

Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

Junior  
Worldmark  
Encyclopedia of  
**Physical  
Geography**

VOLUME **5**

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Slovenia to Zimbabwe  
Cumulative Index

Karen Ellicott and Susan B. Gall,  
Editors



## JUNIOR WORLDMARK ENCYCLOPEDIA OF PHYSICAL GEOGRAPHY

### Editors

Karen Ellicott and Susan Bevan Gall

### Associate Editors

Robert J. Groelsema, Ph.D.,  
Jeneen Hobby, Ph.D., Maura Malone,  
and Rosalie Wieder

### Graphics and Layout

Steven Ollay

### Project Editor

Allison McNeill

### Imaging and Multimedia

Christine O'Bryan

### Cover Design

Cynthia Baldwin

### Composition

Evi Seoud

### Manufacturing

Rita Wimberley

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For more information, contact:

The Gale Group, Inc.  
27500 Drake Rd.  
Farmington Hills, MI 48331-3535  
Or you can visit our Internet site at:  
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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.

## 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**

# 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.

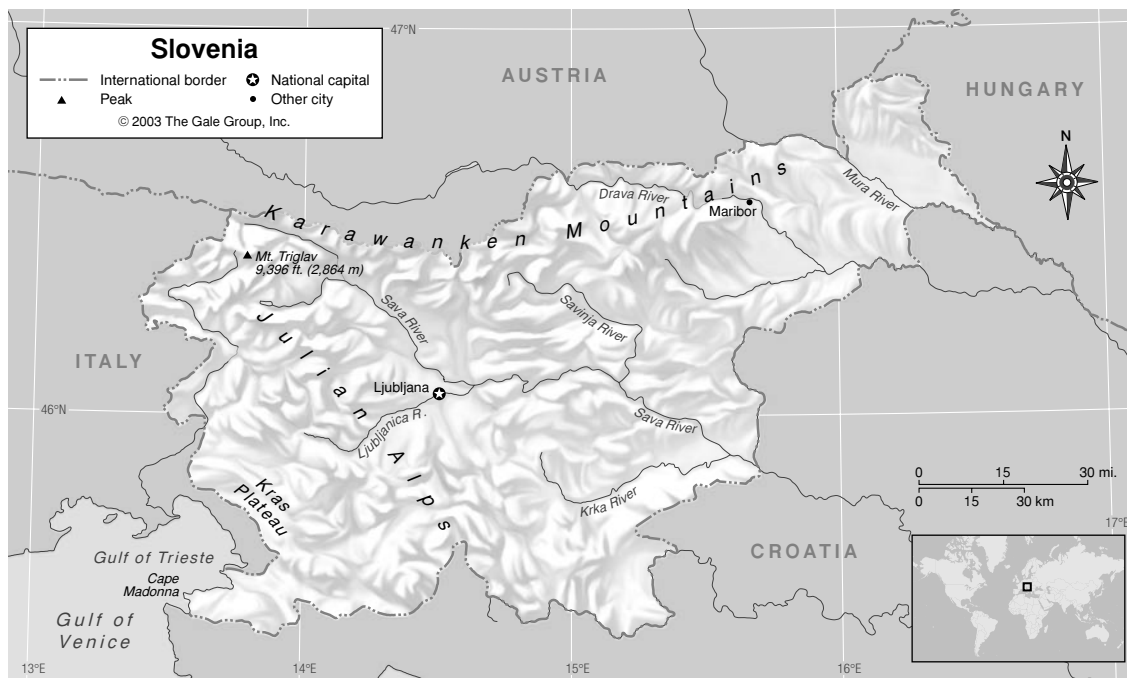
## 5 🌐 OCEANS AND SEAS

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 Cerknjško 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

### Books

Brân, Zoë. *After Yugoslavia*. Oakland, CA: Lonely Planet, 2001.

Fallon, Steve. *Slovenia*. Hawthorn, Australia: Lonely Planet, 1998.

Natek, Karel. *Discover Slovenia*. Translated by Martin Cregeen. Ljubljana: Cankarjeva Založba, 1999.

### Web Sites

*Slovene Government*. <http://www.sigov.si/vrs/ang/ang-text/index-ang.html> (accessed April 16, 2003).

*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.

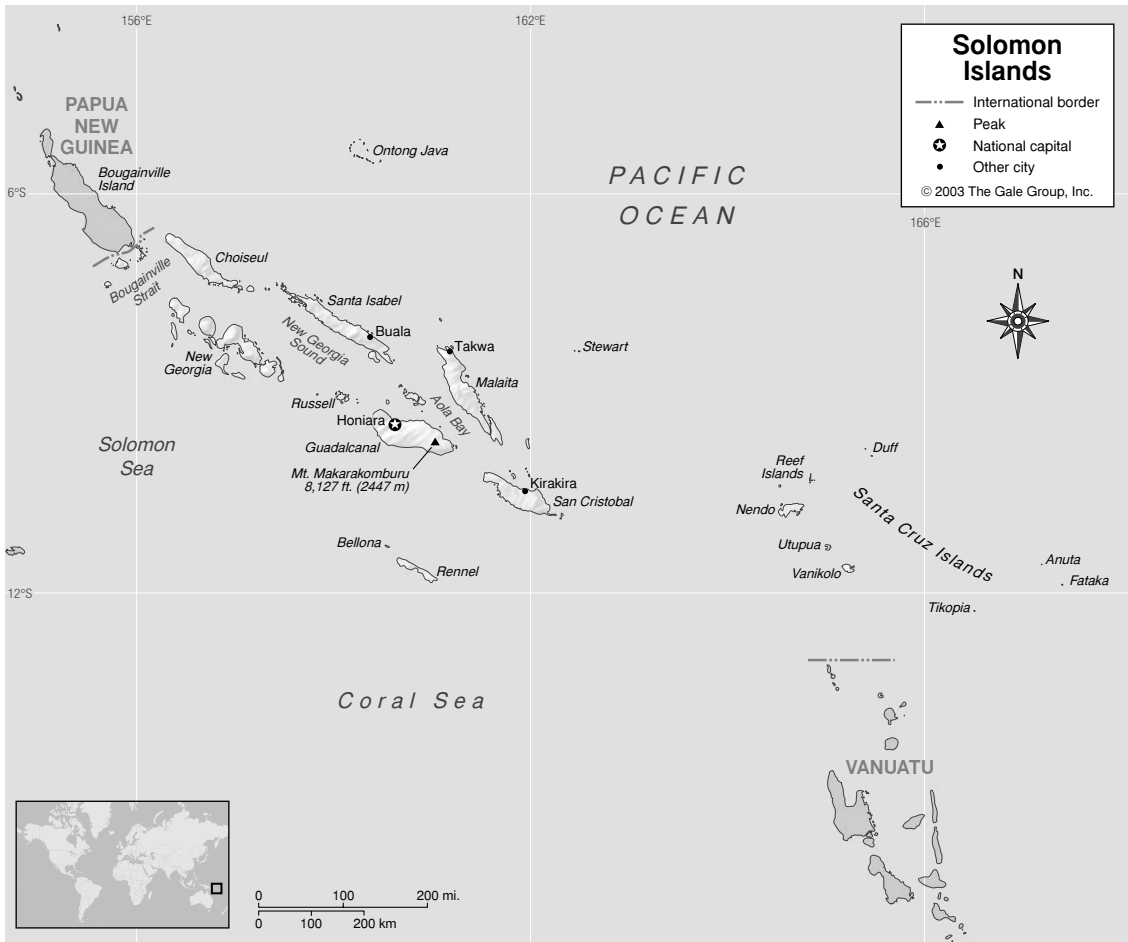
## 4 🌐 TOPOGRAPHIC REGIONS

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 Rennell, 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.

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# SOLOMON ISLANDS

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## 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.

Newton Abbot, David, and Charles Newton Abbot. *The Solomon Islands*. Harrisburg, PA: Stackpole Books, 1972.

*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)

## 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.

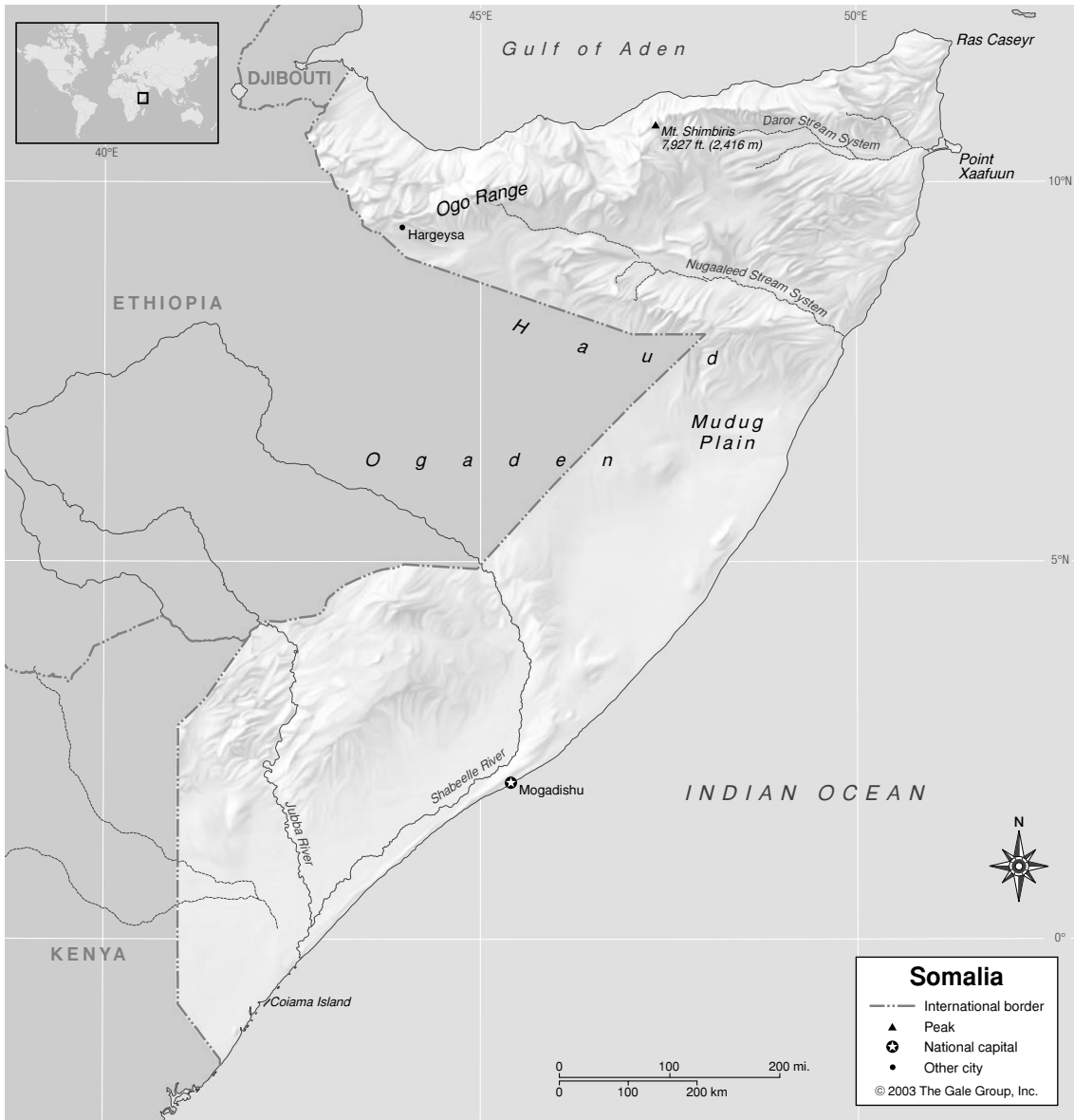
## 3 🌐 CLIMATE

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

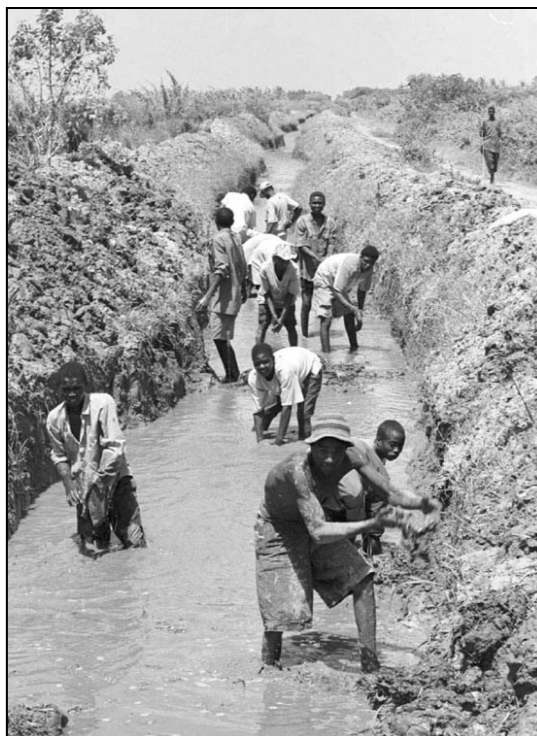
There are no major inlets on Somalia's coastline.

### 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.

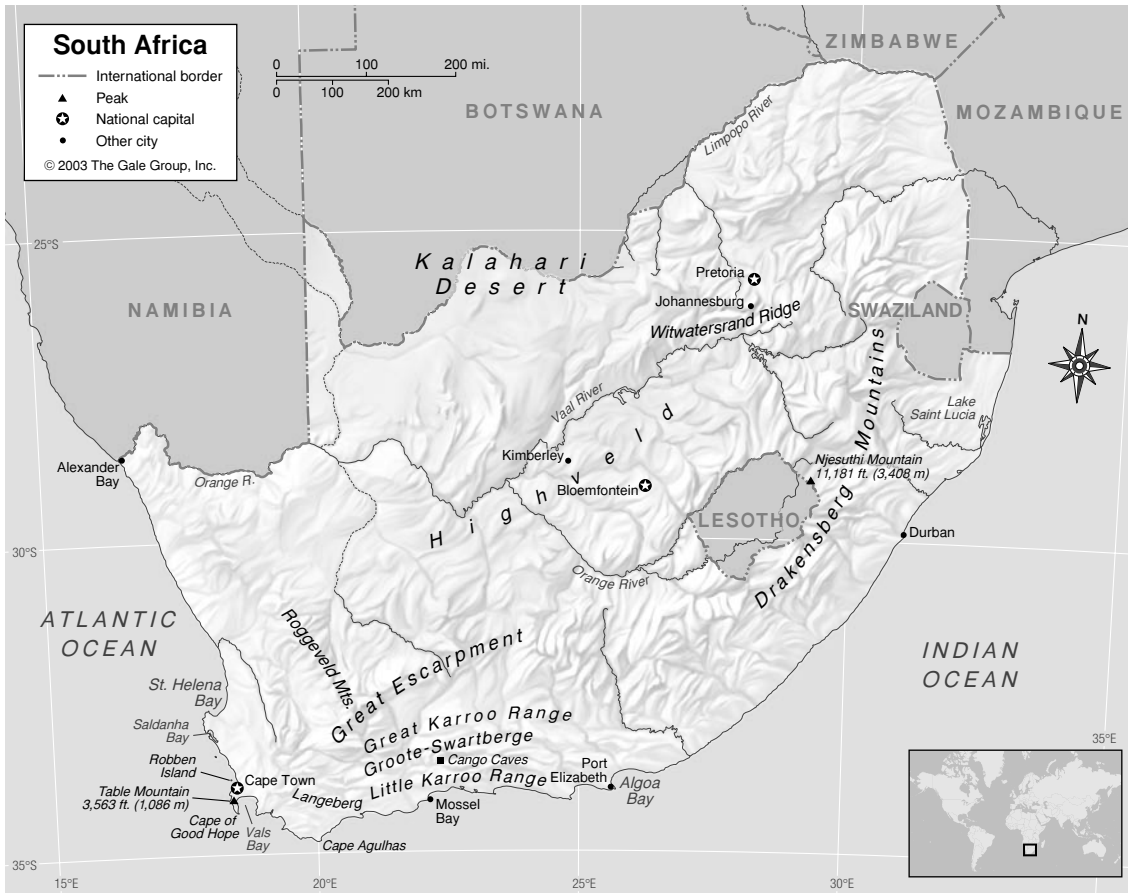
## 3 🌐 CLIMATE

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.

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# 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

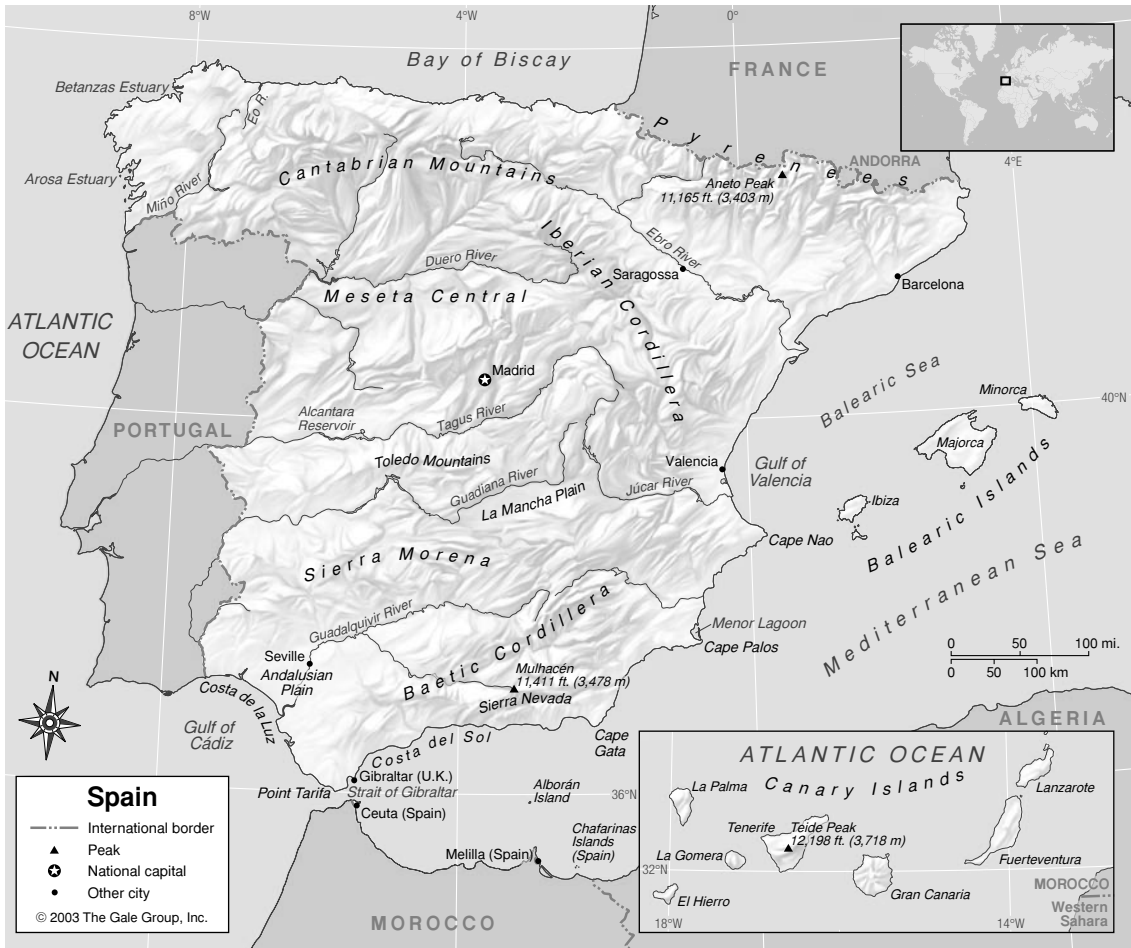
Spain controls “places of sovereignty” (*plazas de soberanía*) on and off the coast of Morocco: the coastal enclaves of Ceuta and Melilla, although Morocco contests these territorial claims; and the Alhucemas and Chafarinas Is-

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

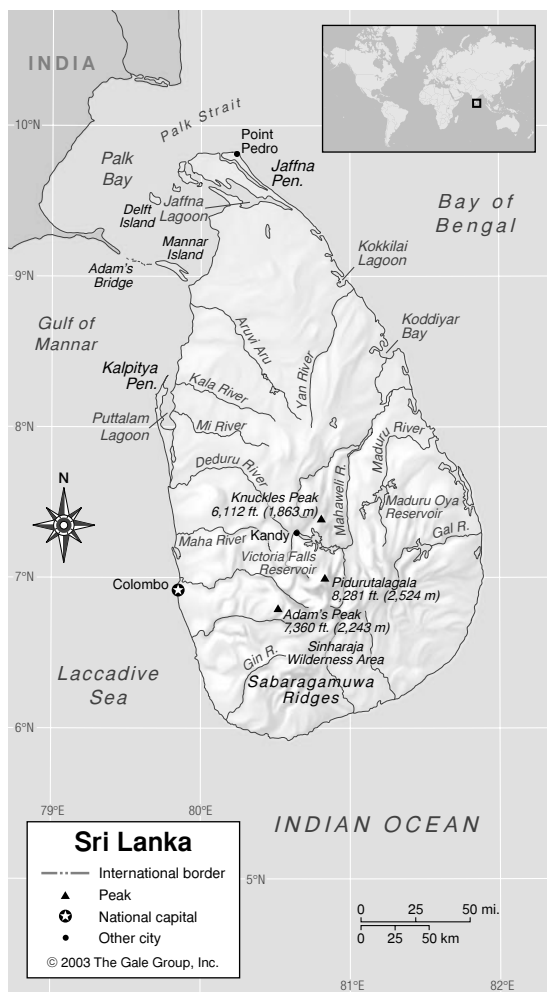
Situated on the Indian Tectonic Plate, the island is a teardrop-shaped mass separated from India by 29 kilometers (18 miles) of shallow sea. The south-central section of Sri Lanka is a rough plateau cut by a range of mountains. Narrow coastal plains surround the mountainous region to the east, south, 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.

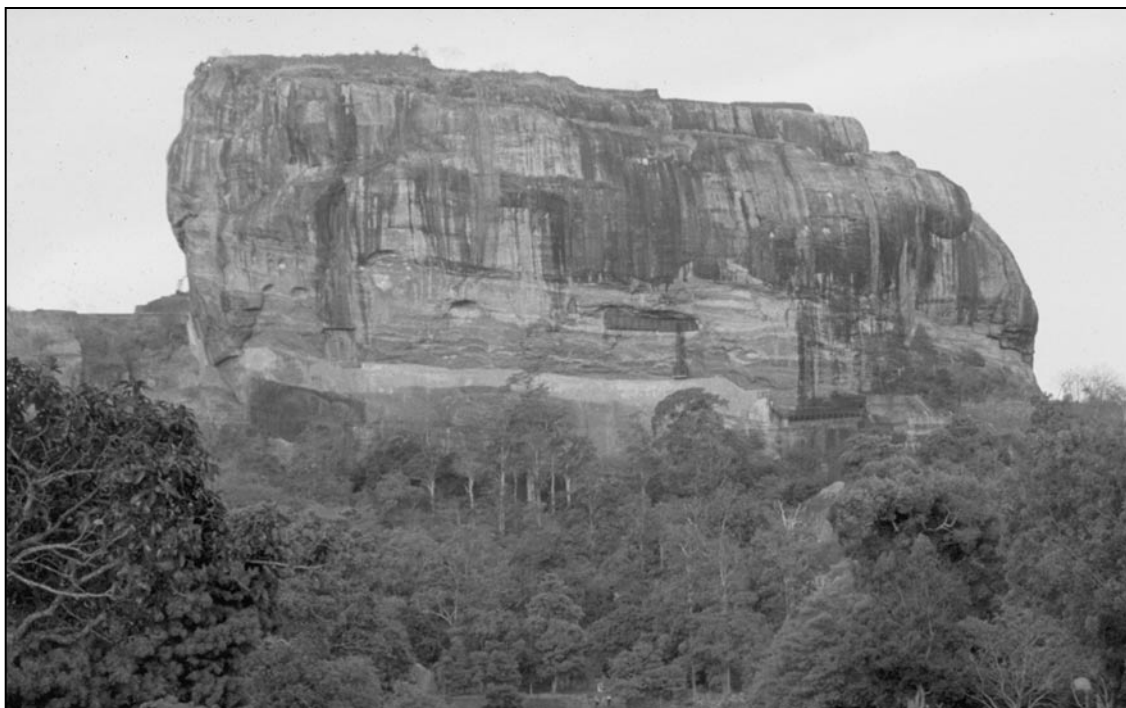
## 7 🌐 RIVERS AND WATERFALLS

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





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,

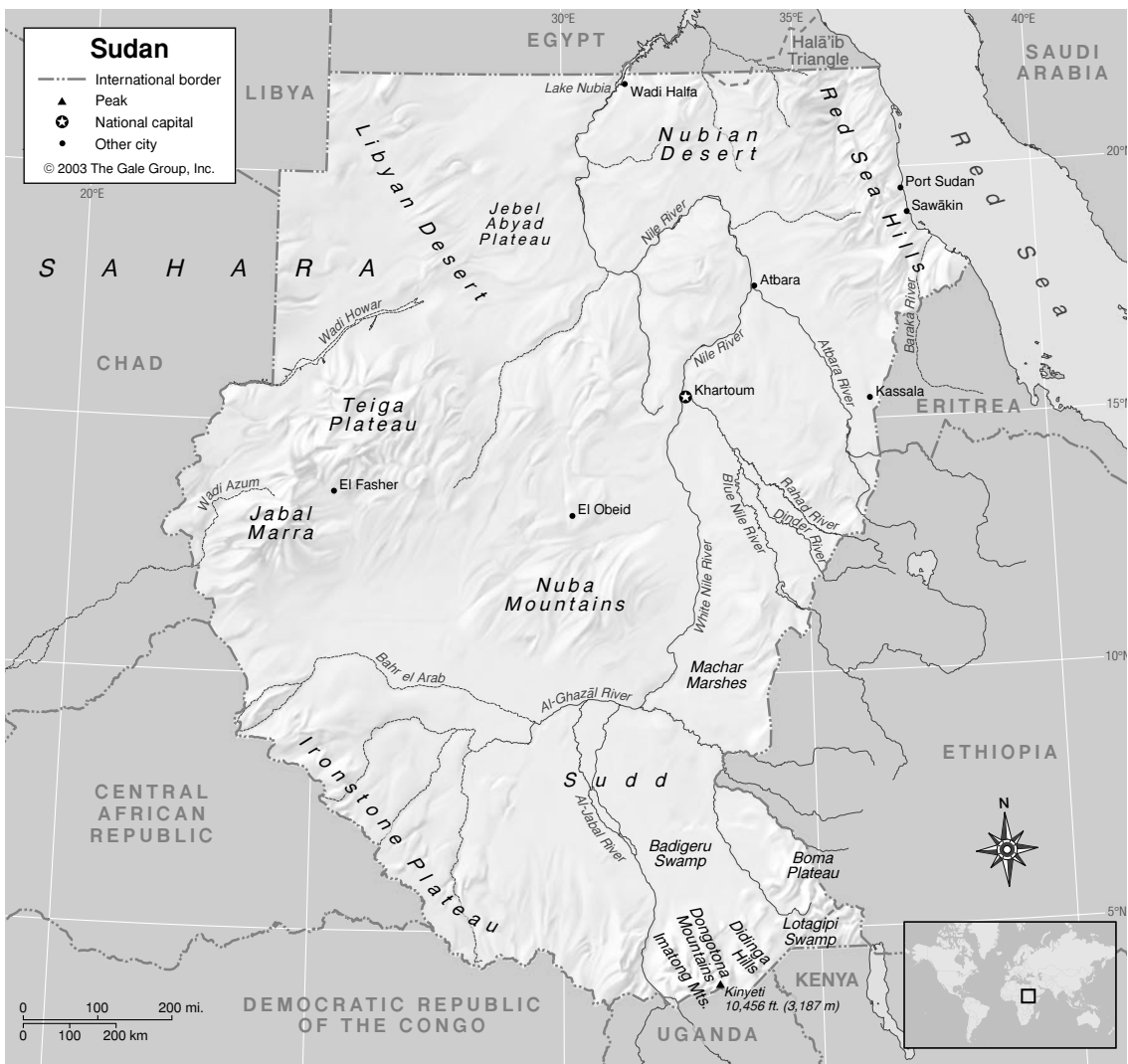
with average temperatures of 32°C (90°F) and nighttime lows of 4°C (40°F). Average temperatures in the central and southern regions are 27°C (80°F) and 29°C (85°F) respectively.

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.

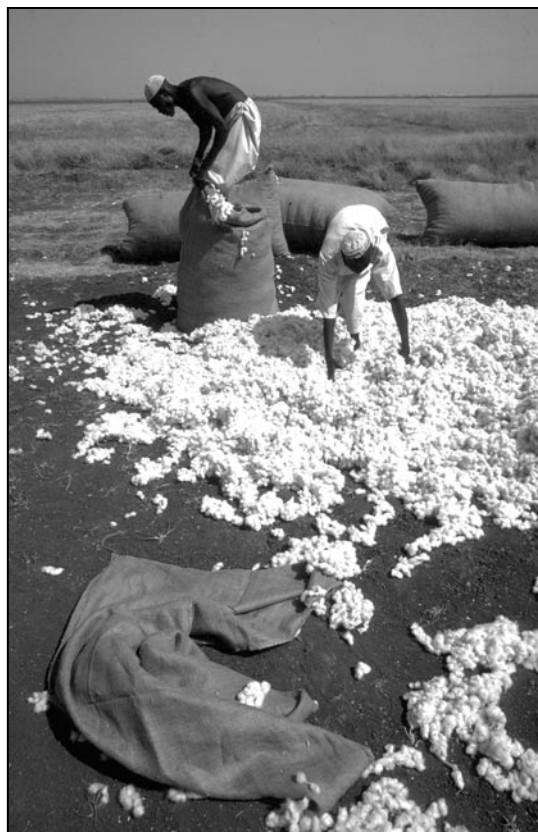
## 6 INLAND LAKES

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)

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## 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

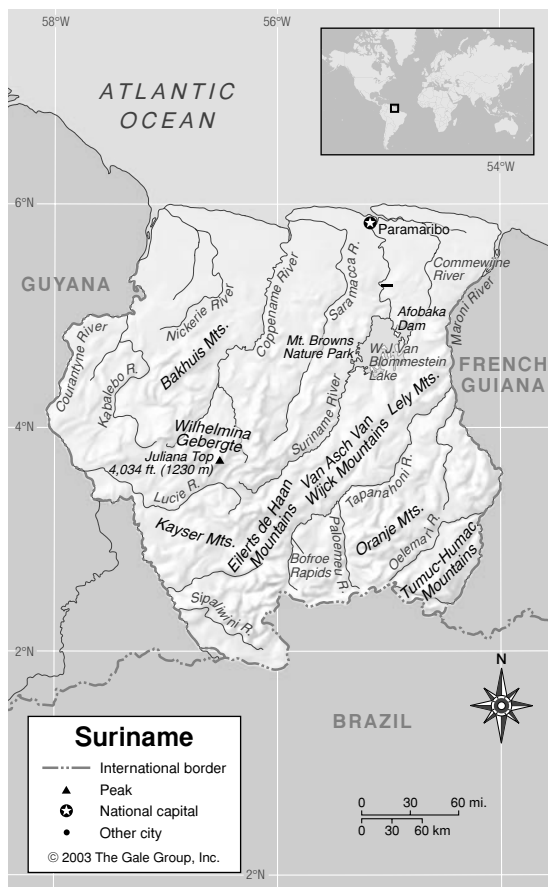
the day; nighttime temperatures can drop to 21°C (70°F).

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.

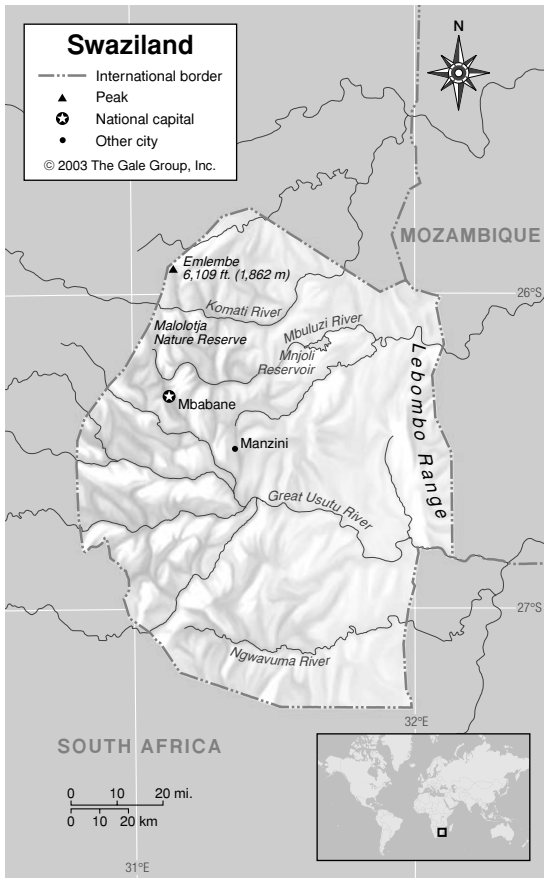
## 5 🌐 OCEANS AND SEAS

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 Basset

*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.

## **14** 🌐 **FURTHER READING**

### **Books**

Blauer, Ettagale, and Jason Lauré. *Swaziland*. New York: Children's Press, 1996.

Gills, D.H. *The Kingdom of Swaziland*. Westport, CT: Greenwood Publishing Group, 1999.

Murray, John. *South Africa, Lesotho, and Swaziland*. London: Lonely Planet, 2000.

### **Web Sites**

*The Official Swaziland Tourism Site*. <http://www.mintour.gov.sz> (accessed May 6, 2003)

*The Swaziland Government Home Page*. <http://www.swazi.com/government> (accessed May 6, 2003)



# 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 Örnsköldsvik to Skellefteå. The area around Örnsköldsvik 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.

## 14 🌐 FURTHER READING

### Books

Alderton, Mary. *Sweden*. London: A. & C. Black, 1995.

*Frommer's Sweden*. New York: Macmillan, 1999.

Williams, Brian. *Guide to Sweden*. Jackson, TN: Davidson, 2000.

### Periodicals

Belt, Don. "Sweden." *National Geographic*, August 1993, 2-35.

### Web Sites

*Arctic Sweden: The Arctic Connection*. <http://www.arcticconnection.com/Countries/sweden.shtml> (accessed April 17, 2003).

*Höga Kusten (The High Coast)*. <http://www.highcoast.net> (accessed April 17, 2003).

# 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.

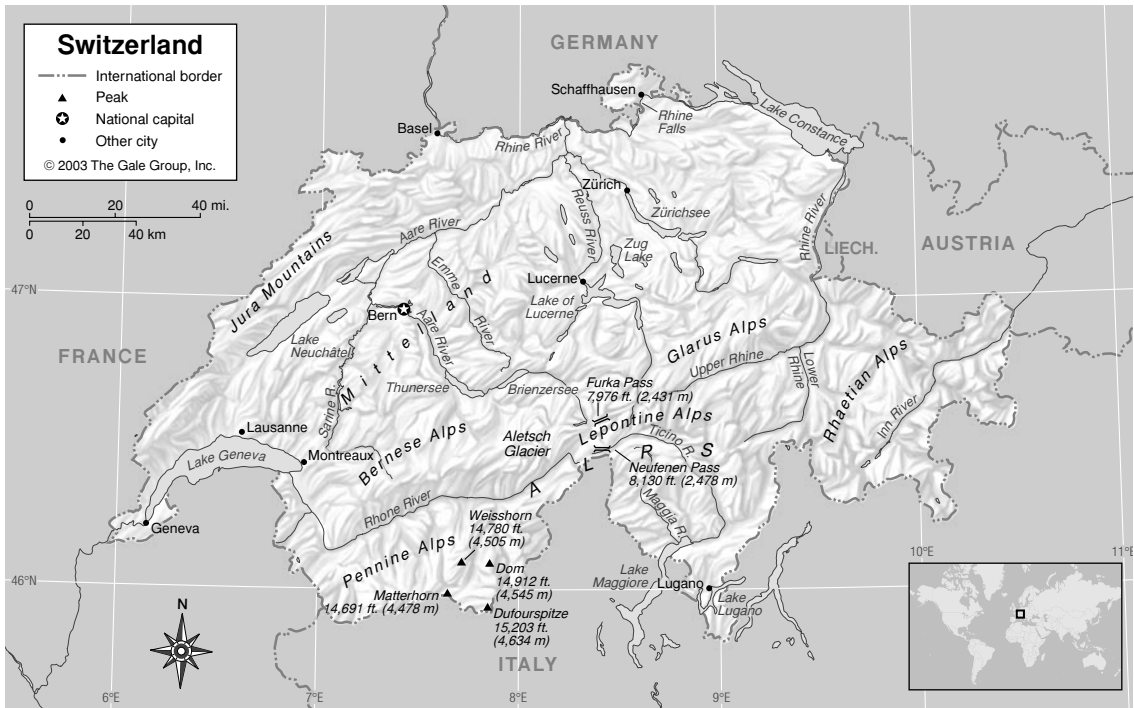
## 3 🌐 CLIMATE

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

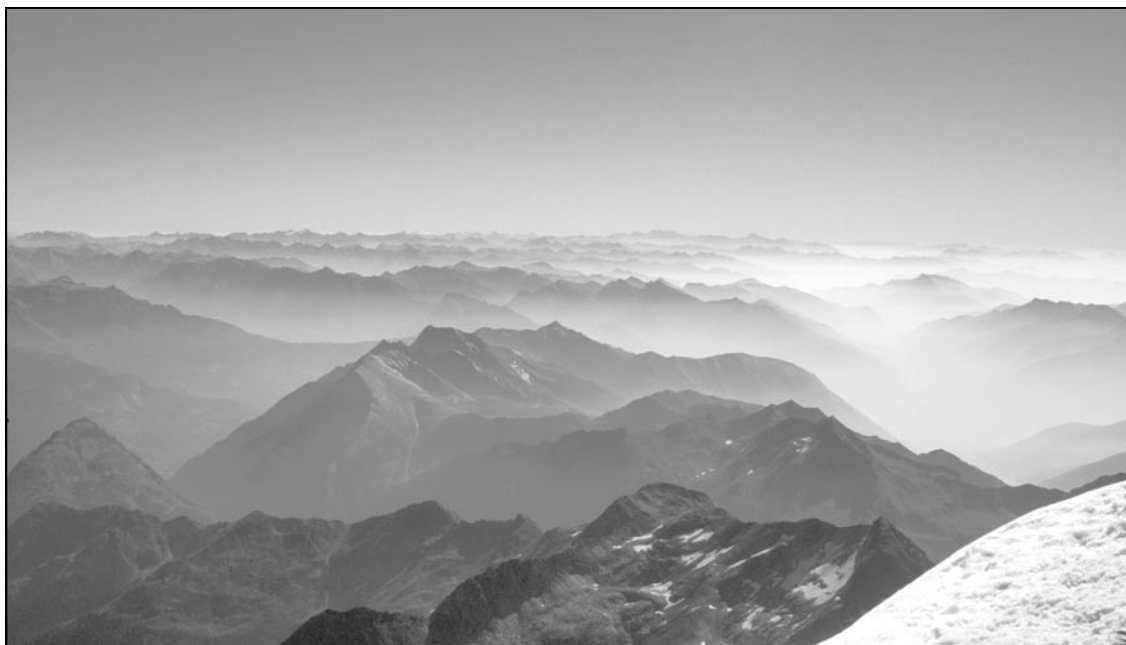
Two of Europe's major rivers, the Rhone and the Rhine, rise in the Swiss Alps, within 32 kilometers (20 miles) of each other. The Rhone, which originates from the Rhone Glacier in the Alps near Lake Geneva, is a mostly mountainous river that cuts through numerous valleys. The Rhine is one of the most 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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# SWITZERLAND

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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.

## 14 🌐 FURTHER READING

### Books

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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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## Web Sites

*Lonely Planet: Destination Switzerland.* <http://www.lonelyplanet.com/destinations/Europe/Switzerland/> (accessed May 7, 2003).

*TRAMsoft Ambühler & Müller: Information about Switzerland.* <http://www.about.ch/> (accessed May 7, 2003).

# 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.

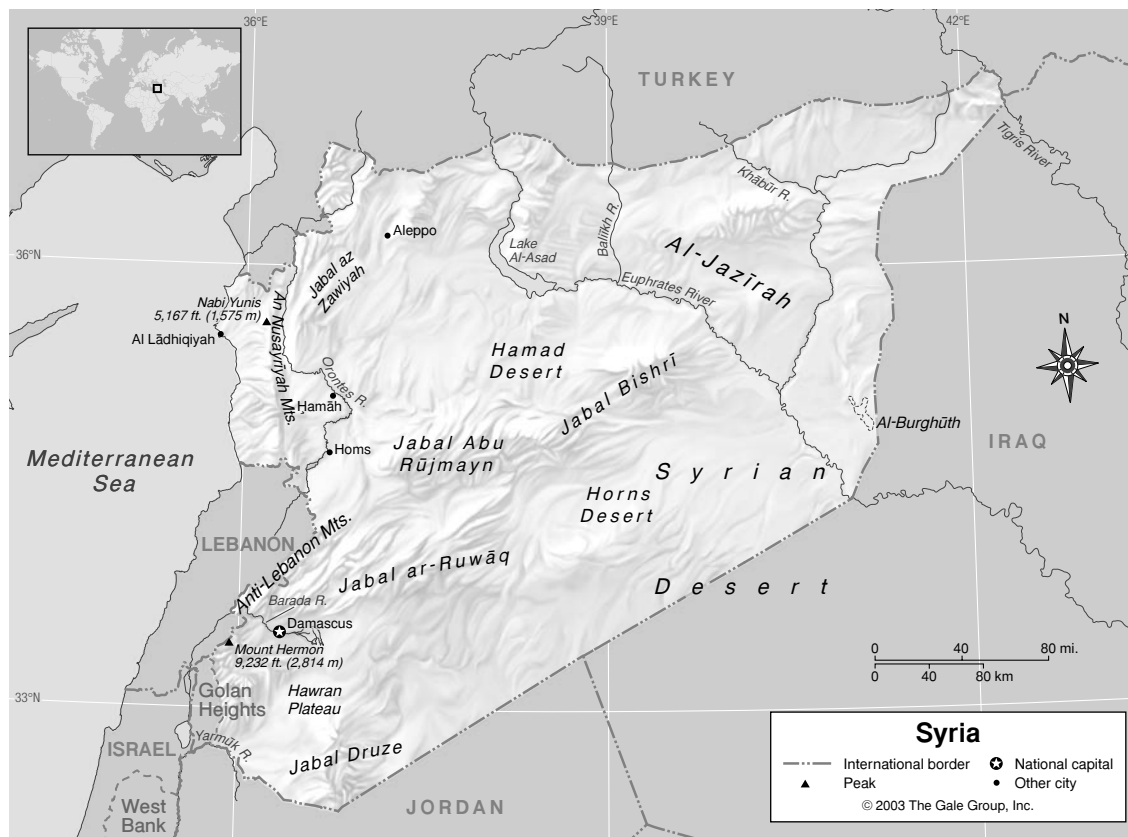
## 3 🌐 CLIMATE

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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- ArabNet: Syria*. [http://www.arab.net/syria/syria\\_contents.html](http://www.arab.net/syria/syria_contents.html) (accessed April 24, 2003).



# 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.

## 14 FURTHER READING

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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.

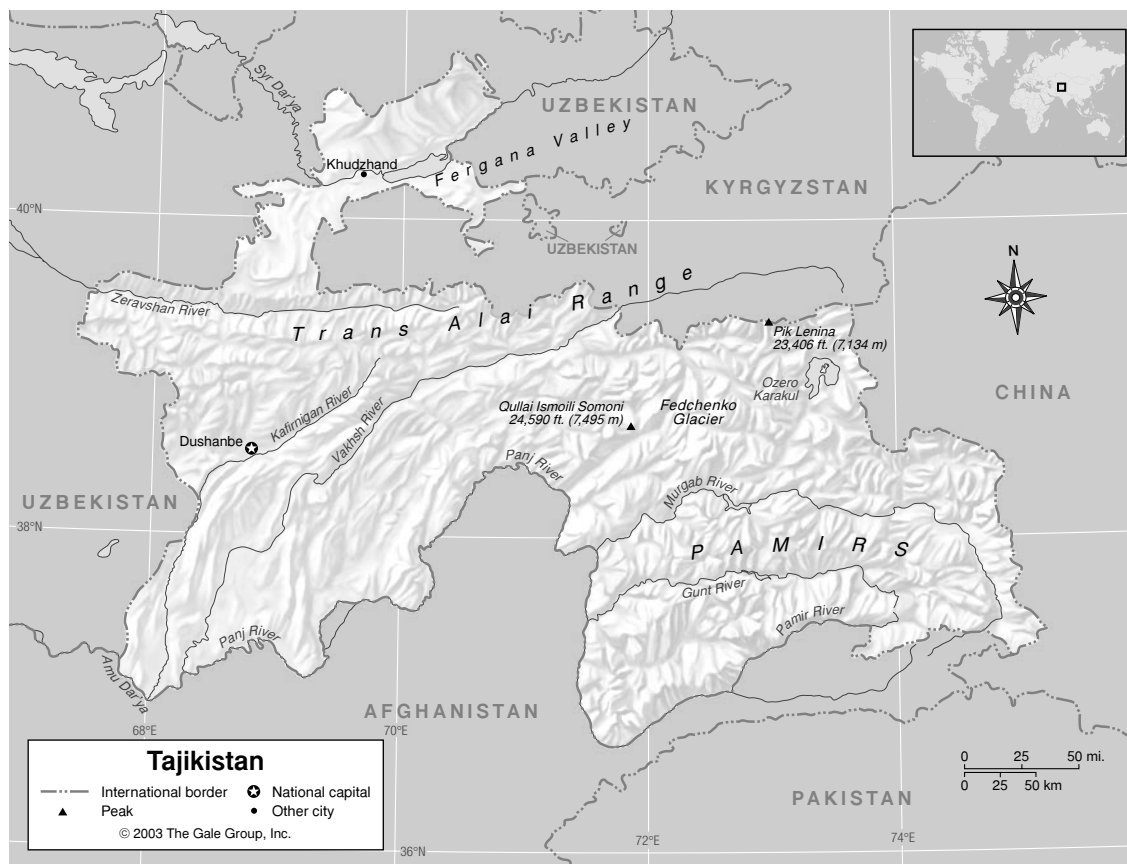
## 3 🌐 CLIMATE

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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# TANZANIA

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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)

## 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.

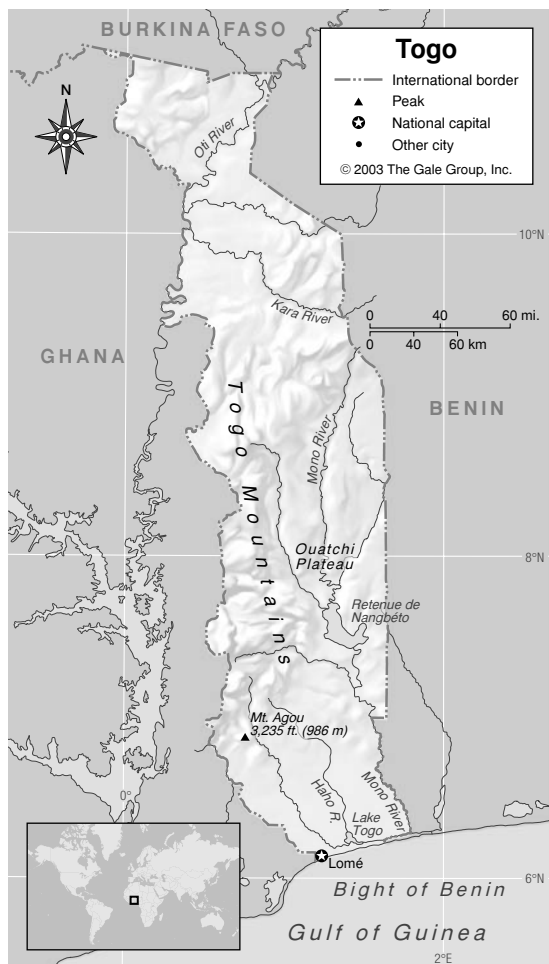
Togo's climate, while moist, is drier than those of its neighbors on the Gulf of Guinea. The coast receives an annual average rainfall

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.

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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.

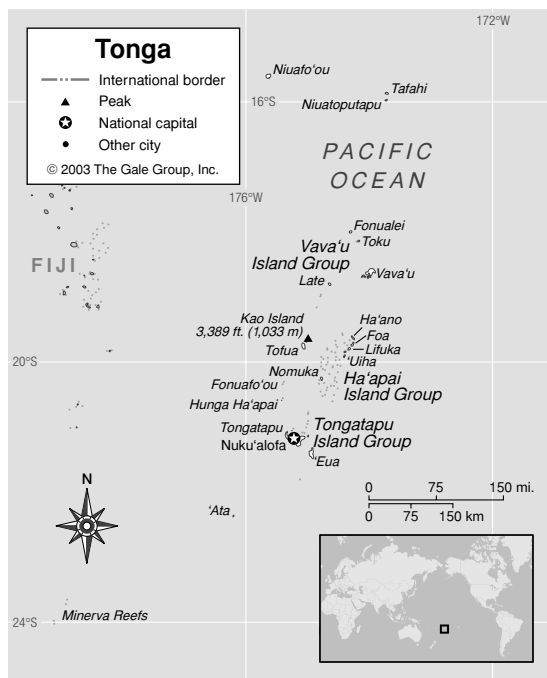
Rainfall and humidity increase from south to north. Average annual rainfall ranges from 160 centimeters (63 inches) in Tongatapu, to 221 centimeters (87 inches) in Vava'u, to 257 centimeters (101 inches) in Niuatoputapu.

## 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.

## 14 🌐 FURTHER READING

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- Fletcher, Matt, and Nancy Keller. *Tonga*. London: Lonely Planet, 2001.
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- Stanley, David. *Tonga-Samoa Handbook*. Emeryville, CA: Moon Publications, 1999.

### Web Sites

- Lonely Planet: Destination Tonga*. <http://www.lonelyplanet.com/destinations/pacific/tonga/> (accessed April 11, 2003).
- Tonga: The Kingdom of Ancient Polynesia*. <http://www.vacations.tvb.gov.to/index.htm> (accessed April 11, 2003).

# 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)

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## 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-

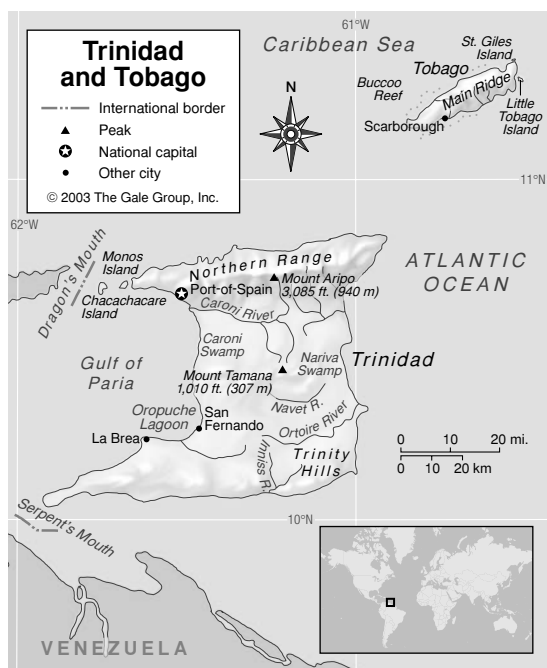
ally cool. For the most part, Tobago is cooler than Trinidad, owing to the more constant northeast trade winds.

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.

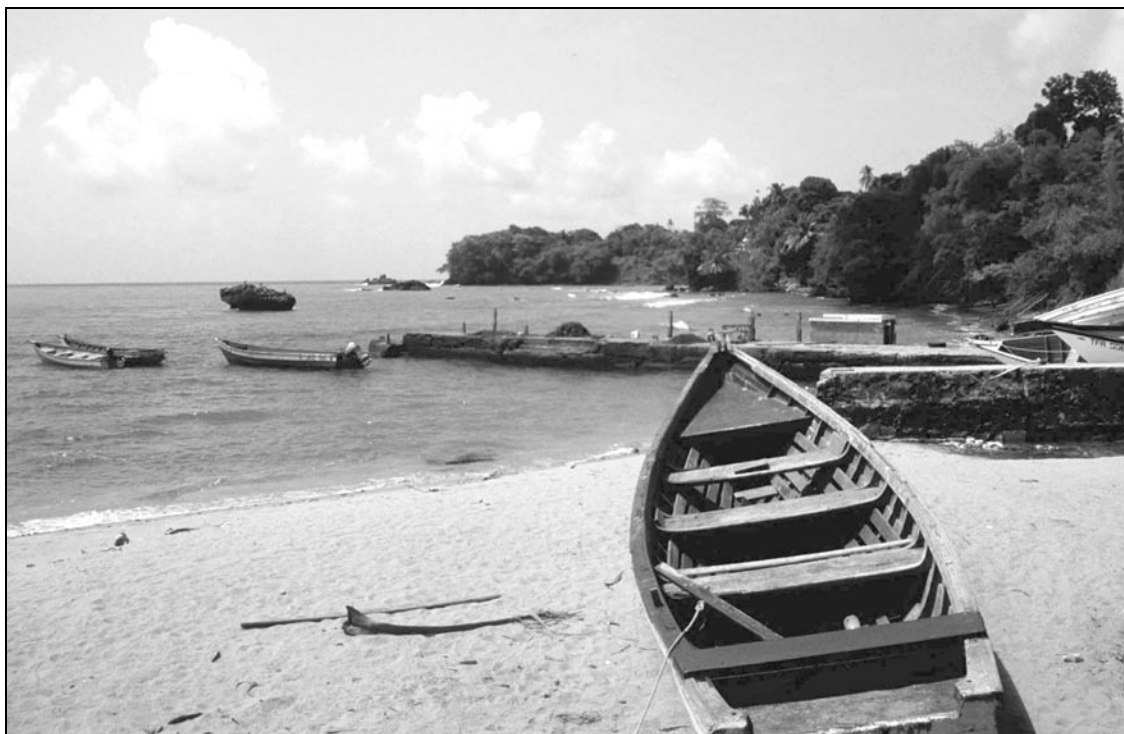
### Sea Inlets and Straits

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

### Books

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O'Donnell, Kathleen, and Harry S. Pefkaros. *Adventure Guide to Trinidad & Tobago*. Edison, NJ: Hunter Publishing, 1996.

Winer, Lise. *Trinidad and Tobago*. Philadelphia: J. Benjamins, 1993.

### Periodicals

Williams, A.R. "Trinidad and Tobago." *National Geographic*, March 1994, 66-89.

### Web Sites

*Government of the Republic of Trinidad and Tobago*. <http://www.gov.tt/about> (accessed April 11, 2003).

# 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

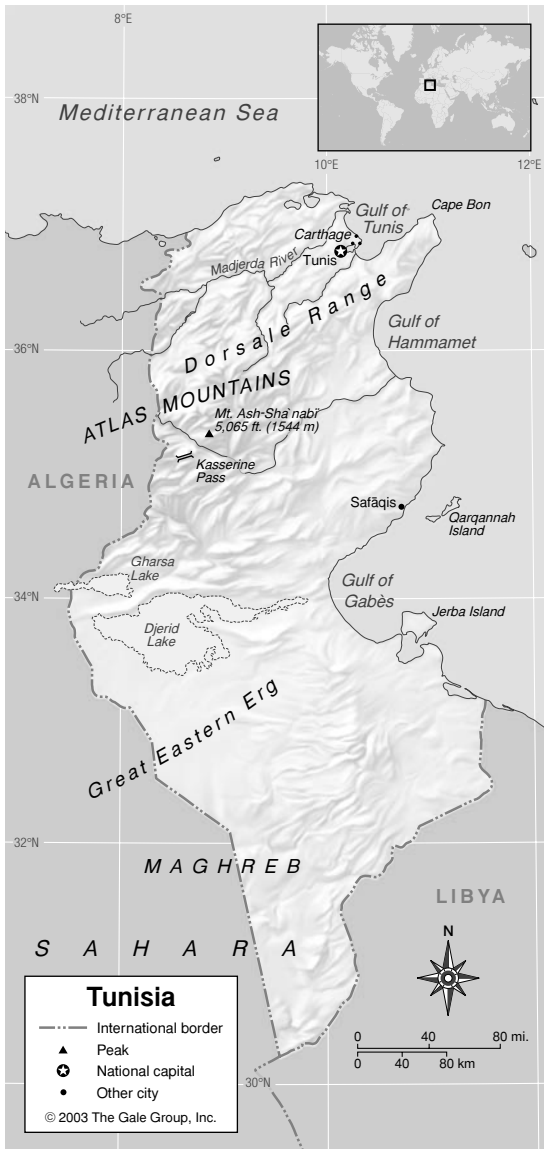
The Mediterranean Sea forms Tunisia's northern and eastern borders.

### 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.

### 14 FURTHER READING

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*Lonely Planet: Tunisia*. <http://www.lonelyplanet.com/destinations/africa/tunisia/index.htm> (accessed April 17, 2003).

# 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

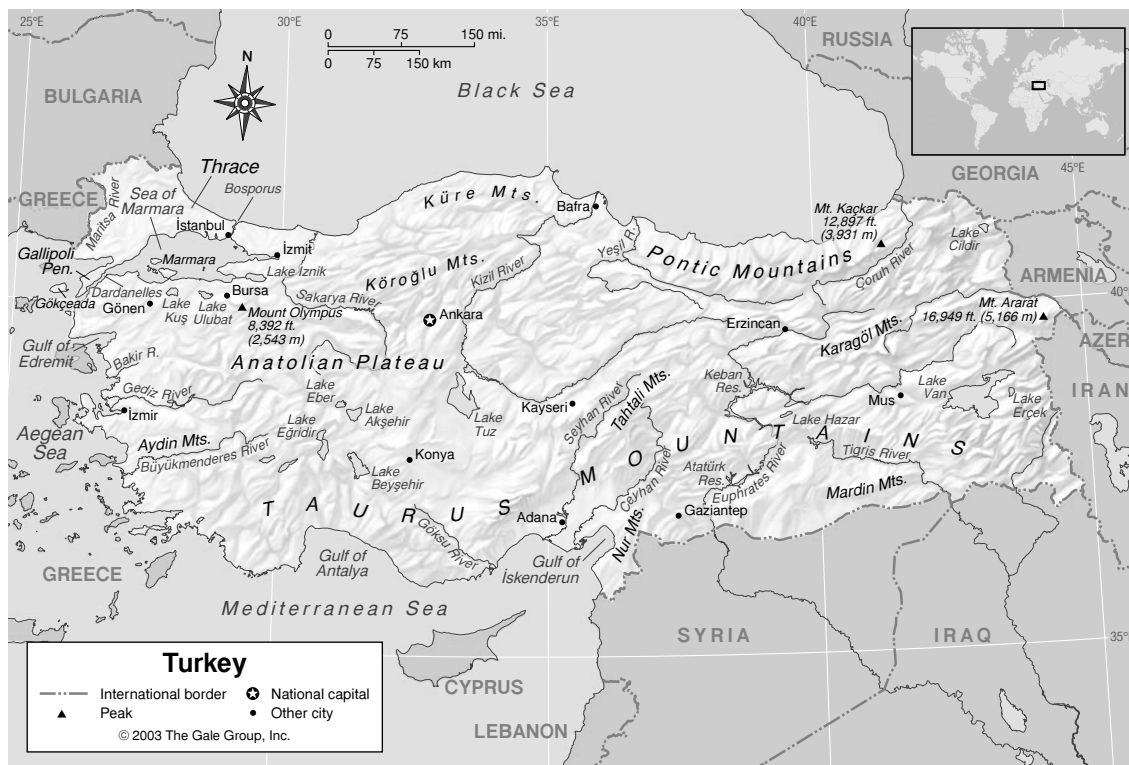
Turkey has no outside territories or dependencies.

## 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 Büyükmenderes 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.

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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
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## 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

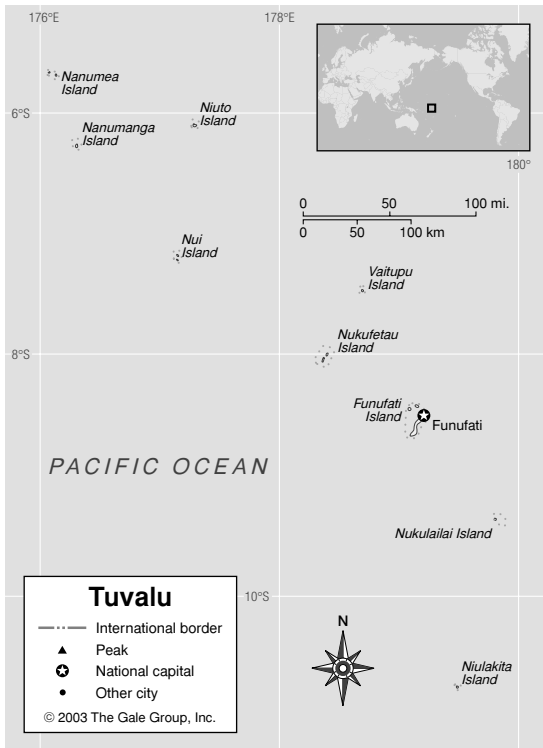
The South Pacific Ocean surrounds Tuvalu in a region that is known as Oceania. Oceania refers to the islands in the central and southern Pacific Ocean and its adjacent seas. The boundaries for the region are the Tropic of Cancer in the north and the southern tip of New Zealand.

### 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

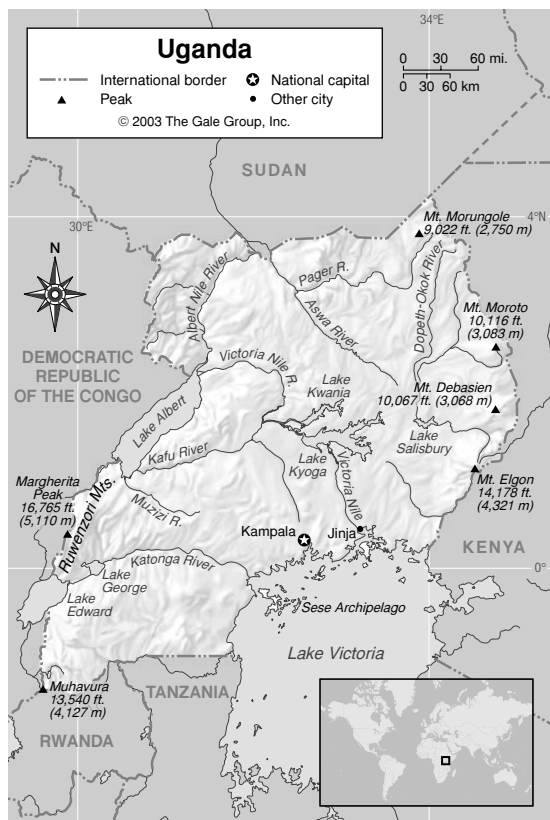
Situated right on the equator, temperatures do not vary much on the plateau. At Lake Albert, annual temperatures range only from 22° to 29°C (72° to 84°F). Temperatures drop significantly at the higher altitudes, however. At Kampala, for instance, the average extremes are 17°C to 27°C (63°F to 81°F).

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 Kwana, 7.3 meters

(24 feet); and in Lake George, 3 meters (10 feet). A large swamp surrounds Lakes Kyoga and Kwana 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.

## 14 FURTHER READING

### Books

*Africa South of the Sahara 2002: Uganda*. London: Europa Publishers, 2001.

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Caputo, Robert. "Uganda—Land Beyond Sorrow." *National Geographic*, April 1988, 468-492.

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*ThinkQuest: The Living Africa*. <http://www.library.thinkquest.org/16645/contents.html> (accessed May 5, 2003).

*Uganda Tourist Board*. <http://www.visituganda.com/inside.htm> (accessed May 5, 2003).

# 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 Pripjat' (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.

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Subtelny, Orest. *Ukraine: A History*. Toronto: University of Toronto Press, 1988.

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## 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

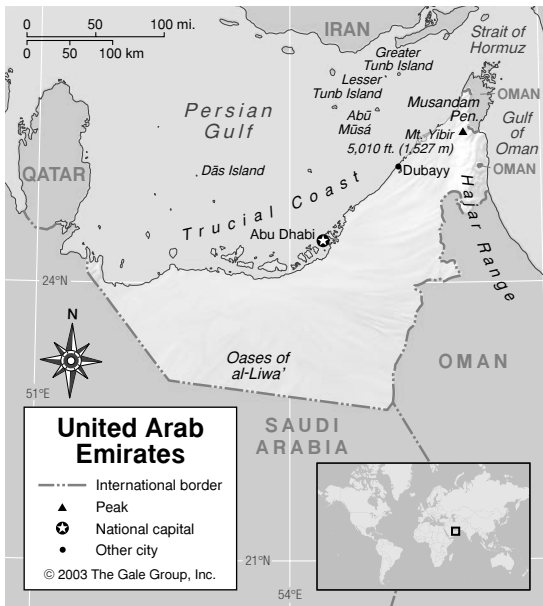
The climate is arid and subtropical. The months between May and October are extremely hot, with shade temperatures of between 39° and 49°C (100° and 120°F). Humidity on the coast can exceed 85 percent. Winter temperatures can fall as low as 2°C (36° F) but average

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**

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*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.

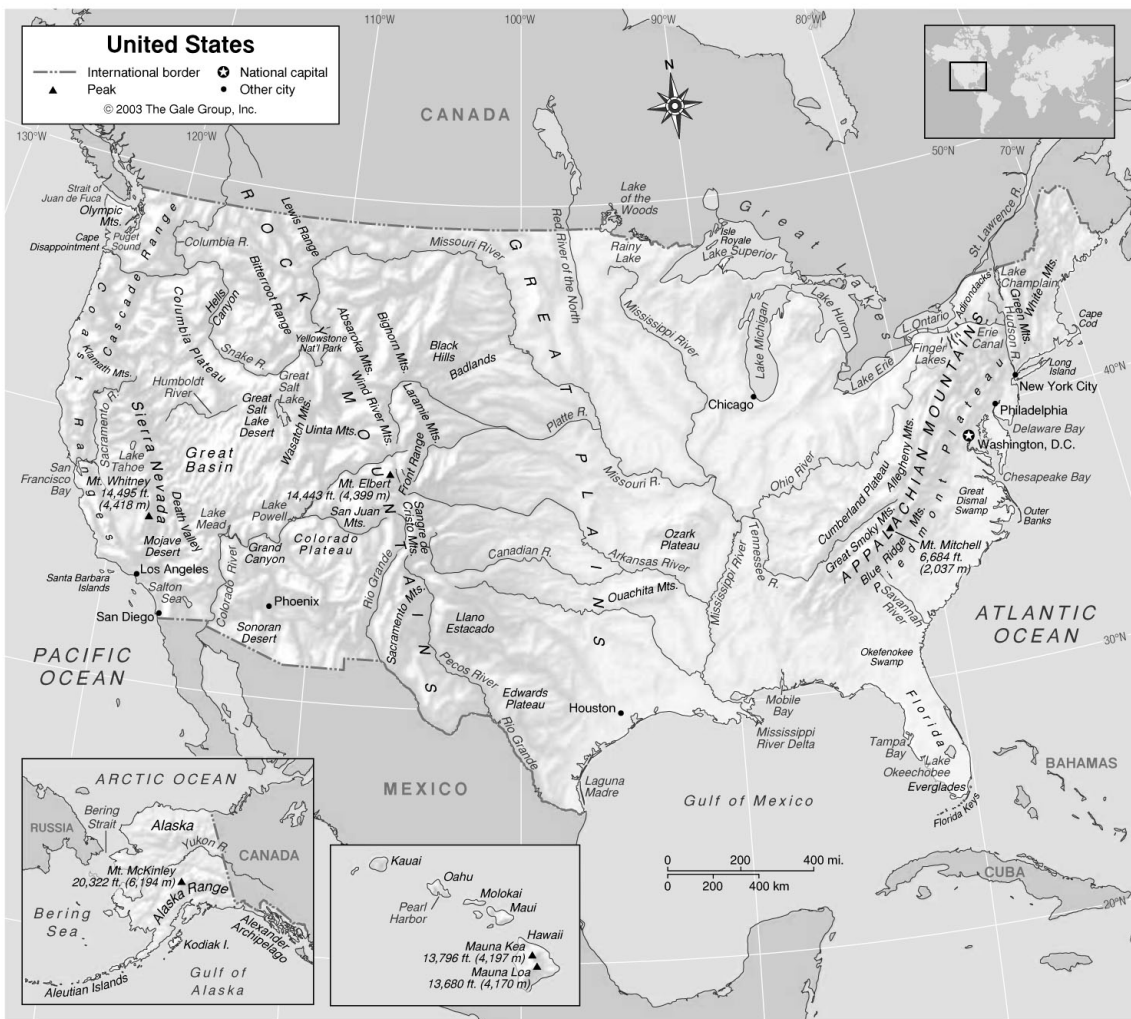
## 3 🌐 CLIMATE

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.

## 14 FURTHER READING

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### Web Sites

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*U.S. Geological Survey*. <http://www.usgs.com>  
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*U.S. National Park Service: ParkNet*.  
<http://www.nps.gov>  
(accessed April 11, 2003).

# 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.

# URUGUAY



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.

## 14 🌐 FURTHER READING

### Books

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*Rereading New World History from the Margins*. Philadelphia: Temple University Press, 2001.

### Web Sites

*Lonely Planet: Destination Uruguay*. [http://www.lonelyplanet.com/destinations/south\\_america/uruguay/](http://www.lonelyplanet.com/destinations/south_america/uruguay/) (accessed April 16, 2003).

# 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.

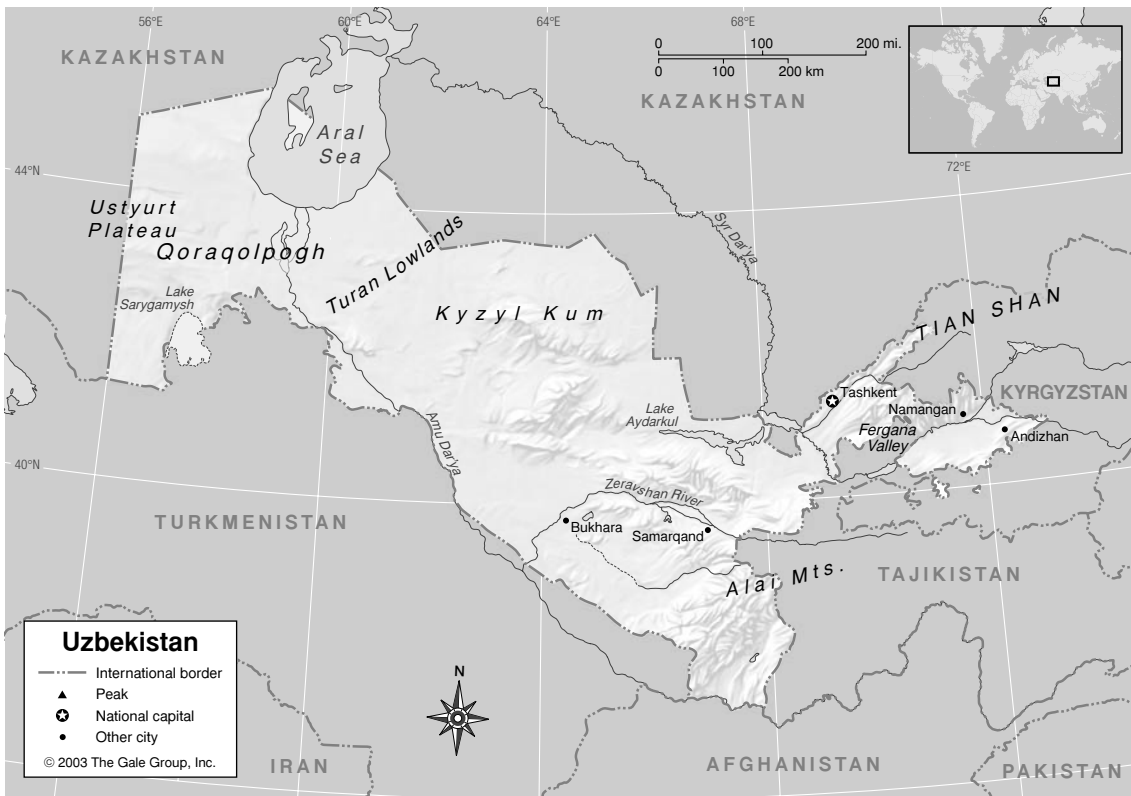
## 4 🌐 TOPOGRAPHIC REGIONS

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.

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# UZBEKISTAN

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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

### Books

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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

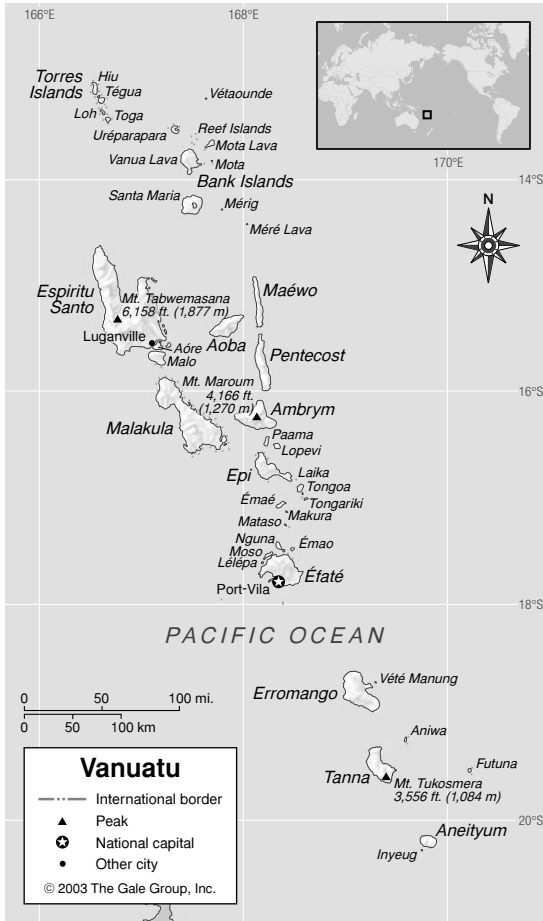
### Seacoast and Undersea Features

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.

Douglas, Norman. *Vanuatu: A Guide*. Sydney: Pacific Publications, 1987.

Jolly, Margaret. *Women of the Place: Kastom, Colonialism, and Gender in Vanuatu*. Philadelphia: Harwood Academic Publishers, 1994.

Kilham, Christopher. *Kava: Medicine Hunting in Paradise*. Rochester, VT: Park Street Press, 1996.

### Web Sites

*Vanuatu Tourism: Geography*.  
<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.

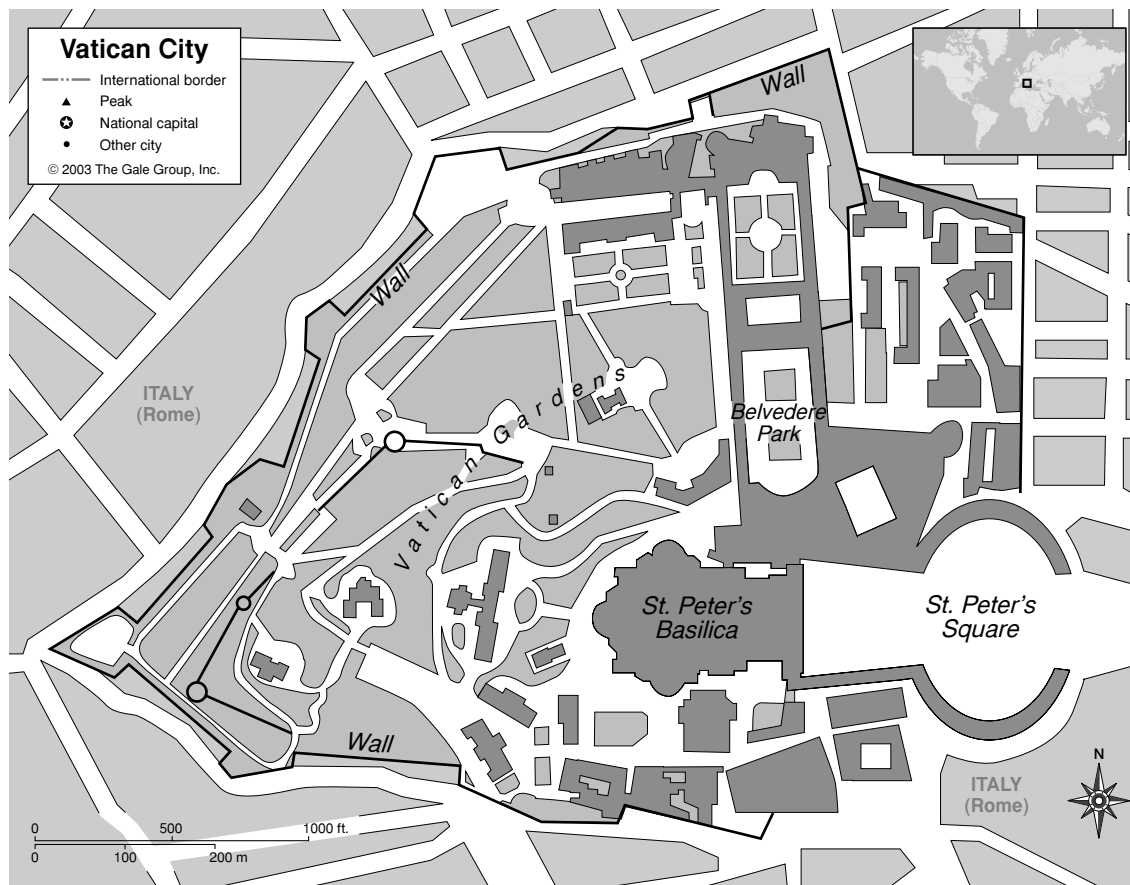
## 7 🌐 RIVERS AND WATERFALLS

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

Hirst, Michael, et al. *The Sistine Chapel: A Glorious Restoration*. New York: H.N. Abrams, 1994.

Hutchinson, Robert J. *When in Rome: A Journal of Life in Vatican City*. New York: Doubleday, 1998.

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## VATICAN CITY

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EPD/Peter Langer

*Gardens of the Vatican.*

McDowell, Bart. *Inside the Vatican*. Washington, DC: National Geographic Society, 1993.

Pietrangeli, Carlo, ed. *Paintings in the Vatican*. Boston: Little, Brown, 1996.

Reese, Thomas J. *Inside the Vatican: The Politics and Organization of the Catholic Church*.

Cambridge, MA: Harvard University Press, 1996.

### **Web Site**

*Vatican: The Holy See.*

<http://www.vatican.va/index.htm>  
(accessed March 12, 2003).

# 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.

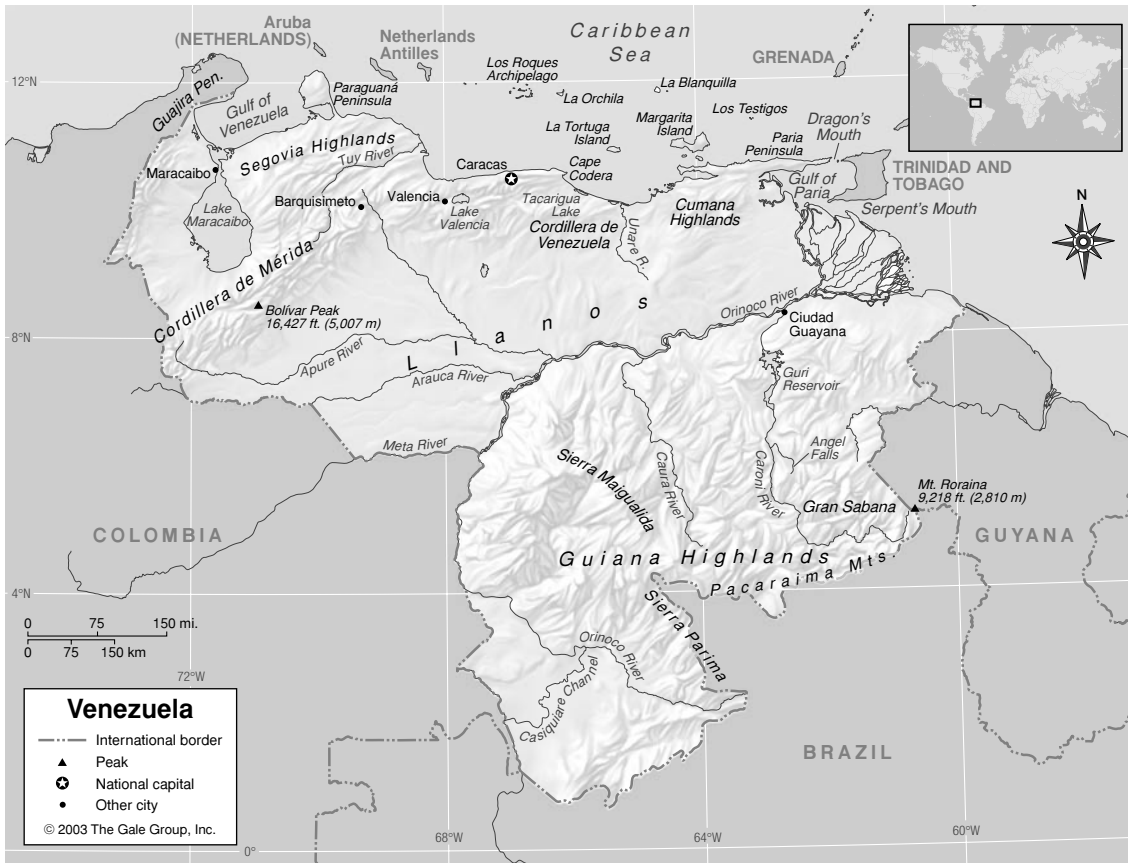
## 3 🌐 CLIMATE

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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## 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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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.

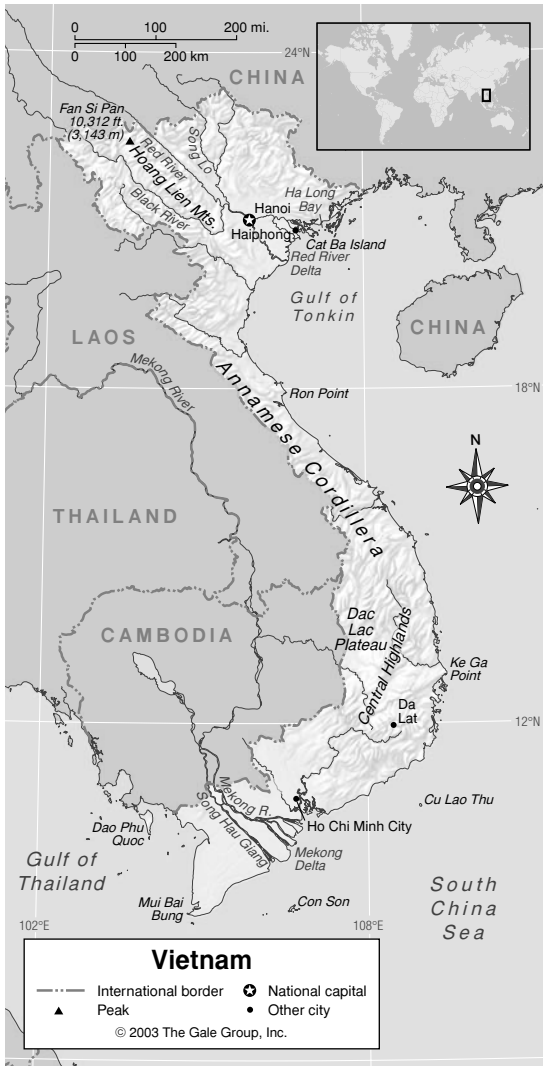
## 5 🌐 OCEANS AND SEAS

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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## DID YOU KNOW?

At its narrowest point, Vietnam is only 50 kilometers (31 miles) wide.

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# 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

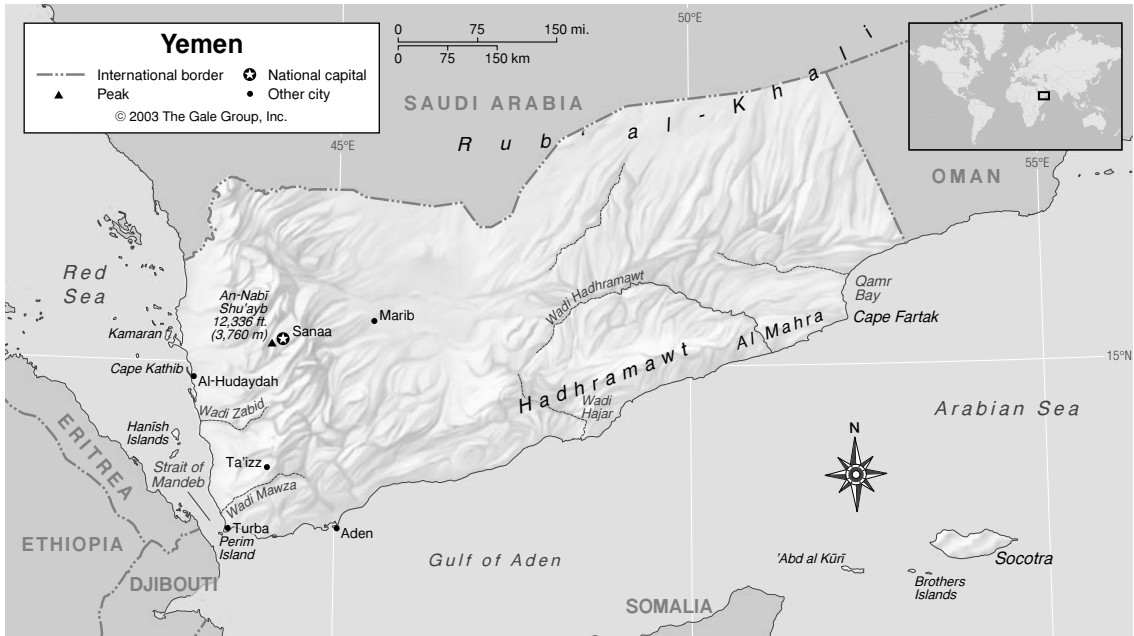
often appear in both summer and winter as winds sweep across Yemen.

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

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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).

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## 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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### 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

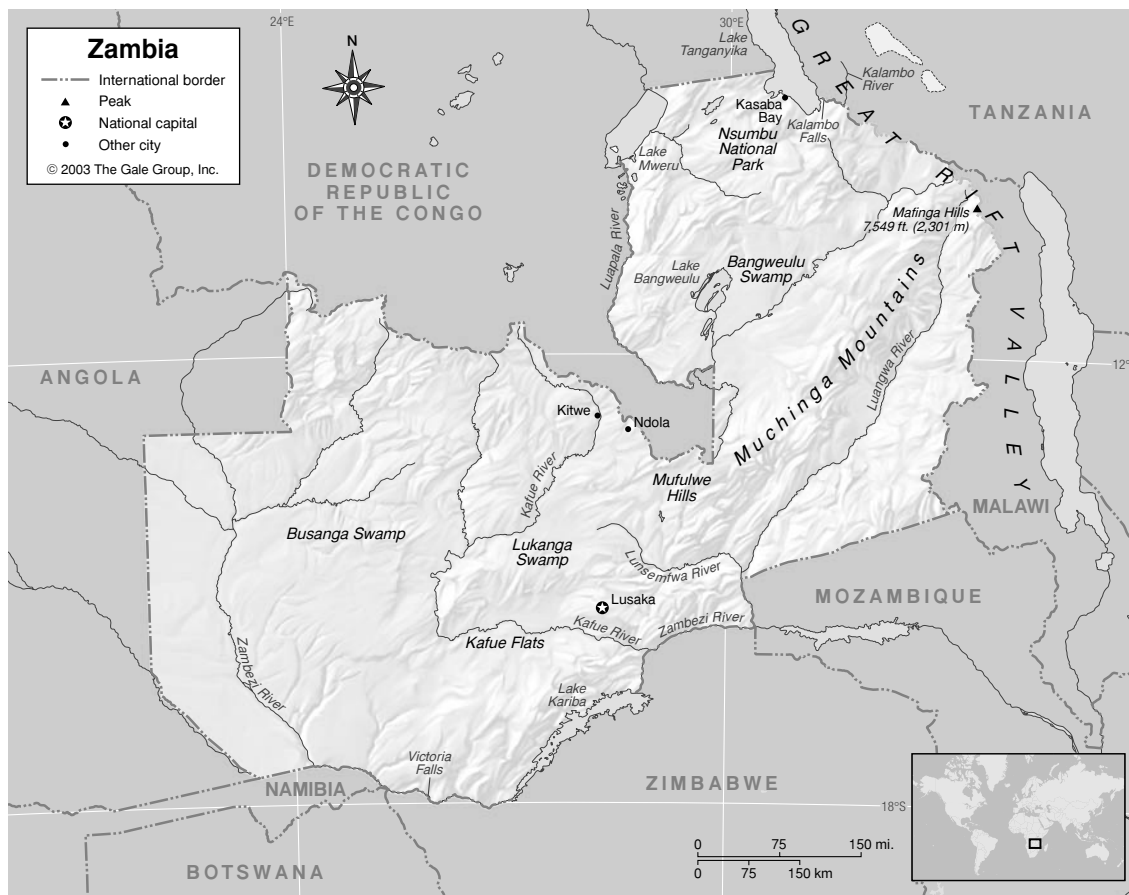
79°F). At night, however, temperatures may drop as low as 23°C (41°F).

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

### Books

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McIntyre, Chris. *Guide to Zambia*. Chalfont St. Peter: Bradt, 1999.

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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

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## 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.

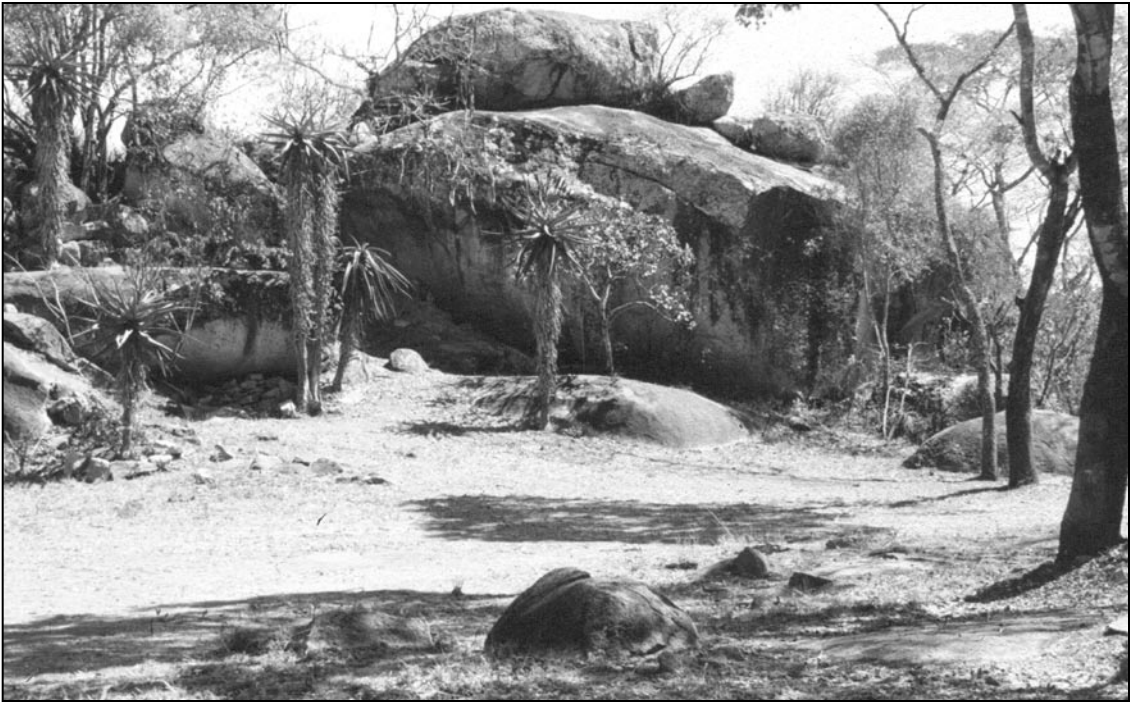
## **11** 🌐 **CANYONS AND CAVES**

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

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*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	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	Pisis	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

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