Planet: Destination Zambia*. <http://www.lonelyplanet.com/destinations/africa/zambia/> (accessed April 17, 2003).

*Zambia National Tourist Board*. <http://www.zambiatourism.com/> (accessed April 17, 2003).

# Zimbabwe

- **Official name:** Republic of Zimbabwe
- **Area:** 390,580 square kilometers (150,804 square miles )
- **Highest point on mainland:** Mount Inyangani (2,592 meters/8,504 feet)
- **Lowest point on land:** Junction of the Runde and Save Rivers (162 meters/531 feet)
- **Hemispheres:** Southern and Eastern
- **Time zone:** 2 P.M. = noon GMT
- **Longest distances:** 852 kilometers (529 miles ) from west-northwest to east-southeast; 1,223 kilometers (710 miles ) from north-northeast to south-southwest
- **Land boundaries:** 3,066 kilometers (1,905 miles ) total boundary length; Botswana 813 kilometers (505 miles ); Mozambique 1,231 kilometers (765 miles); South Africa 225 kilometers (140 miles ); Zambia 797 kilometers (495 miles)
- **Coastline:** None
- **Territorial sea limits:** None

## 1 🌐 LOCATION AND SIZE

Zimbabwe is a landlocked nation in southern Africa. At 390,580 square kilometers (150,804 square miles), it covers slightly more area than the state of Montana.

## 2 🌐 TERRITORIES AND DEPENDENCIES

Zimbabwe has no territories or dependencies.

## 3 🌐 CLIMATE

Temperatures in Zimbabwe are greatly affected by altitude and time of year. Average temperatures in the high altitudes are about 12°C (54°F) in the winter and about 24°C (75°F) in the summer. In the lower altitudes, temperatures are usually 6°C (11°F) higher than those measured in the higher altitude areas. The summer rainy season lasts from November to March. It is followed by a transitional season, during which both temperature and rainfall decrease. The cool dry season follows, usually lasting from mid-May to mid-August.

Finally, there is a warm, dry season, which lasts until the onset of the summer rains. Besides its effect on temperatures, altitude also affects the rainfall in Zimbabwe. The eastern mountainous regions receive more than 100 centimeters (40 inches) annually. By contrast, the capital city of Harare receives approximately 81 centimeters (32 inches) of rainfall per year. The southern and southwestern regions of the country receive even less rain.

## 4 🌐 TOPOGRAPHIC REGIONS

The country's high plateau, an area of grass and woodlands known as the *Highveld*, ranges in width between 80 to 160 kilometers (50 and 100 miles) and extends across the center of the country from northeast to southwest for 643 kilometers (400 miles). It slopes gently downward from the central upland region through a *Middleveld* region to considerably lower plains areas—the *Lowveld*—near the country's borders. The highest elevations are in the east near the border with Mozambique.

# ZIMBABWE



## 5 🌐 OCEANS AND SEAS

Zimbabwe is landlocked.

## 6 🌐 INLAND LAKES

Although Zimbabwe has no natural lakes, its many dams have created numerous artificial lakes. The largest of these reservoirs is Lake Kariba, situated on the Zambezi River at the border with Zambia.

## 7 🌐 RIVERS AND WATERFALLS

Three rivers, flowing east to the Indian Ocean via Mozambique, drain all of Zimbabwe except for a small southwestern region. Two of the major rivers originate outside Zimbabwe—the Zambezi, along the Angola

border, and the Limpopo, in South Africa. The headwaters of the Sabi, the third major river, are situated south of Harare on the eastern slopes of the Highveld.

The Zambezi River, which marks much of the northern border with Zambia, is the longest of all African rivers that flow to the Indian Ocean. Near the northwestern tip of Zimbabwe, the river drops over Victoria Falls, a cataract which is 106 meters (350 feet) high at its maximum and nearly 1.5 kilometers (1 mile) wide.

## 8 🌐 DESERTS

There are no deserts in Zimbabwe.

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# ZIMBABWE

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EPD/Cynthia Bassett

*Hippos on the Zambezi River in Zimbabwe.*

## **9** 🌐 **FLAT AND ROLLING TERRAIN**

Much of Zimbabwe's plateau surface is savannah, a rolling plain covered with a mixture of grasses and open woodlands. The central Highveld varies from relatively smooth to rough, almost mountainous, terrain. The Middleveld consists of medium-altitude wooded grasslands, and the Lowveld is made up of wide grassy plains.

## **10** 🌐 **MOUNTAINS AND VOLCANOES**

In north-central Zimbabwe, the broad expanse of Highveld breaks up into several groups of mountains. The eastern mountain complex is the highest in the country. Most peaks are between 1,828 and 2,368 meters (6,000 and 8,000 feet) in elevation; the loftiest, Mount Inyangani—at 2,592 meters (8,504 feet)—is the tallest mountain in Zimbabwe. Another group of mountains extends north from Harare as the Umvukwe

Range, which meets the Zambezi Escarpment in the far north.

Both the Highveld and Lowveld regions contain rocky hills and buttes known locally as kopjes (hills). The central high-altitude areas are marked by a massive extrusion of ancient lava, called the Great Dike Hills; this terrain extends from the northeast to the southwest for 482 kilometers (300 miles) and rises above the surrounding Highveld in a series of eroded ridges.

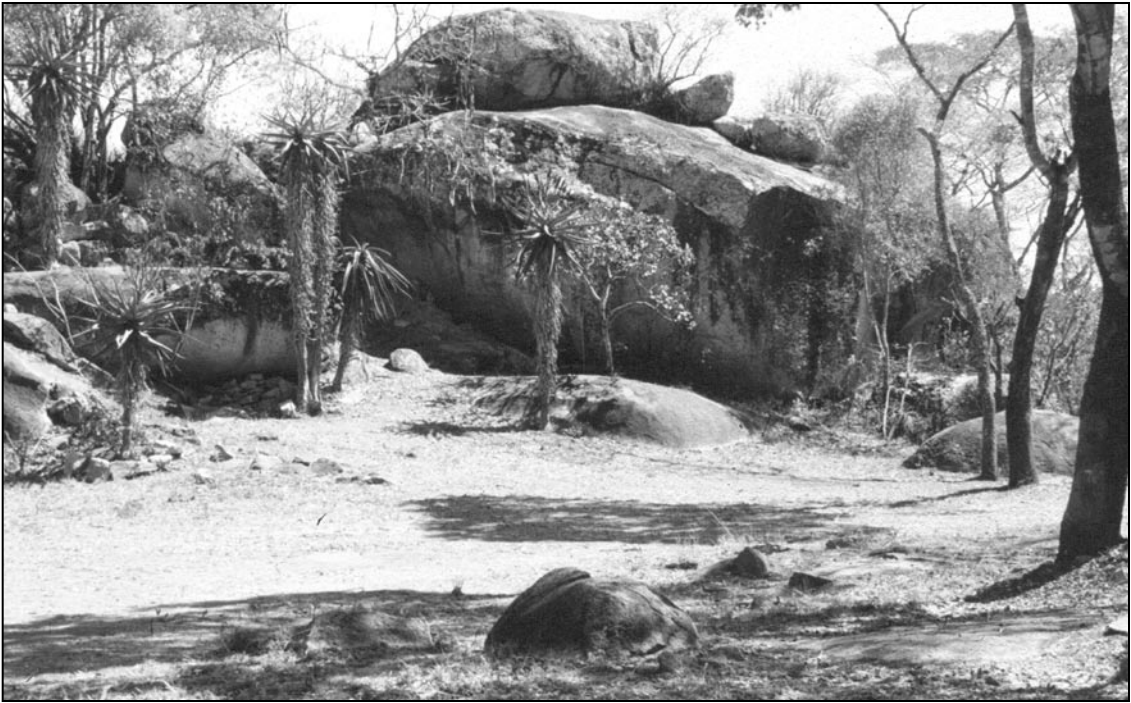
## **11** 🌐 **CANYONS AND CAVES**

Some of southern Africa's deepest caves are located in Chimanimani, including the deepest, the Mawenge Mwena Cave (305 meters/1,000 feet). Zimbabwe's most extensive karst terrain is located near the town of Chinhoyi, site of the celebrated Chinhoyi Caves, with their deep underground "Sleeping Pool" that draws

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# ZIMBABWE

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EPD/Cynthia Bassett

*Zimbabwe's landscape is rocky near the capital, Harare.*

many visitors. Near Victoria Falls, the Zambezi River narrows and flows through a series of steep gorges.

## **12** 🌐 **PLATEAUS AND MONOLITHS**

The plateaus of Zimbabwe are divided into three sections: the Highveld (high altitude), the Middleveld (medium altitude), and the Lowveld (low altitude). The Highveld stretches from the northeast to the southeast at elevations of 1,219 to 1,675 meters (4,000 to 5,500 feet), reaching Mount Inyangani in the far eastern part of the country. The Middleveld areas are located on both sides of the Highveld, and range from 600 to 1,200 meters (2,000 to 4,000 feet) in height. Below 600 meters (2,000 feet) are areas called the Lowveld. In the southeast the Lowveld, which in this region is generally considered to include

the land below 914 meters (3,000 feet), extends from the edge of the Middleveld to the southern and southeastern borders, covering nearly one-fifth of Zimbabwe's territory. In the northwest and the north the Lowveld is divided into three major sections, partially separated by escarpments and local ranges of hills. These sections slope directly to the Zambezi River or to the shoreline of Lake Kariba.

## **13** 🌐 **MAN-MADE FEATURES**

Lake Kariba, which Zimbabwe shares with neighboring Zambia, is among the world's largest artificial lakes. The Kariba Dam, the construction of which created the lake, is 128 meters (420 feet) high and 579 meters (1,900 feet) long, making it one of the largest dams in the world.



## 14 FURTHER READING

### Books

Fromentin, Eughne. *Between Sea and Sahara: An Algerian Journal*. Trans.by Blake Robinson. Athens: Ohio University Press, 1999.

McCrea, Barbara, and Tony Pinchuck. *Zimbabwe: The Rough Guide*. 3rd ed. London and New York: Rough Guides, 1997.

Ranger, Terence. *Voices from the Rocks: Nature, Culture & History in the Matopos Hills of Zimbabwe*. Bloomington: Indiana University Press, 1999.

## DID YOU KNOW?

The average flow rate over Victoria Falls is 1,090 cubic meters per second (38,000 cubic feet per second).

### Web Sites

*African Travel Gateway*. <http://www.africantravel.com/zimintr.html> (accessed April 17, 2003).

*Lonely Planet: Destination Zimbabwe*. <http://www.lonelyplanet.com/destinations/africa/zimbabwe/> (accessed April 17, 2003).

# APPENDIX A

## A CONTINENTS BY AREA, FROM LARGEST TO SMALLEST

RANK	CONTINENT	AREA (SQ MI)	AREA (SQ KM)
1	Asia	17,139,445	44,391,162
2	Africa	11,677,239	30,244,049
3	North America	9,361,791	24,247,039
4	South America	6,880,706	17,821,029
5	Antarctica	5,500,000	14,245,000
6	Europe	3,997,929	10,345,636
7	Australia	2,967,909	7,686,884

## B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
1	Russia	6,592,735	17,075,200	11.0
2	Antarctica	5,405,000	14,000,000	9.4
3	Canada	3,851,788	9,976,140	6.7
4	United States of America	3,717,792	9,629,091	6.4
5	China	3,705,386	9,596,960	6.4
6	Brazil	3,286,470	8,511,965	5.7
7	Australia	2,967,893	7,686,850	5.1
8	India	1,269,338	3,287,590	2.3
9	Argentina	1,072,157	2,776,890	1.9
10	Kazakhstan	1,049,150	2,717,300	1.8
11	Sudan	967,493	2,505,810	1.7
12	Algeria	919,590	2,381,740	1.6
13	Congo, Democratic Republic of the	905,563	2,345,410	1.6
15	Mexico	761,606	1,972,550	1.3
16	Saudi Arabia	756,984	1,960,582	1.3
17	Indonesia	741,096	1,919,440	1.3
18	Libya	679,358	1,759,540	1.2
19	Iran	636,293	1,648,000	1.1
20	Mongolia	604,247	1,565,000	1.0
21	Peru	496,223	1,285,220	0.9
22	Chad	495,755	1,284,000	0.9
23	Niger	489,189	1,267,000	0.8
24	Angola	481,350	1,246,700	0.8
25	Mali	478,764	1,240,000	0.8

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
26	South Africa	471,008	1,219,912	0.8
27	Colombia	439,733	1,138,910	0.8
28	Ethiopia	435,184	1,127,127	0.8
29	Bolivia	424,162	1,098,580	0.7
30	Mauritania	397,953	1,030,700	0.7
31	Egypt	386,660	1,001,450	0.7
32	Tanzania	364,879	945,037	0.6
33	Nigeria	356,667	923,768	0.6
34	Venezuela	352,143	912,050	0.6
35	Namibia	318,694	825,418	0.6
36	Pakistan	310,401	803,940	0.5
37	Mozambique	309,494	801,590	0.5
38	Turkey	301,382	780,580	0.5
39	Chile	292,258	756,950	0.5
40	Zambia	290,584	752,614	0.5
41	Myanmar	261,969	678,500	0.5
42	Afghanistan	250,000	647,500	0.4
43	Somalia	246,199	637,657	0.4
44	Central African Republic	240,534	622,984	0.4
45	Ukraine	233,089	603,700	0.4
46	Botswana	231,803	600,370	0.4
47	Madagascar	226,656	587,040	0.4
48	Kenya	224,961	582,650	0.4
49	France	211,208	547,030	0.4
50	Yemen	203,849	527,970	0.4
51	Thailand	198,455	514,000	0.3
52	Spain	194,896	504,782	0.3
53	Turkmenistan	188,455	488,100	0.3
54	Cameroon	183,567	475,440	0.3
55	Papua New Guinea	178,703	462,840	0.3
56	Sweden	173,731	449,964	0.3
57	Uzbekistan	172,741	447,400	0.3
58	Morocco	172,413	446,550	0.3
59	Iraq	168,753	437,072	0.3

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
60	Paraguay	157,046	406,750	0.3
61	Zimbabwe	150,803	390,580	0.3
62	Japan	145,882	377,835	0.3
63	Germany	137,846	357,021	0.2
64	Congo, Republic of	132,047	342,000	0.2
65	Finland	130,127	337,030	0.2
66	Malaysia	127,316	329,750	0.2
67	Vietnam	127,243	329,560	0.2
68	Norway	125,181	324,220	0.2
69	Côte d'Ivoire	124,502	322,460	0.2
70	Poland	120,728	312,685	0.2
71	Italy	116,305	301,230	0.2
72	Philippines	115,830	300,000	0.2
73	Ecuador	109,483	283,560	0.2
74	Burkina Faso	105,869	274,200	0.2
75	New Zealand	103,737	268,680	0.2
76	Gabon	103,347	267,667	0.2
77	Guinea	94,926	245,857	0.2
78	United Kingdom	94,525	244,820	0.2
79	Ghana	92,100	238,540	0.2
80	Romania	91,699	237,500	0.2
81	Laos	91,428	236,800	0.2
82	Uganda	91,135	236,040	0.2
83	Guyana	83,000	214,970	0.1
84	Oman	82,031	212,460	0.1
85	Belarus	80,154	207,600	0.1
86	Kyrgyzstan	76,640	198,500	0.1
87	Senegal	75,749	196,190	0.1
88	Syria	71,498	185,180	0.1
89	Cambodia	69,900	181,040	0.1
90	Uruguay	68,039	176,220	0.1
91	Tunisia	63,170	163,610	0.1
92	Suriname	63,039	163,270	0.1
93	Bangladesh	55,598	144,000	0.1

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
94	Tajikistan	55,251	143,100	0.1
95	Nepal	54,363	140,800	0.1
96	Greece	50,942	131,940	0.1
97	Nicaragua	49,998	129,494	0.1
98	Eritrea	46,842	121,320	0.1
99	Korea, North (Democratic People's Republic of)	46,540	120,540	0.1
100	Malawi	45,745	118,480	0.1
101	Benin	43,483	112,620	0.1
102	Honduras	43,278	112,090	0.1
103	Liberia	43,000	111,370	0.1
104	Bulgaria	42,822	110,910	0.1
105	Cuba	42,803	110,860	0.1
106	Guatemala	42,042	108,890	0.1
107	Iceland	39,769	103,000	0.1
108	Serbia and Montenegro	39,517	102,350	0.1
109	Korea, South (Republic of)	38,023	98,480	0.1
110	Hungary	35,919	93,030	0.1
111	Portugal	35,672	92,391	0.1
112	Jordan	35,637	92,300	0.1
114	Azerbaijan	33,436	86,600	0.1
115	Austria	32,378	83,858	0.1
116	United Arab Emirates	32,000	82,880	0.1
117	Czech Republic	30,450	78,866	0.1
118	Panama	30,193	78,200	0.1
119	Sierra Leone	27,699	71,740	0.05
120	Ireland	27,135	70,280	0.05
121	Georgia	26,911	69,700	0.05
122	Sri Lanka	25,332	65,610	0.04
123	Lithuania	25,174	65,200	0.04
124	Latvia	24,938	64,589	0.04
125	Togo	21,925	56,785	0.04
126	Croatia	21,831	56,542	0.04
127	Bosnia and Herzegovina	19,741	51,129	0.03

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
128	Costa Rica	19,730	51,100	0.03
129	Slovakia	18,859	48,845	0.03
130	Dominican Republic	18,815	48,730	0.03
131	Bhutan	18,147	47,000	0.03
132	Estonia	17,462	45,226	0.03
133	Denmark	16,638	43,094	0.03
134	Netherlands	16,033	41,526	0.03
135	Switzerland	15,942	41,290	0.03
136	Guinea-Bissau	13,946	36,120	0.02
137	Moldova	13,067	33,843	0.02
137	Taiwan	13,892	35,980	0.02
138	Belgium	11,780	30,510	0.02
139	Lesotho	11,720	30,355	0.02
140	Armenia	11,506	29,800	0.02
141	Albania	11,100	28,748	0.02
142	Solomon Islands	10,985	28,450	0.02
143	Equatorial Guinea	10,831	28,051	0.02
144	Burundi	10,745	27,830	0.02
145	Haiti	10,714	27,750	0.02
146	Rwanda	10,169	26,338	0.02
147	Macedonia	9,781	25,333	0.02
148	Belize	8,867	22,966	0.02
149	Djibouti	8,494	22,000	0.01
150	El Salvador	8,124	21,040	0.01
151	Israel	8,019	20,770	0.01
152	Slovenia	7,820	20,253	0.01
153	Fiji	7,054	18,270	0.01
154	Kuwait	6,880	17,820	0.01
155	Swaziland	6,704	17,363	0.01
156	East Timor	5,640	14,609	0.01
157	Bahamas	5,382	13,940	0.01
158	Vanuatu	4,710	12,200	0.01
159	Qatar	4,416	11,437	0.01
160	Gambia, The	4,363	11,300	0.01

## APPENDIX B

### B COUNTRIES OF THE WORLD BY LAND AREA, FROM LARGEST TO SMALLEST *(continued)*

RANK	COUNTRY	AREA (SQ MI)	AREA (SQ KM)	PERCENT OF WORLD LAND AREA
161	Jamaica	4,243	10,990	0.01
162	Lebanon	4,015	10,400	0.01
163	Cyprus	3,571	9,250	0.01
164	Brunei	2,228	5,770	0.004
164	Puerto Rico	3,515	9,104	0.01
165	Trinidad and Tobago	1,980	5,128	0.003
166	Cape Verde	1,557	4,033	0.003
167	Samoa	1,104	2,860	0.002
168	Luxembourg	998	2,586	0.002
169	Comoros	838	2,170	0.001
170	Mauritius	718	1,860	0.001
171	São Tomé and Príncipe	386	1,001	0.0007
172	Dominica	291	754	0.0005
173	Tonga	289	748	0.0005
174	Kiribati	277	717	0.0005
175	Micronesia	271	702	0.0005
176	Palau	177	458	0.0003
177	Bahrain	239	620	0.0004
178	Saint Lucia	239	620	0.0004
179	Andorra	181	468	0.0003
181	Singapore	250	647.5	0.0004
181	Seychelles	176	455	0.0003
182	Antigua and Barbuda	171	442	0.0003
183	Barbados	166	430	0.0003
184	Saint Vincent and the Grenadines	150	389	0.0003
185	Malta	122	316	0.0002
186	Maldives	115	300	0.0002
187	Saint Kitts and Nevis	101	261	0.0002
188	Marshall Islands	70	181.3	0.0001
189	Liechtenstein	62	160	0.0001
190	San Marino	24	61.2	--
191	Tuvalu	10	26	--
192	Nauru	8.1	21	--
193	Monaco	0.7	1.95	--
194	Vatican City	0.17	0.44	--

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
1	China	Asia	1,284,303,705
2	India	Asia	1,045,845,226
3	United States of America	North America	280,562,489
4	Indonesia	Asia	231,328,092
5	Brazil	South America	176,029,560
6	Pakistan	Asia	147,663,429
7	Russia	Europe	144,978,573
8	Bangladesh	Asia	133,376,684
9	Nigeria	Africa	129,934,911
10	Japan	Asia	126,974,628
11	Mexico	North America	103,400,165
12	Philippines	Asia	84,525,639
13	Germany	Europe	83,251,851
14	Vietnam	Asia	81,098,416
15	Egypt	Africa	70,712,345
16	Ethiopia	Africa	67,673,031
17	Turkey	Asia	67,308,928
18	Iran	Asia	66,622,704
19	Thailand	Asia	62,354,402
20	United Kingdom	Europe	59,778,002
21	France	Europe	59,765,983
22	Italy	Europe	57,715,625
23	Congo, Democratic Republic of the	Africa	55,225,478
24	Ukraine	Europe	48,396,470
25	Korea, South (Republic of)	Asia	48,324,000
26	South Africa	Africa	43,647,658
27	Myanmar	Asia	42,238,224
28	Colombia	South America	41,008,227
29	Spain	Europe	40,077,100
30	Poland	Europe	38,625,478
31	Argentina	South America	37,812,817
32	Tanzania	Africa	37,187,939
33	Sudan	Africa	37,090,298



## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION (continued)

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
34	Algeria	Africa	32,277,942
35	Canada	North America	31,902,268
36	Morocco	Africa	31,167,783
37	Kenya	Africa	31,138,735
38	Peru	South America	27,949,639
39	Afghanistan	Asia	27,755,775
40	Nepal	Asia	25,873,917
41	Uzbekistan	Asia	25,563,441
42	Uganda	Africa	24,699,073
43	Venezuela	South America	24,287,670
44	Iraq	Asia	24,001,816
45	Saudi Arabia	Asia	23,513,330
46	Malaysia	Asia	22,662,365
47	Taiwan	Asia	22,548,009
48	Romania	Europe	22,317,730
49	Korea, North (Democratic People's Republic of)	Asia	22,224,195
50	Ghana	Africa	20,244,154
51	Mozambique	Africa	19,607,519
52	Sri Lanka	Asia	19,576,783
53	Australia	Australia	19,546,792
54	Yemen	Asia	18,701,257
55	Syria	Asia	17,155,814
56	Côte d'Ivoire	Africa	16,804,784
57	Kazakhstan	Asia	16,741,519
58	Madagascar	Africa	16,473,477
59	Cameroon	Africa	16,184,748
60	Netherlands	Europe	16,067,754
61	Chile	South America	15,498,930
62	Ecuador	South America	13,447,494
63	Guatemala	North America	13,314,079
64	Cambodia	Asia	12,775,324
65	Burkina Faso	Africa	12,603,185

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
66	Zimbabwe	Africa	11,376,676
67	Mali	Africa	11,340,480
68	Cuba	North America	11,224,321
69	Malawi	Africa	10,701,824
70	Serbia and Montenegro	Europe	10,656,929
71	Greece	Europe	10,645,343
72	Niger	Africa	10,639,744
73	Angola	Africa	10,593,171
74	Senegal	Africa	10,589,571
75	Belarus	Europe	10,335,382
76	Belgium	Europe	10,274,595
77	Czech Republic	Europe	10,256,760
78	Portugal	Europe	10,084,245
79	Hungary	Europe	10,075,034
80	Zambia	Africa	9,959,037
81	Tunisia	Africa	9,815,644
82	Chad	Africa	8,997,237
83	Sweden	Europe	8,876,744
84	Dominican Republic	North America	8,721,594
85	Bolivia	South America	8,445,134
86	Austria	Europe	8,169,929
87	Azerbaijan	Asia	7,798,497
88	Guinea	Africa	7,775,065
89	Somalia	Africa	7,753,310
90	Bulgaria	Europe	7,621,337
91	Rwanda	Africa	7,398,074
92	Switzerland	Europe	7,301,994
93	Haiti	North America	7,063,722
94	Benin	Africa	6,787,625
95	Tajikistan	Asia	6,719,567
96	Honduras	North America	6,560,608
97	El Salvador	North America	6,353,681
98	Burundi	Africa	6,373,002

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
99	Israel	Asia	6,029,529
100	Paraguay	South America	5,884,491
101	Laos	Asia	5,777,180
102	Sierra Leone	Africa	5,614,743
103	Slovakia	Europe	5,422,366
104	Denmark	Europe	5,368,854
105	Libya	Africa	5,368,585
106	Jordan	Asia	5,307,470
107	Togo	Africa	5,285,501
108	Finland	Europe	5,183,545
109	Papua New Guinea	Asia	5,172,033
110	Nicaragua	North America	5,023,818
111	Georgia	Asia	4,960,951
112	Kyrgyzstan	Asia	4,822,166
113	Turkmenistan	Asia	4,688,963
114	Norway	Europe	4,525,116
115	Eritrea	Africa	4,465,651
116	Singapore	Asia	4,452,732
117	Moldova	Europe	4,434,547
118	Croatia	Europe	4,390,751
119	Bosnia and Herzegovina	Europe	3,964,388
120	Puerto Rico	North America	3,957,988
121	New Zealand	Asia	3,908,037
122	Ireland	Europe	3,883,159
123	Costa Rica	North America	3,834,934
124	Lebanon	Asia	3,677,780
125	Central African Republic	Africa	3,642,739
126	Lithuania	Europe	3,601,138
127	Albania	Europe	3,544,841
128	Uruguay	South America	3,386,575
129	Armenia	Europe	3,330,099
130	Liberia	Africa	3,288,198
131	Congo, Republic of the	Africa	2,958,448

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
132	Panama	North America	2,882,329
133	Mauritania	Africa	2,828,858
134	Mongolia	Asia	2,694,432
135	Jamaica	North America	2,680,029
136	Oman	Asia	2,713,462
137	United Arab Emirates	Asia	2,445,989
138	Latvia	Europe	2,366,515
139	Kuwait	Asia	2,111,561
140	Lesotho	Africa	2,207,954
141	Bhutan	Asia	2,094,176
142	Macedonia, The Former Yugoslav Republic of	Europe	2,054,800
143	Slovenia	Europe	1,932,917
144	Namibia	Africa	1,820,916
145	Botswana	Africa	1,591,232
146	Estonia	Europe	1,415,681
147	Gambia, The	Africa	1,455,842
148	Guinea-Bissau	Africa	1,345,479
149	Gabon	Africa	1,233,353
150	Mauritius	Africa	1,200,206
151	Trinidad and Tobago	South America	1,163,724
152	Swaziland	Africa	1,123,605
153	East Timor	Asia	952,618
154	Fiji	Asia	856,346
155	Qatar	Asia	793,341
156	Cyprus	Asia	767,314
157	Guyana	South America	698,209
158	Bahrain	Asia	656,397
159	Comoros	Africa	614,382
160	Equatorial Guinea	Africa	498,144
161	Solomon Islands	Asia	494,786
162	Djibouti	Africa	472,810
163	Luxembourg	Europe	448,569
164	Suriname	South America	436,494

## APPENDIX C

### C COUNTRIES OF THE WORLD, BY POPULATION *(continued)*

RANK	COUNTRY	CONTINENT	POPULATION (JULY 2002)
165	Cape Verde	Africa	408,760
166	Malta	Europe	397,499
167	Brunei Darussalam	Asia	350,898
168	Maldives	Asia	320,165
169	Bahamas, The	North America	300,529
170	Iceland	Europe	279,384
171	Barbados	North America	276,607
172	Belize	North America	262,999
173	Vanuatu	Asia	196,178
174	Samoa	Asia	178,631
175	São Tomé and Príncipe	Africa	170,372
176	Saint Lucia	North America	160,145
177	Micronesia, Federated States of	Asia	135,869
178	Saint Vincent and the Grenadines	North America	116,394
179	Tonga	Asia	106,137
180	Kiribati	Asia	96,335
181	Grenada	North America	89,211
182	Seychelles	Africa	80,098
183	Marshall Islands	Asia	73,630
184	Dominica	North America	70,158
185	Andorra	Europe	68,403
186	Antigua and Barbuda	North America	67,448
187	Saint Kitts and Nevis	North America	38,736
188	Liechtenstein	Europe	32,842
189	Monaco	Europe	31,987
190	San Marino	Europe	27,730
191	Palau	Asia	19,409
192	Nauru	Asia	12,329
193	Tuvalu	Asia	11,146
194	Holy See	Europe	900
195	Antarctica	Antarctica	No permanent population

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA

All measurements are approximate and are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
1	Pacific Ocean	60,060,000	155,557,000
2	Atlantic Ocean	29,638,000	76,762,000
3	Indian Ocean	26,469,000	68,556,000
4	Southern Ocean	7,848,000	20,327,000
5	Arctic Ocean	5,427,000	14,056,000
6	Coral Sea	1,850,000	4,791,000
7	Arabian Sea	1,492,000	3,864,000
8	South China Sea (Nan Hai)	1,423,000	3,685,000
9	Weddell Sea	1,080,000	2,796,000
10	Caribbean Sea	1,063,000	2,753,000
11	Mediterranean Sea	971,000	2,515,000
12	Tasman Sea	900,000	2,331,000
13	Bering Sea	890,000	2,305,000
14	Bay of Bengal	839,000	2,173,000
15	Sea of Okhotsk	614,000	1,590,000
16	Gulf of Mexico	596,000	1,544,000
17	Gulf of Guinea	592,000	1,533,000
18	Barents Sea	542,000	1,405,000
19	Norwegian Sea	534,000	1,383,000
20	Gulf of Alaska	512,000	1,327,000
21	Hudson Bay	476,000	1,233,000
22	Greenland Sea	465,000	1,205,000
23	Bellinghausen Sea	430,000	1,110,000
24	Amundsen Sea	400,000	1,036,000
25	Arafura Sea	400,000	1,036,000
26	Philippine Sea	400,000	1,036,000
27	Sea of Japan	378,000	979,000
28	Mozambique Channel	376,000	975,000
29	Ross Sea	370,000	958,000
30	East Siberian Sea	361,000	936,000
31	Scotia Sea	347,000	900,000

## APPENDIX D

### D OCEANS AND SEAS OF THE WORLD, BY AREA *(continued)*

All measurements are rounded to the nearest thousand.

RANK	NAME	AREA (SQ MI)	AREA (SQ KM)
32	Kara Sea	341,000	883,000
33	Labrador Sea	309,000	800,000
34	East China Sea (Dong Hai / Tung Hai)	290,000	752,000
35	Solomon Sea	278,000	720,000
36	Laptev Sea	270,000	700,000
37	Baffin Bay	268,000	695,000
38	Banda Sea	268,000	695,000
39	Drake Passage	240,000	620,000
40	Timor Sea	237,000	615,000
41	Andaman Sea	232,000	601,000
42	North Sea	232,000	601,000
43	Davis Strait	230,000	596,000
44	Chukchi Sea	225,000	582,000
45	Great Australian Bight	187,000	484,000
46	Beaufort Sea	184,000	476,000
47	Celebes Sea	182,000	472,000
48	Black Sea	178,000	461,000
49	Red Sea	175,000	453,000
50	Java Sea	167,000	433,000
51	Sulu Sea	162,000	420,000
52	Yellow Sea (Huang Hai)	161,000	417,000
53	Baltic Sea	147,000	382,000
54	Gulf of Carpentaria	120,000	310,000
55	Molucca Sea	119,000	307,000
56	Persian Gulf	93,000	241,000
57	Gulf of Thailand	92,000	239,000
58	Gulf of St. Lawrence	92,000	239,000
59	Bismarck Sea	87,000	225,000
60	Gulf of Aden	85,000	220,000
61	Makassar Strait	75,000	194,000
62	Ceram Sea	72,000	187,000

# APPENDIX E

## E OCEAN DEPTH

All measurements are approximate.

RANK	NAME	OCEAN	DEPTH (FT)	DEPTH (M)
1	Mariana Trench	Pacific	38,635	11,784
2	Philippine Trench	Pacific	37,720	11,505
3	Tonga Trench	Pacific	37,166	11,336
4	Izu Trench	Pacific	36,850	11,239
5	Kermadec Trench	Pacific	34,728	10,592
6	Kuril Trench	Pacific	34,678	10,577
7	New Britain Trench	Pacific	31,657	9,655
8	Puerto Rico Trench	Atlantic	31,037	9,466
9	Bonin Trench	Pacific	29,816	9,094
10	Japan Trench	Pacific	29,157	8,893
11	South Sandwich Trench	Atlantic	28,406	8,664
12	Palau Trench	Pacific	27,972	8,531
13	Peru-Chile Trench	Pacific	27,687	8,445
14	Yap Trench	Pacific	27,552	8,403
15	Aleutian Trench	Pacific	26,775	8,166
16	Roanhe Gap	Atlantic	26,542	8,095
17	Cayman Trench	Atlantic	26,519	8,088
18	New Hebrides Trench	Pacific	25,971	7,921
19	Ryukyu Trench	Pacific	25,597	7,807
20	Java Trench	Indian	24,744	7,547
21	Diamantina Trench	Indian	24,249	7,396
22	Mid America Trench	Pacific	22,297	6,801
23	Brazil Basin	Atlantic	22,274	6,794
24	Ob Trench	Indian	21,785	6,644
25	Vema Trench	Indian	19,482	5,942
26	Agulhas Basin	Indian	19,380	5,911
27	Ionian Basin	Mediterranean Sea	17,306	5,278
28	Eurasia Basin	Arctic	16,122	4,917



## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
1	Greenland	North America	Atlantic Ocean	840,000	2,175,600
2	New Guinea	Oceania	Pacific Ocean	305,000	790,000
3	Borneo	Asia	South China Sea	285,000	737,000
4	Madagascar	Africa	Indian Ocean	226,657	587,040
5	Baffin	North America	Baffin Bay	196,000	507,000
6	Sumatra	Asia	Andaman Sea	164,000	425,000
7	Honshu	Asia	Pacific Ocean	88,000	228,000
8	Great Britain	Europe	North Sea	84,400	219,000
9	Victoria	North America	Viscount Melville Sound	83,900	217,000
10	Ellesmere	North America	Arctic Ocean	75,800	196,000
11	Sulawesi (Celebes)	Asia	Celebes Sea	67,400	174,000
12	South Island (New Zealand)	Oceania	Pacific Ocean	58,200	151,000
13	Java	Asia	Indian Ocean	50,000	129,000
14	North Island (New Zealand)	Oceania	Pacific Ocean	44,200	114,000
15	Newfoundland	North America	Atlantic Ocean	42,000	109,000
16	Cuba	North America	Caribbean Sea	40,500	105,000
17	Luzon	Asia	Pacific Ocean	40,400	105,000
18	Iceland	Europe	Atlantic Ocean	39,769	103,000
19	Mindanao	Asia	Pacific Ocean	36,500	94,600
20	Ireland	Europe	Atlantic Ocean	32,500	84,100
21	Hokkaido	Asia	Pacific Ocean	30,100	78,000
22	Sakhalin	Asia	Sea of Okhotsk	29,500	76,400
23	Hispaniola	North America	Atlantic Ocean	29,200	75,600
24	Banks	North America	Arctic Ocean	27,000	70,000
25	Sri Lanka	Asia	Indian Ocean	25,332	65,610
26	Tasmania	Australia	Indian Ocean	24,900	64,400
27	Devon	North America	Baffin Bay	21,300	55,200
28	Novaya Zemlya	Europe	North Kara Sea	18,900	48,900
29	Grande de Tierra del Fuego	South America	Atlantic Ocean	18,700	48,400
30	Marajo	South America	Atlantic Ocean	18,500	48,000
31	Alexander	Antarctica	Bellingshausen Sea	16,700	43,200
32	Axel Heiberg	North America	Arctic Ocean	16,700	43,200
33	Melville	North America	Viscount Melville Sound	16,300	42,100

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
34	Southampton	North America	Hudson Bay	15,900	41,200
35	West Spitsbergen	Europe	Arctic Ocean	15,300	39,500
36	New Britain	Oceania	Bismarck Sea	14,600	37,800
37	Taiwan	Asia	Pacific Ocean	13,892	35,980
38	Kyushu	Asia	Pacific Ocean	13,800	35,700
39	Hainan	Asia	South China Sea	13,100	34,000
40	Prince of Wales	North America	Viscount Melville Sound	12,900	33,300
41	Novaya Zemlya	Europe	Barents Sea	12,800	33,300
42	Vancouver	North America	Pacific Ocean	12,100	31,300
43	Timor	Asia	Timor Sea	10,200	26,300
44	Sicily	Europe	Mediterranean	9,810	25,400
45	Somerset	North America	Lancaster Sound	9,570	24,800
46	Sardinia	Europe	Mediterranean	9,190	23,800
47	Bananal	South America	Araguaia River	7,720	20,000
48	Halmahera	Asia	Molucca Sea	6,950	18,000
49	Shikoku	Asia	Pacific Ocean	6,860	17,800
50	Ceram	Asia	Banda Sea	6,620	17,200
51	New Caledonia	Oceania	Coral Sea	6,470	16,700
52	Bathurst	North America	Viscount Melville Sound	6,190	16,000
53	Prince Patrick	North America	Arctic Ocean	6,120	15,800
54	North East Land	Europe	Barents Sea	5,790	15,000
55	Flores	Asia	Flores Sea	5,520	14,300
56	Oktyabrskoy Revolyutsii	Asia	Arctic Ocean	5,470	14,170
57	Sumbawa	Asia	Indian Ocean	5,160	13,400
58	King William	North America	Queen Maud Gulf	5,060	13,100
59	Samar	Asia	Pacific Ocean	5,050	13,100
60	Negros	Asia	Sulu Sea	4,900	12,700
61	Palawan	Asia	South China Sea	4,550	11,800
62	Kotelnyy	Asia	Arctic Ocean	4,500	11,700
63	Panay	Asia	Sulu Sea	4,450	11,500
64	Bangka	Asia	Java Sea	4,370	11,320
65	Ellef Ringnes	North America	Arctic Ocean	4,360	11,300
66	Bolshevik	Asia	Arctic Ocean	4,350	11,270
67	Sumba	Asia	Indian Ocean	4,310	11,200

## APPENDIX F

### F MAJOR ISLANDS OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	ISLAND	CONTINENT	BODY OF WATER	AREA (SQ MI)	AREA (SQ KM)
68	Bylot	North America	Baffin Bay	4,270	11,100
69	Jamaica	North America	Caribbean Sea	4,243	10,990
70	Dolak	Asia	Arafura Sea	4,160	10,800
71	Hawaii	Oceania	Pacific Ocean	4,040	10,500
72	Viti Levu	Oceania	Pacific Ocean	4,010	10,400
73	Cape Breton	North America	Atlantic Ocean	3,980	10,300
74	Bougainville	Oceania	Pacific Ocean	3,880	10,000
75	Mindoro	Asia	South China Sea	3,760	9,730
76	Prince Charles	North America	Foxe Basin	3,680	9,520
77	Kodiak	North America	Pacific Ocean	3,670	9,510
78	Cyprus	Asia	Mediterranean	3,571	9,250
79	Komsomolets	Asia	Arctic Ocean	3,480	9,010
80	Buru	Asia	Banda Sea	3,470	9,000
81	Corsica	Europe	Mediterranean	3,370	8,720
82	Puerto Rico	North America	Atlantic Ocean	3,350	8,680
83	New Ireland	Oceania	Pacific Ocean	3,340	8,650
84	Disco	North America	Davis Strait	3,310	8,580
85	Chiloe	South America	Pacific Ocean	3,240	8,390
86	Crete	Europe	Mediterranean	3,190	8,260
87	Anticosti	North America	Gulf of St. Lawrence	3,070	7,940
88	Wrangel	Asia	Chukchi Sea	2,820	7,300
89	Leyte	Asia	Visayan Sea	2,780	7,210
90	Zealand	Europe	Baltic Sea	2,710	7,020
91	Cornwallis	North America	Barrow Strait	2,700	7,000
92	Wellington	South America	Trinidad Gulf	2,610	6,750
93	Iturup (Etorofu)	Asia	Pacific Ocean	2,600	6,720
94	Prince of Wales	North America	Pacific Ocean	2,590	6,700
95	Graham	North America	Pacific Ocean	2,460	6,360
96	East Falkland	South America	Atlantic Ocean	2,440	6,310
97	Melville	Asia	Timor Sea	2,400	6,220
98	Novaya Sibir	Asia	East Siberian Sea	2,390	6,200
99	Kerguelen	Antarctica	Indian Ocean	2,320	6,000
100	Andros	North America	Grand Bahama Bank	2,300	5,960

## APPENDIX G

### G DESERTS OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (SQ MI)	AREA (SQ KM)
1	Sahara	Africa	Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Sudan, and Tunisia	3,475,000	9,000,000
2	Arabian*	Asia	Saudi Arabia, Kuwait, Qatar, the United Arab Emirates, Oman, Yemen, Jordan, Syria, Iraq	900,000	2,330,000
3	Gobi	Asia	China, Mongolia	500,000	1,300,000
4	Kalahari	Africa	Botswana, Namibia, South Africa	360,000	930,000
5	Great Victoria	Australia	Australia	134,652	348,750
6	Taklimakan (Takla Makan)	Asia	China	125,000	320,000
7	Sonoran	North America	United States of America, Mexico	120,000	310,000
8	Kara-Kum	Asia	Kazakhstan, Turkmenistan	115,830	300,000
9	Kyzyl Kum	Asia	Kazakhstan, Uzbekistan	115,000	297,850
10	Namib	Africa	Namibia, South Africa	110,000	285,000
11	Great Sandy	Australia	Australia	103,185	267,250
12	Somali	Africa	Somalia	100,000	260,000
13	Thar	Asia	India, Pakistan	90,000	233,000
14	Tanami	Australia	Australia	71,235	184,500
15	Atacama	South America	Chile, Peru	70,000	180,000
16	Simpson	Australia	Australia	68,150	176,500
17	Gibson	Australia	Australia	60,230	156,000
18	Little Sandy	Australia	Australia	43,050	111,500

\* Two deserts are commonly referred to by this name. This entry refers to the deserts of the Arabian Peninsula and not the Arabian Desert of Egypt, which is part of the Sahara.

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT

All measurements are approximate.  
Note that many mountains have multiple peaks, which will appear separately in the table.

#### AFRICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Kibo (Mt. Kilimanjaro)	Tanzania	19,341	5,895
2	Mawensi (Mt. Kilimanjaro)	Tanzania	17,100	5,210
3	Batian (Mt. Kenya)	Kenya	17,058	5,203
4	Nelion (Mt. Kenya)	Kenya	17,020	5,190
5	Margherita Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,756	5,110
6	Alexandra Peak (Mt. Stanley)	Dem. Rep. of the Congo, Uganda	16,700	5,094
7	Albert Peak (Mt. Stanley)	Dem. Rep. of the Congo	16,690	5,090
8	Savoia Peak (Mt. Stanley)	Uganda	16,330	4,981
9	Elena Peak (Mt. Stanley)	Uganda	16,300	4,972
10	Elizabeth Peak (Mt. Stanley)	Uganda	16,170	4,932
11	Phillip Peak (Mt. Stanley)	Uganda	16,140	4,923
12	Moebius Peak (Mt. Stanley)	Uganda	16,130	4,920
13	Vittorio Emanuele (Mt. Speke)	Uganda	16,040	4,892
14	Ensonga (Mt. Speke)	Uganda	15,960	4,868
15	Johnston (Mt. Speke)	Uganda	15,860	4,834
16	Edward (Mt. Baker)	Uganda	15,890	4,846
17	Umberto (Mt. Emin)	Dem. Rep. of the Congo	15,740	4,798
18	Semper (Mt. Baker)	Uganda	15,730	4,795
19	Kraepelin (Mt. Emin)	Dem. Rep. of the Congo	15,720	4,791
20	Iolanda (Mt. Gessi)	Dem. Rep. of the Congo	15,470	4,751
21	Bottego (Mt. Gesi)	Dem. Rep. of the Congo	15,418	4,699
22	Sella (Mt. Luigi)	Dem. Rep. of the Congo	15,178	4,626
23	Ras Deshen	Ethiopia	15,157	4,620
24	Weismann (Mt. Luigi)	Dem. Rep. of the Congo	15,157	4,620
25	Okusoma (Mt. Luigi)	Dem. Rep. of the Congo	15,020	4,578

#### ANTARCTICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Vinson	Antarctica	16,860	5,142
2	Tyree	Antarctica	16,290	4,968
3	Shinn	Antarctica	15,750	4,800
4	Gardner	Antarctica	15,370	4,690
5	Epperly	Antarctica	15,100	4,600

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Everest (Zhumulangma Feng)	Nepal, China	29,030	8,850
2	K2	China, Pakistan	28,251	8,611
3	Kanchenjunga	India, Nepal	28,169	8,586
4	Lhotse	China, Nepal	27,890	8,500
5	Makalu	China, Nepal	27,824	8,481
6	Kanchenjunga, south peak	India, Nepal	27,800	8,479
7	Kanchenjunga, west peak	India, Nepal	27,620	8,424
8	Lhotse Shar	China, Nepal	27,500	8,388
9	Dhaulagiri	Nepal	26,813	8,172
10	Man slu	Nepal	26,775	8,155
11	Cho Oyu	China, Nepal	26,750	8,150
12	Nanga Parbat I	Pakistan	26,660	8,130
13	Masherbrum I	Pakistan	26,610	7,810
14	Annapurna I	Nepal	26,500	8,080
15	Gasherbrum I	Pakistan	26,470	8,070
16	Broad, highest peak	Pakistan	26,400	8,050
17	Gasherbrum II	Pakistan	26,360	8,030
18	Gosainthan	China	26,290	8,010
19	Broad, middle peak	Pakistan	26,250	8,000
20	Gasherbrum III	Pakistan	26,090	7,950
21	Annapurna II	Nepal	26,040	7,940
22	Gasherbrum IV	Pakistan	26,000	7,930
23	Gyachung Kang	China, Nepal	25,990	7,927
24	Nanga Parbat II	Pakistan	25,950	7,910
25	Kangbachen	India, Nepal	25,930	7,909
26	Man slu, east pinnacle	Nepal	25,900	7,900
27	Distaghil Sar	Pakistan	25,870	7,890
28	Nuptse	Nepal	25,850	7,880
29	Himachuh	Nepal	25,800	7,860
30	Khiangyang Kish	Pakistan	25,760	7,850

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### ASIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
31	Ngojumba Ri	China, Nepal	25,720	7,847
32	Dakura	Nepal	25,710	7,842
33	Masherbrum II	Pakistan	25,660	7,826
34	Nanda Devi, west peak	India	25,650	7,823
35	Nanga Parbat III	Pakistan	25,650	7,823
36	Rakaposhi	Pakistan	25,550	7,793
37	Batura Mustagh I	Pakistan	25,540	7,790
38	GasherbrumV	Pakistan	25,500	7,770
39	Kamet	China, India	25,440	7,760

#### EUROPE

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	El'brus (Elborus), west peak	Russia	18,481	5,633
2	El'brus (Elborus), east peak	Russia	18,360	5,590
3	Shkhara	Georgia, Russia	17,064	5,205
4	Dykh, west peak	Russia	17,050	5,200
5	Dykh, east peak	Russia	16,900	5,150
6	Koshtan	Russia	16,880	5,148
7	Pushkina	Russia	16,730	5,100
8	Kazbek, east peak	Georgia	16,526	5,040
9	Dzhangi	Georgia	16,520	5,039
10	Katyn	Georgia, Russia	16,310	4,975
11	Shota Rustaveli	Georgia, Russia	16,270	4,962
12	Mizhirgi, west peak	Russia	16,170	4,932
13	Mizhirgi, east peak	Russia	16,140	4,923
14	Kundyum-Mizhirgi	Russia	16,010	4,880
15	Gestola	Georgia, Russia	15,930	4,860
16	Tetnuld	Georgia, Russia	15,920	4,850
17	Mont Blanc, main peak	France, Italy	15,772	4,810
18	Dzhimariy	Georgia	15,680	4,780
19	Adish	Georgia, Russia	15,570	4,749
20	Courmayer (Mont Blanc)	France, Italy	15,577	4,748
21	Ushba	Georgia	15,450	4,710

## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### NORTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	McKinley (Denali), south peak	U.S.A.	20,323	6,194
2	Logan, central peak	Canada	19,550	5,959
3	Logan, west peak	Canada	19,470	5,930
4	McKinley (Denali), north peak	U.S.A.	19,470	5,930
5	Logan, east peak	Canada	19,420	5,920
6	Pico de Orizaba	Mexico	18,701	5,700
7	Logan, north peak	Canada	18,270	5,570
8	Saint Elias	U.S.A., Canada	18,010	5,490
9	Popocatepetl	Mexico	17,887	5,452
10	Foraker	U.S.A.	17,400	5,300
11	Ixtacihuatl	Mexico	17,342	5,286
12	Queen	Canada	17,300	5,270
13	Lucania	Canada	17,150	5,230
14	King	Canada	16,970	5,170
15	Steele	Canada	16,640	5,070
16	Bona	U.S.A.	16,500	5,033
17	Blackburn, highest peak	U.S.A.	16,390	5,000
18	Blackburn, southeast peak	U.S.A.	16,290	4,968
19	Sanford	U.S.A.	16,240	4,950
20	Wood	Canada	15,880	4,840

#### OCEANIA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Puncak Jaya	Indonesia	16,503	5,033
2	Daam	Indonesia	16,150	4,926
3	Pilimsit	Indonesia	15,750	4,800
4	Trikora	Indonesia	15,580	4,752
5	Mandala	Indonesia	15,420	4,700



## APPENDIX H

### H HIGHEST MOUNTAIN PEAKS, BY CONTINENT *(continued)*

#### OCEANIA *(continued)*

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
6	Wisnumurti	Indonesia	15,080	4,590
7	Yamin	Indonesia	14,860	4,530
8	Wilhelm	Papua New Guinea	14,793	4,509
9	Kubor	Papua New Guinea	14,300	4,360
10	Herbert	Papua New Guinea	14,000	4,270

#### SOUTH AMERICA

RANK	NAME	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Aconcagua	Argentina	22,835	6,960
2	Ojos del Salado, southeast peak	Argentina, Chile	22,573	6,880
3	Bonete	Argentina	22,550	6,870
4	Tupungato	Argentina, Chile	22,310	6,800
5	Pissis	Argentina	22,240	6,780
6	Mercedario	Argentina	22,210	6,770
7	Huascarán, south peak	Peru	22,204	6,768
8	Llullaillaco	Argentina, Chile	22,100	6,730
9	Libertador	Argentina	22,050	6,720
10	Ojos del Salado, northwest peak	Argentina, Chile	22,050	6,720
11	Gonzalez, highest peak	Argentina, Chile	21,850	6,664
12	Huascarán, north peak	Peru	21,840	6,661
13	Muerto	Argentina, Chile	21,820	6,655
14	Yerupaja, north peak	Peru	21,760	6,630
15	Incahuasi	Argentina, Chile	21,700	6,610
16	Galan	Argentina	21,650	6,600
17	Tres Cruces	Argentina, Chile	21,540	6,560
18	Gonzalez, north peak	Argentina, Chile	21,490	6,550
19	Sajama	Bolivia	21,463	6,542
20	Yerupaja, south peak	Peru	21,380	6,510
21	Chimborazo	Ecuador	20,681	6,267

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
1	Tupungato	South America	Chile	22,310	6,800
2	Tipas	South America	Argentina	21,845	6,660
3	Cerro el Condor	South America	Argentina	21,425	6,532
4	Antofalfo	South America	Argentina	20,008	6,100
5	Guallatiri	South America	Chile	19,882	6,060
6	Lascar	South America	Chile	19,652	5,990
7	Cotopaxi	South America	Ecuador	19,344	5,896
8	Kilimanjaro	Africa	Tanzania	19,341	5,895
9	El Misti	South America	Peru	19,031	5,801
10	Pico de Orizaba	North America	Mexico	18,701	5,700
11	Tolima	South America	Colombia	18,425	5,616
12	Popocatepetl	North America	Mexico	17,887	5,452
13	Yucamani	South America	Peru	17,860	5,444
14	Sangay	South America	Ecuador	17,159	5,230
15	Tungurahua	South America	Ecuador	16,684	5,085
16	Cotacachi	South America	Ecuador	16,250	4,939
17	Purace	South America	Colombia	15,604	4,756
18	Klyuchevskaya	Asia	Russia	15,584	4,750
19	Kronotskaya	Asia	Russia	15,580	4,749
20	Shiveluch	Asia	Russia	15,580	4,749
21	Pichincha	South America	Ecuador	15,173	4,625
22	Karasimbi	Africa	Dem. Rep. of the Congo	14,873	4,507
23	Rainier	North America	USA	14,410	4,395
24	Wrangell	North America	USA (Alaska)	14,163	4,317
25	Colima	North America	Mexico	13,993	4,265
26	Tajumulco	North America	Guatemala	13,845	4,220
27	Mauna Kea	North America	USA (Hawaii)	13,796	4,205
28	Mauna Loa	North America	USA (Hawaii)	13,680	4,170
29	Cameroon	Africa	Cameroon	13,353	4,070
30	Tacana	North America	Guatemala	13,300	4,053
31	Kerintji	Asia	Indonesia	12,483	3,805
32	Erebus	Antarctica	Antarctica	12,448	3,794
33	Fuji	Asia	Japan	12,388	3,776
34	Fuego	North America	Guatemala	12,346	3,763

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
35	Agua	North America	Guatemala	12,307	3,751
36	Rindjani	Asia	Indonesia	12,224	3,726
37	Pico de Teide	Africa	Spain (Canary Is.)	12,198	3,718
38	Tolbachik	Asia	Russia	12,077	3,682
39	Semeru	Asia	Indonesia	12,060	3,676
40	Ichinskaya	Asia	Russia	11,800	3,621
41	Atitlan	North America	Guatemala	11,650	3,551
42	Torbert	North America	USA (Alaska)	11,450	3,480
43	Nyirangongo	Africa	Dem. Rep. of the Congo	11,365	3,465
44	Kroyaks kaya	Asia	Russia	11,336	3,456
45	Irazu	South America	Costa Rica	11,260	3,432
46	Slamet	Asia	Indonesia	11,247	3,428
47	Spurr	North America	USA (Alaska)	11,137	3,385
48	Lautaro	South America	Chile	11,120	3,380
49	Sumbing	Asia	Indonesia	11,060	3,371
50	Raung	Asia	Indonesia	10,932	3,332
51	Etna	Europe	Italy	10,902	3,323
52	Baker	North America	USA	10,778	3,285
53	Lassen	North America	USA	10,492	3,187
54	Dempo	Asia	Indonesia	10,390	3,158
55	Sundoro	Asia	Indonesia	10,367	3,151
56	Agung	Asia	Indonesia	10,337	3,142
57	Prahu	Asia	Indonesia	10,285	3,137
58	Llaima	South America	Chile	10,245	3,125
59	Redoubt	North America	USA (Alaska)	10,197	3,108
60	Tjiremai	Asia	Indonesia	10,098	3,078
61	One-Take	Asia	Japan	10,056	3,067
62	Nyamulagira	Africa	Dem. Rep. of the Congo	10,026	3,056
63	Iliamna	North America	USA (Alaska)	10,016	3,053
64	Ardjuno-Welirang	Asia	Indonesia	9,968	3,038
65	San Pedro	North America	Guatemala	9,902	3,020
66	Gede	Asia	Indonesia	9,705	2,958
67	Zhupanovsky	Asia	Russia	9,705	2,958
68	Apo	Asia	Philippines	9,692	2,954

# APPENDIX I

## I HIGHEST VOLCANOES OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	ELEVATION (FT)	ELEVATION (M)
69	Merapi	Asia	Indonesia	9,551	2,911
70	Marapi	Asia	Indonesia	9,479	2,891
71	Geureudong	Asia	Indonesia	9,459	2,885
72	Bezymianny	Asia	Russia	9,449	2,882
73	Shishaldin	North America	USA (Alaska)	9,372	2,856
74	Tambora	Asia	Indonesia	9,350	2,850
75	Villarrica	South America	Chile	9,318	2,840
76	Fogo	Africa	Cape Verde	9,281	2,829
77	Ruapehu	Oceania	New Zealand	9,175	2,796
78	Peuetsagoe	Asia	Indonesia	9,115	2,780
79	Paricutin	North America	Mexico	9,100	2,775
80	Big Ben	Antarctica	Heard Island (dependency of Australia)	9,006	2,745
81	Balbi	Oceania	Papua New Guinea	8,999	2,743
82	Avachinskaya	Asia	Russia	8,987	2,741
83	Melbourne	Antarctica	Antarctica	8,957	2,732
84	Poas	North America	Costa Rica	8,872	2,704
85	Papandajan	Asia	Indonesia	8,744	2,665
86	Piton de la Faournaise	Africa	Reunion (dependency of France)	8,626	2,631
87	Pacaya	North America	Guatemala	8,367	2,552
88	Mt. St. Helens	North America	USA	8,366	2,550
89	Asama	Asia	Japan	8,300	2,530
90	Pavlof	North America	USA (Alaska)	8,261	2,518
91	Veniaminof	North America	USA (Alaska)	8,220	2,507
92	Mayon	Asia	Philippines	8,077	2,462
93	Sinabung	Asia	Indonesia	8,066	2,460
94	Yake Dake	Asia	Japan	8,049	2,455
95	Tandikat	Asia	Indonesia	7,993	2,438
96	Canalaon	Asia	Philippines	7,984	2,435
97	Shoshuenco	South America	Chile	7,941	2,422
98	Idjen	Asia	Indonesia	7,823	2,386
99	Izalco	North America	El Salvador	7,828	2,386
100	Karthala	Africa	Comoros	7,746	2,361

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
1	Nile	Africa	Egypt, Sudan, Uganda	4,160	6,693
2	Amazon	South America	Brazil, Colombia, Peru, Venezuela	3,900	6,280
3	Mississippi-Missouri	North America	U.S.A.	3,860	6,211
4	Chang Jiang (Yangtze or Yangtse)	Asia	China	3,434	5,525
5	Ob'-Irtysh	Asia	Kazakhstan, Russia	3,335	5,380
6	Paraná	South America	Argentina, Brazil, Paraguay	3,030	4,870
7	Huang He (Huang-ho or Yellow)	Asia	China	2,903	4,671
8	Irtysh	Asia	Kazakhstan, Russia	2,760	4,441
9	Lena	Asia	Russia	2,734	4,400
10	Amur	Asia	China, Russia	2,719	4,350
11	Congo (Zaire)	Africa	Angola, Dem. Rep. of the Congo, Rep. of the Congo	2,700	4,344
12	Mackenzie	North America	Canada	2,635	4,290
13	Mekong River (Lan ts'ang Chiang or Lancang Jiang)	Asia	Cambodia, China, Laos, Myanmar, Thailand, Vietnam	2,600	4,200
14	Niger	Africa	Benin, Guinea, Mali, Niger, Nigeria	2,594	4,184
15	Yenisey	Asia	Russia	2,566	4,129
16	Missouri	North America	U.S.A.	2,466	3,968
17	Mississippi	North America	U.S.A.	2,348	3,787
18	Volga	Europe	Russia	2,293	3,689
19	Ob'	Asia	Russia	2,270	3,650
20	Euphrates	Asia	Iraq, Syria, Turkey	2,235	3,596
21	Purus	South America	Brazil, Peru	2,100	3,380
22	Madeira	South America	Brazil	2,013	3,241
23	Lower Tunguska	Asia	Russia	2,000	3,220
24	Indus	Asia	Pakistan	1,988	3,200
25	São Francisco	South America	Brazil	1,988	3,199
26	Yukon	North America	Canada, U.S.A.	1,980	3,180
27	Rio Grande	North America	Mexico, U.S.A.	1,885	3,034

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
28	Brahmaputra (Jamuna)	Asia	Bangladesh, China, India	1,800	2,900
29	Danube	Europe	Austria, Bulgaria, Croatia, Germany, Hungary, Romania, Ukraine, Slovakia, Serbia-Montenegro	1,775	2,857
30	Salween	Asia	China, Myanmar	1,770	2,849
31	Darling	Australia	Australia	1,702	2,739
32	Tocantins	South America	Brazil	1,677	2,698
33	Nelson	North America	Canada	1,660	2,671
34	Vilyuy	Asia	Russia	1,650	2,650
35	Zambezi	Africa	Angola, Mozambique, Namibia, Zambia, Zimbabwe	1,650	2,650
36	Murray	Australia	Australia	1,609	2,589
37	Paraguay	South America	Argentina, Brazil, Paraguay	1,584	2,549
38	Amu Dar'ya	Asia	Afghanistan, Tajikistan, Turkmenistan, Uzbekistan	1,580	2,540
39	Kolyma	Asia	Russia	1,562	2,513
40	Ganges	Asia	Bangladesh, India	1,560	2,510
41	Ishim	Asia	Kazakhstan, Russia	1,520	2,450
42	Ural	Asia	Kazakhstan, Russia	1,510	2,430
43	Japurá	South America	Brazil, Colombia	1,500	2,414
44	Arkansas	North America	U.S.A.	1,460	2,350
45	Colorado	North America	U.S.A.	1,450	2,330
46	Dnieper	Europe	Belarus, Russia, Ukraine	1,420	2,290
47	Negro	South America	Brazil, Colombia, Venezuela	1,400	2,250
48	Ubangi	Africa	Central African Rep., Dem. Rep. of the Congo, Rep. of the Congo	1,400	2,253
49	Aldan	Asia	Russia	1,390	2,240
50	Columbia-Snake	North America	Canada, U.S.A.	1,390	2,240
51	Syr Dar'ya	Asia	Kazakhstan, Kyrgyzstan, Uzbekistan	1,370	2,200

## APPENDIX J

### J RIVERS OF THE WORLD 1,000 MILES (1,600 KILOMETERS) OR LONGER *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	LENGTH (MI)	LENGTH (KM)
52	Araguaia	South America	Brazil	1,366	2,198
53	Olenek	Asia	Russia	1,350	2,170
54	Irrawaddy	Asia	Myanmar	1,350	2,170
55	Kasai	Africa	Angola, Dem. Rep of the Congo	1,338	2,153
56	Ohio-Allegheny	North America	U.S.A.	1,310	2,109
57	Tarim	Asia	China	1,300	2,090
58	Orange	Africa	Lesotho, Namibia, South Africa	1,300	2,090
59	Orinoco	South America	Venezuela	1,281	2,061
60	Shabeelle	Africa	Ethiopia, Somalia	1,250	2,011
61	Xingu	South America	Brazil	1,230	1,979
62	Columbia	North America	Canada, U.S.A.	1,214	1,953
63	Mamoré	South America	Bolivia	1,200	1,931
64	Tigris	Asia	Iraq, Turkey	1,180	1,900
65	Northern Dvina	Europe	Russia	1,160	1,870
66	Don	Europe	Russia	1,153	1,860
67	Angara	Asia	Russia	1,151	1,852
68	Kama	Europe	Russia	1,120	1,800
69	Indigirka	Asia	Russia	1,112	1,789
70	Pechora	Europe	Russia	1,112	1,789
71	Limpopo	Africa	Botswana, South Africa, Mozambique	1,100	1,770
72	Sénégal	Africa	Guinea, Mali, Mauritania, Senegal	1,015	1,663
73	Salado	South America	Argentina	1,110	1,770
74	Guaporé	South America	Bolivia, Brazil	1,087	1,749
75	Tobol	Asia	Kazakhstan, Russia	1,042	1,677
76	Snake	North America	U.S.A.	1,038	1,670
77	Red	North America	U.S.A.	1,018	1,638
78	Churchill	North America	Canada	1,000	1,613
79	Jubba	Africa	Ethiopia, Somalia	1,000	1,613
80	Okavango	Africa	Angola, Botswana	1,000	1,613
81	Pilcomayo	South America	Argentina, Bolivia, Paraguay	1,000	1,613
82	Uruguay	South America	Uruguay	1,000	1,613

## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
1	Angel (upper falls)	South America	Venezuela	2,648	807
2	Utigord	Europe	Norway	2,625	800
3	Monge	Europe	Norway	2,539	774
4	Mtarazi (Mutarazi)	Africa	Mozambique, Zimbabwe	2,500	760
5	Itatinga	South America	Brazil	2,060	628
6	Cuquenán (Kukenaam)	South America	Guyana, Venezuela	2,000	610
7	Kahiwa	North America	U.S.A. (Hawaii)	1,750	533
8	Tysse (Tusse)	Europe	Norway	1,749	533
9	Maradalsfos	Europe	Norway	1,696	517
10	Ribbon	North America	U.S.A.	1,612	491
11	Roraima	South America	Guyana	1,500	457
12	Della	North America	Canada	1,445	440
13	Yosemite, Upper	North America	U.S.A.	1,430	436
14	Gavarnie	Europe	France	1,385	422
15	Tugela (highest falls in chain)	Africa	South Africa	1,350	411
16	Krimml	Europe	Austria	1,250	380
17	Silver Strand	North America	U.S.A.	1,170	357
18	Basaseachic	North America	Mexico	1,020	311
19	Staubbach	Europe	Switzerland	980	299
20	Vettis	Europe	Norway	902	275
21	King George VI	South America	Guyana	850	260
22	Wallaman	Oceania	Australia	850	260
23	Takakkaw	North America	Canada	838	254
24	Hunlen	North America	Canada	830	253
25	Jog (Gersoppa)	Asia	India	830	253



## APPENDIX K

### K WATERFALLS OF THE WORLD, BY HEIGHT *(continued)*

All measurements are approximate. If a waterfall has multiple cascades they are listed separately.

RANK	NAME	CONTINENT	COUNTRY	HEIGHT (FT)	HEIGHT (M)
26	Skykje	Europe	Norway	820	250
27	Sutherland, Upper	Oceania	New Zealand	815	248
28	Sutherland, Middle	Oceania	New Zealand	751	229
29	Kaieteur	South America	Guyana	741	226
30	Wollomombi	Oceania	Australia	726	220
31	Kalambo	Africa	Tanzania, Zambia	704	215
32	Fairy	North America	U.S.A.	700	213
33	Feather	North America	U.S.A.	640	195
34	Maletsunyane	Africa	Lesotho	630	192
35	Bridalveil	North America	U.S.A.	620	189
36	Multnomah	North America	U.S.A.	620	189
37	Panther	North America	Canada	600	183
38	Voringfoss	Europe	Norway	597	182
39	Nevada	North America	U.S.A.	594	181
40	Angel, Lower	South America	Venezuela	564	172
41	Augrabies (Aughrabies)	Africa	South Africa	480	146
42	Tully	Oceania	Australia	450	137
43	Helmcken	North America	Canada	450	137
44	Nachi	Asia	Japan	430	131
45	Tequendama	South America	Colombia	427	130
46	Bridal Veil	North America	U.S.A.	400	122
47	Illilouette	North America	U.S.A.	370	113
48	Yosemite, Lower	North America	U.S.A.	320	98
49	Twin	North America	Canada	260	80

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
1	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	143,000	371,000
2	Superior	North America	Canada, U.S.A.	31,820	82,732
3	Victoria	Africa	Uganda, Tanzania, Kenya	26,828	69,484
4	Aral Sea	Asia	Kazakhstan, Uzbekistan	24,900	64,500
5	Huron	North America	Canada, U.S.A.	23,000	59,570
6	Michigan	North America	U.S.A.	22,400	58,020
7	Tanganyika	Africa	Burundi, Dem. Republic of the Congo, Tanzania, Zambia	12,700	32,020
8	Baikal	Asia	Russia	12,160	31,500
9	Great Bear	North America	Canada	12,095	31,328
10	Great Slave	North America	Canada	11,030	28,570
11	Erie	North America	Canada, U.S.A.	9,920	25,690
12	Winnipeg	North America	Canada	9,420	24,390
13	Malawi	Africa	Malawi, Mozambique, Tanzania,	8,680	22,490
14	Ontario	North America	Canada, U.S.A.	7,440	19,240
15	Balkhash	Asia	Kazakhstan	7,030	18,200
16	Ladoga	Russia	Russia	7,000	18,130
17	Maracaibo	South America	Venezuela	5,020	13,010
18	Chad	Africa	Cameroon, Chad, Niger, Nigeria	4,000–10,000	10,360–25,900
19	Embalse del Río Negro	South America	Uruguay	4,000	10,360
20	Patos	South America	Brazil	3,920	10,153
21	Onega	Europe	Russia	3,750	9,720
22	Eyre	Australia	Australia	3,668	9,500
23	Volta	Africa	Ghana	3,276	8,485
24	Titicaca	South America	Bolivia, Peru	3,200	8,288
25	Nicaragua	South America	Nicaragua	3,150	8,160
26	Athabasca	North America	Canada	3,060	7,940
27	Reindeer	North America	Canada	2,570	6,650

## APPENDIX L

### L LAKES OF THE WORLD, BY AREA *(continued)*

All measurements are approximate.

RANK	NAME	CONTINENT	COUNTRY	AREA (sq mi)	AREA (sq km)
28	Smallwood Reservoir	North America	Canada	2,500	6,460
29	Turkana (Rudolf)	Africa	Ethiopia, Kenya	2,473	6,405
30	Issyk Kul	Asia	Kyrgyzstan	2,360	6,100
31	Torrens	Australia	Australia	2,230	5,780
32	Albert	Africa	Dem. Republic of the Congo, Uganda	2,160	5,590
33	Vanern	Europe	Sweden	2,160	5,580
34	Netilling	North America	Canada	2,140	5,540
35	Winnipegosis	North America	Canada	2,070	5,370
36	Nasser	Africa	Egypt, Sudan	2,026	5,248
37	Bangweulu	Africa	Zambia	1,930	5,000
38	Chott el Djerid	Africa	Tunisia	1,930	5,000
39	Urmia	Asia	Iran	1,879	4,868
40	Nipigon	North America	Canada	1,870	4,850
41	Gairdner	Australia	Australia	1,840	4,770
42	Manitoba	North America	Canada	1,800	4,660
43	Kyoga	Africa	Uganda	1,710	4,430
44	Khanka	Asia	China, Russia	1,700	4,400
45	Saimaa	Europe	Finland	1,700	4,403
46	Mweru	Africa	Dem. Republic of the Congo	1,680	4,350
47	Great Salt	North America	U.S.A.	1,680	4,350
48	Qinghai (Koko)	Asia	China	1,625	4,209
49	Woods	North America	Canada	1,580	4,100
50	Taymyr	Asia	Russia	1,540	3,990
51	Nasser	Africa	Egypt	1,522	3,942
52	Orumiyeh	Asia	Iran	1,500	3,880
53	Dubawnt	North America	Canada	1,480	3,830
54	Van	Asia	Turkey	1,430	3,710
55	Tana	Africa	Ethiopia	1,390	3,600
56	Peipus	Europe	Estonia, Russia	1,386	3,555
57	Uvs	Asia	Mongolia	1,300	3,366

## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
1	Baikal	Asia	Russia	5,315	1,621
2	Tanganyika	Africa	Burundi, Tanzania, Dem. Congo (ROC), Zambia	4,825	1,471
3	Caspian Sea	Asia	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan	3,363	1,025
4	Malawi	Africa	Malawi, Tanzania, Mozambique	2,316	706
5	Issyk Kul	Asia	Kyrgyzstan	2,303	702
6	Great Slave	North America	Canada	2,015	614
7	Matana	Asia	Indonesia	1,936	590
8	Crater	North America	U.S.A.	1,932	589
9	Toba	Asia	Indonesia	1,736	529
10	Hornindals	Europe	Norway	1,686	514
11	Sarez	Asia	Tajikistan	1,657	505
12	Tahoe	North America	U.S.A.	1,645	501
13	Chelan	North America	U.S.A.	1,605	489
14	Kivu	Africa	Rwanda, Congo (DROC)	1,575	480
15	Quesnel	North America	Canada	1,560	475
16	Sals	Europe	Norway	1,522	464
17	Adams	North America	Canada	1,500	457
18	Mjøsa	Europe	Norway	1,473	449
19	Manapuri	Oceania	New Zealand	1,453	443
20	Poso	Asia	Indonesia	1,444	440
21	Nahuel Huapi	South America	Argentina	1,437	438
22	Dead Sea	Asia	Israel, Jordan	1,421	433
23	Tazawa	Asia	Japan	1,394	425
24	Great Bear	North America	Canada	1,356	413
25	Como	Europe	Italy	1,352	412
26	Superior	North America	Canada, U.S.A.	1,333	406
27	Hawea	Asia	New Zealand	1,286	392
28	Wakatipu	Asia	New Zealand	1,240	378

## APPENDIX M

### M LAKES OF THE WORLD, BY DEPTH *(continued)*

All measurements are approximate.

RANK	LAKE	CONTINENT	COUNTRY	DEPTH (FT)	DEPTH (M)
29	Suldals	Europe	Norway	1,234	376
30	Maggiore	Europe	Italy, Switzerland	1,221	372
31	Fyres	Europe	Norway	1,211	369
32	Chilko	North America	Canada	1,200	366
33	Pend Oreille	North America	U.S.A.	1,200	366
34	Shikotsu	Asia	Japan	1,191	363
35	Powell	North America	Canada	1,174	358
36	Llanquihue	South America	Chile	1,148	350
37	Garda	Europe	Italy	1,135	346
38	Towada	Asia	Japan	1,096	334
39	Wanaka	Asia	New Zealand	1,086	325
40	Bandak	Europe	Norway	1,066	325
41	Telestskoya	Asia	Russia	1,066	325
42	Eutsuk	North America	Canada	1,060	323
43	Atitlan	North America	Guatemala	1,050	320
44	Lunde	Europe	Norway	1,030	314
45	Geneva	Europe	France, Switzerland	1,017	310
46	Morar	Europe	Scotland	1,017	310
47	Kurile	Asia	Russia	1,004	306
48	Walker	North America	U.S.A.	1,000	305
49	Titicaca	South America	Bolivia, Peru	997	304
50	Argentino	South America	Argentina	984	300
51	Iliamna	North America	U.S.A.	980	299
52	Tyrifjorden	Europe	Norway	968	295
53	Lugano	Europe	Italy, Switzerland	945	288
54	Takla	North America	Canada	941	287
55	Ohrid	Europe	Albania, Serbia-Montenegro	938	286
56	Atlin	North America	Canada	930	283
57	Nuyakuk	North America	U.S.A.	930	283
58	Michigan	North America	U.S.A.	923	285
59	Harrison	North America	Canada	916	279
60	Te Anau	Oceania	New Zealand	906	276

# Seven Wonders of the Ancient World

## 1 **The pyramids of Egypt**

Constructed between 2700 and 2500 B.C., the pyramids are the last surviving structures of the Seven Wonders of the Ancient World. The largest of the pyramids, which rises over 137 meters (450 feet), was built as a tomb to house the body of Pharaoh Khufu. Historians believe that it must have taken over twenty years to build with over 100,000 slave laborers.

## 2 **The gardens of Semiramis at Babylon**

The existence of these gardens is reputed, but according to fable they existed around 600 B.C. They are said to have been outside on a brick terrace 23 meters (75 feet) above the ground, encompassing an area of 37 square meters (400 square feet).

## 3 **The statue of Zeus at Olympia**

Constructed around 450 B.C. by the sculptor Phidias, this 12-meter (40-foot) high statue is of an ivory Zeus wearing a robe of gold, seated atop a throne. In his right hand was Nike, his messenger and a symbol of victory, in his left hand was the scepter signifying his rule over the gods and humankind, and atop his head was a wreathed crown.

## 4 **The temple of Artemis at Ephesus**

Built around 550 B.C. to celebrate the goddess of the hunt, this temple was one of the largest in ancient times. Beneath its tile-covered roof were rows of columns believed to be more than 12 meters (40 feet) high, leading to a marble sanctuary. The original temple was destroyed by fire in 356 B.C., but another temple was built on the same foundation. This temple was also burned, but the foundation still remains. Remnants of the second temple can be found at London's British Museum.

## 5 **The mausoleum at Halicarnassus**

Located in southwestern Turkey, this enormous white marble tomb was constructed to house the body of Mausolus, a king of Persian Empire. It was constructed around 350 B.C. by the Greek architects Satyrus and Pythius and became so well known that the term mausoleum was created to signify any large tomb. An earthquake in the 15<sup>th</sup> century caused significant damage to the tomb, which was eventually disassembled. Several of its exterior sculptures can be seen in London's British Museum.

## 6 **The Colossus at Rhodes**

Constructed around 200 B.C. by the Greek sculptor Chares, this 36-meter (120-foot) bronze statue was meant to honor the sun god Helios and celebrate the unity of the city-states of Rhodes. The statue was hollow, supported by stone blocks and iron bars inside its frame. It was destroyed by an earthquake only fifty-six years after its completion.

## 7 **The Pharos (lighthouse) of Alexandria or the Walls of Babylon**

This lighthouse, completed near 270 B.C., was, at the time, one of the tallest buildings in the known world. Standing over 122 meters (400 feet) high, it guided sailors to the shores of Alexandria, then ruled by King Ptolemy II.

# Seven Wonders of the Natural World

## **1** **Grand Canyon**

Created after millions of years of erosion from the Colorado River and its tributaries, this Arizona landmark is visited by millions of tourists each year.

## **2** **Paricutin Volcano**

Although it is not one of the largest volcanoes in Mexico, Paricutin has taken a place on the list of natural wonders following its birth in 1943. The eruption spanned ten years and covered about 2.6 square meters (10 square miles). No one was killed from the lava and ash, but it destroyed agricultural land and seriously affected the lives of those living nearby.

## **3** **The Harbor at Rio de Janeiro**

Located on the east coast of Brazil, the harbor overlooks the Guanabara Bay and the Atlantic Ocean on one side, and mountains on the other. Discovered by Portuguese navigators in 1502, this area houses a huge carnival each year.

## **4** **Northern Lights**

The northern lights, or aurora borealis, have fascinated people for centuries. Seen as souls, heavenly signs, or even messages from the dead, these shimmering light displays are caused by the interaction of solar winds with Earth's magnetic field. A similar phenomenon occurs in the southern hemisphere as well, but only the northern lights are classified as a natural wonder.

## **5** **Mt. Everest**

Formed from the collision of Asia and India over 60 million years ago, the Himalayas house Everest, the tallest mountain on Earth. Located in Nepal near the Tibetan border, this snowy peak has fascinated and challenged many climbers and non-climbers alike.

## **6** **Victoria Falls**

The largest waterfalls in the world, Victoria Falls has a drop of more than 99 meters (325 feet). Flowing from the Zambezi River, the falls were named for Queen Victoria by David Livingstone in 1855, when he became the first European to gaze upon them.

## **7** **The Great Barrier Reef**

The Great Barrier Reef extends over 1,998 kilometers (1,242 miles) on the northeast coast of Australia. The reef is quite delicate, being comprised of the skeletons of generations of marine life that lived just under the water's surface. The area is home to exotic coral, which is greatly affected by any human or natural interference, and a wide variety of marine life

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# Cumulative Index

This index contains terms from all five volumes of this encyclopedia. The number of the volume is enclosed in brackets. The volume number is followed by the page number. For example, the reference [5]26 means that the indexed term can be found in volume 5 on page 26. Main country articles are in **bold type**.

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