

Encyclopedic Entry

North America: Physical Geography

For the complete encyclopedic entry with media resources, visit:
<http://education.nationalgeographic.com/encyclopedia/north-america-physical-geography/>

North America, the third-largest [continent](#), extends from the tiny Aleutian Islands in the northwest to the [Isthmus](#) of Panama in the south. The continent includes the enormous [island](#) of Greenland in the northeast and the small island countries and territories that dot the Caribbean Sea and western North Atlantic Ocean. In the far north, the continent stretches halfway around the world, from Greenland to the Aleutians. But at Panama’s narrowest part, the continent is just 50 kilometers (31 miles) across.

North America’s [physical geography](#), [environment](#) and [resources](#), and [human geography](#) can be considered separately.

North America can be divided into five physical [regions](#): the mountainous west, the [Great Plains](#), the [Canadian Shield](#), the varied eastern region, and the Caribbean. Mexico and Central America’s western coast are connected to the mountainous west, while its lowlands and coastal plains extend into the eastern region.

Within these regions are all the major types of biomes in the world. A [biome](#) is a community of animals and plants spreading over an extensive area with a relatively uniform [climate](#). Some diverse biomes represented in North America include [desert](#), [grassland](#), [tundra](#), and [coral reefs](#).

Western Region

Young mountains rise in the west. The most familiar of these mountains are probably the Rockies, North America’s largest chain. The Rockies stretch from the [province](#) of British Columbia, Canada, to the U.S. state of New Mexico.

The Rocky Mountains are part of a system of parallel [mountain ranges](#) known as the Cordilleras. A [cordillera](#) is a long series of mountain ranges. Although cordilleras exist all over the world, in North America, “the Cordilleras” indicate the massive mountain ranges in the western part of the continent. The Cordilleras extend from Canada all the way to the Isthmus of Panama.

The Sierra Madre mountain system is part of the Cordilleras. The Sierra Madre stretch from the southwestern United States to Honduras. The Sierra Madre include many high volcanoes (up to 5,636 meters, or 18,500 feet) that stretch across Mexico south of the cities of Guadalajara and Mexico City.

Volcanic mountain ranges in Guatemala, Honduras, Nicaragua, Costa Rica, and Panama are also considered part of the Cordilleras. [Volcanic eruptions](#) and [earthquakes](#) occur frequently in this region. Volcanic activity can destroy towns and cities. It also contributes to the rich, [fertile soils](#) of the region.

Some of the Earth’s youngest mountains are in the Cascade Range of the U.S. states of Washington, Oregon, and California. Some peaks began to form only about a million years ago—a blink of an eye in Earth’s long history. The

mountains include [temperate rain forest](#)—a biome unique to the area. The temperate rain forest receives an incredible amount of [precipitation](#), between 254 to 508 centimeters (100 to 200 inches) annually. However, its cool winters and mild summers promote the growth of mosses, ferns, fungi, and [lichens](#).

The temperate rain forest supports a wide variety of life. The Sitka spruce, western red cedar, and Douglas fir are trees native to North America’s temperate rain forest. Some of these trees grow to more than 90 meters (300 feet) tall and 3 meters (10 feet) in diameter. Black bears, Roosevelt elk, and marmots are indigenous animal species.

The three major desert regions of North America—the Sonoran, Mojave, and Chihuahuan—are all in the American southwest and northern Mexico. These large deserts are located in the [rain shadows](#) of nearby mountains. The mountains block precipitation and [accelerate](#) the movement of hot, dry [wind](#) over these regions. The Sonoran is in the rain shadow of the Coast Ranges, the Mojave is in the shadow of the Sierra Nevada, and the Chihuahuan is in the shadow of the Sierra Madre.

Notable desert plant species includes the saguaro cactus, Joshua tree, and mesquite. Animal species include the roadrunner, Gila monster, and rattlesnake.

In addition to mountains, deserts, and forests, the northern part of the western region of North America also has the richest deposits of [oil](#) and [natural gas](#) on the continent. Most of these deposits are located offshore, in the Arctic and Pacific Oceans.

Great Plains

The Great Plains lie in the middle of the continent. Deep, rich soil blankets large areas of the plains in Canada and the United States. Grain grown in this region, called the “Breadbasket of North America,” feeds a large part of the world. The Great Plains are also home to rich deposits of oil and natural gas.

Much of the fertile soil was formed from material deposited during the most recent [glacial period](#). This ice age reached its peak about 18,000 years ago. As glaciers retreated, streams of melted ice dropped [sediment](#) on the land, building layers of productive soil.

The grassland or prairie regions of the Great Plains make up the largest biome in North America. Extreme weather prevents the growth of large plants but is perfectly suited to the native grasses that dominate the region.

Native grasses vary in size from 2 meters (7 feet) in tallgrass [prairies](#) to only 20 or 25 centimeters (8 or 10 inches) in shortgrass prairies. Native animal species include bison, prairie dogs, and grasshoppers.

Canadian Shield

The Canadian Shield is a raised but relatively flat [plateau](#). It extends over eastern, central, and northwestern Canada. The Canadian Shield is characterized by a rocky landscape pocked by an astounding number of [lakes](#).

The tundra, stretching along the northern borders of Alaska and Canada to the Hudson Bay area, is a biome common to the Canadian Shield. Tundra is where low temperatures and precipitation levels [hinder](#) tree growth. The tundra is characterized by [permafrost](#)—soil that is frozen for two or more years. This permafrost keeps moisture near the soil’s surface, promoting vegetation growth even in the extreme, Arctic conditions of the tundra.

During the summer, this top layer of soil thaws less than 10 centimeters (only a few inches) down, forming numerous shallow lakes, ponds, and [bogs](#). Lichens, mosses, algae, and [succulents](#) take advantage of these shallow waters. In turn, they provide food for the caribou and musk ox that are typical of this area.

Eastern Region

This varied region includes the Appalachian Mountains and the Atlantic [coastal plain](#).

North America's older mountain ranges, including the Appalachians, rise near the east coast of the United States and Canada. These areas have been mined for rich deposits of [coal](#) and other [minerals](#) for hundreds of years.

The Atlantic coastal plain extends from [river](#), [marsh](#), and [wetland](#) regions east of the mountains toward the sandy [beaches](#) of the Atlantic coast. Wetland areas are a biome of the eastern region and consist of areas of land whose soil is [saturated](#) with permanent or seasonal moisture. The Florida [Everglades](#) is the largest wetland system in the United States, covering more than 11,137 square kilometers (4,300 square miles) of southern Florida.

The Everglades is a biologically diverse region and contains several bordering [ecosystems](#). Sawgrass marshes are the most [iconic](#) plant community of the Everglades and thrive on the slow-moving water of the wetlands. Alligators nest in the sawgrass, while wading birds such as egrets, herons, spoonbills, and ibises make their breeding grounds in other wetland tree species, such as cypress and mangrove.

Caribbean Region

The Caribbean Region includes more than 7,000 islands, islets, reefs, and [cays](#). The region's islands and smaller islets are varied in their [topography](#); some have relatively flat and sandy terrain while others are rugged, mountainous, and volcanic.

The coral reefs and cays of the Caribbean Sea are among the most spectacular biomes in North America. A reef is a ridge of jagged rock, coral, or sand just above or below the surface of the sea. Some coral reefs surround islands, such as the Bahamas, Antigua, and Barbados. Others are found off the Florida Keys, a chain of cays—small islands situated on a coral reef platform—near the southern coast of the U.S. state of Florida.

Coral reefs are made of millions of tiny animals—corals—that form a hard shell around their bodies. This hard surface provides a rich community for algae and plants such as seagrass. Brightly colored tropical fish, as well as sharks, sea turtles, sea stars, and sea horses, are animals native to the Caribbean's coral reefs.

Natural Wonders

North America's varied landscape features many natural wonders. It has deep canyons, such as Copper Canyon in the Mexican state of Chihuahua. Denali, the continent's highest peak, stands at 6,194 meters (20,320 feet) within Denali National Park and Preserve in the U.S. state of Alaska. Yellowstone National Park, in the U.S. states of Wyoming, Montana, and Idaho, has some of the world's most active [geysers](#). Canada's Bay of Fundy has the greatest [tidal range](#) in the world. The Great Lakes form the planet's largest area of [freshwater](#). The Mississippi River, at 3,730 kilometers (2,320 miles) long, is one of the longest river systems in the world and drains all or parts of 31 U.S. states.

VOCABULARY

Term	Part of Speech	Definition
accelerate	<i>verb</i>	to increase speed or velocity.
Arctic	<i>noun</i>	region at Earth's extreme north, encompassed by the Arctic Circle.
beach	<i>noun</i>	narrow strip of land that lies along a body of water.

biome	<i>noun</i>	area of the planet which can be classified according to the plant and animal life in it.
bog	<i>noun</i>	wetland of soft ground made mostly of decaying plant matter.
border	<i>noun</i>	natural or artificial line separating two pieces of land.
Canadian shield	<i>noun</i>	rocky plateau extending through most of northern and central Canada.
cay	<i>noun</i>	small, low island on a coral reef. Also called a key.
climate	<i>noun</i>	all weather conditions for a given location over a period of time.
coal	<i>noun</i>	dark, solid fossil fuel mined from the earth.
coastal plain	<i>noun</i>	low, flat land lying next to the ocean.
continent	<i>noun</i>	one of the seven main land masses on Earth.
coral reef	<i>noun</i>	rocky ocean features made up of millions of coral skeletons.
cordillera	<i>noun</i>	chain of mountain ranges.
desert	<i>noun</i>	area of land that receives no more than 25 centimeters (10 inches) of precipitation a year.
diverse	<i>adjective</i>	varied or having many different types.
earthquake	<i>noun</i>	the sudden shaking of Earth's crust caused by the release of energy along fault lines or from volcanic activity.
ecosystem	<i>noun</i>	community and interactions of living and nonliving things in an area.
environment	<i>noun</i>	conditions that surround and influence an organism or community.
Everglades	<i>noun</i>	vast swampy region flowing south of Lake Okeechobee in Florida.
fertile	<i>adjective</i>	able to produce crops or sustain agriculture.
forest	<i>noun</i>	ecosystem filled with trees and underbrush.
freshwater	<i>noun</i>	water that is not salty.
geyser	<i>noun</i>	natural hot spring that sometimes erupts with water or steam.
glacial period	<i>noun</i>	time of long-term lowering of temperatures on Earth. Also known as an ice age.
grassland	<i>noun</i>	ecosystem with large, flat areas of grasses.
Great Plains	<i>noun</i>	grassland region of North America, between the Rocky Mountains and the Mississippi River.
hinder	<i>verb</i>	to delay or hold back.
human geography	<i>noun</i>	the study of the way human communities and systems interact with their environment.
iconic	<i>adjective</i>	event or symbol representing a belief, nation, or community.
indigenous	<i>adjective</i>	native to or characteristic of a specific place.
island	<i>noun</i>	body of land surrounded by water.
isthmus	<i>noun</i>	narrow strip of land connecting two larger land masses.
lake	<i>noun</i>	body of water surrounded by land.

lichen	<i>noun</i>	organism composed of fungus and algae.
marsh	<i>noun</i>	wetland area usually covered by a shallow layer of seawater or freshwater.
mineral	<i>noun</i>	inorganic material that has a characteristic chemical composition and specific crystal structure.
mountain range	<i>noun</i>	series or chain of mountains that are close together.
natural gas	<i>noun</i>	type of fossil fuel made up mostly of the gas methane.
offshore	<i>adjective</i>	having to do with facilities or resources located underwater, usually miles from the coast.
oil	<i>noun</i>	fossil fuel formed from the remains of marine plants and animals. Also known as petroleum or crude oil.
permafrost	<i>noun</i>	permanently frozen layer of the Earth's surface.
physical geography	<i>noun</i>	study of the natural features and processes of the Earth.
plateau	<i>noun</i>	large region that is higher than the surrounding area and relatively flat.
prairie	<i>noun</i>	large grassland; usually associated with the Mississippi River Valley in the United States.
precipitation	<i>noun</i>	all forms in which water falls to Earth from the atmosphere.
province	<i>noun</i>	division of a country larger than a town or county.
rain forest	<i>noun</i>	area of tall, mostly evergreen trees and a high amount of rainfall.
rain shadow	<i>noun</i>	dry land on the side of a mountain facing away from prevailing winds.
region	<i>noun</i>	any area on the Earth with one or more common characteristics. Regions are the basic units of geography.
resource	<i>noun</i>	available supply of materials, goods, or services. Resources can be natural or human.
river	<i>noun</i>	large stream of flowing fresh water.
saturate	<i>verb</i>	to fill one substance with as much of another substance as it can take.
sediment	<i>noun</i>	solid material transported and deposited by water, ice, and wind.
soil	<i>noun</i>	top layer of the Earth's surface where plants can grow.
succulent	<i>noun</i>	type of plant that has thick leaves and stems for storing water.
temperate	<i>adjective</i>	moderate.
tidal range	<i>noun</i>	the difference in height between an area's high tide and low tide.
topography	<i>noun</i>	study of the shape of the surface features of an area.
tundra	<i>noun</i>	cold, treeless region in Arctic and Antarctic climates.
volcanic eruption	<i>noun</i>	activity that includes a discharge of gas, ash, or lava from a volcano.
weather	<i>noun</i>	state of the atmosphere, including temperature, atmospheric pressure, wind, humidity, precipitation, and cloudiness.
wetland	<i>noun</i>	area of land covered by shallow water or saturated by water.

wind

noun

movement of air (from a high pressure zone to a low pressure zone) caused by the uneven heating of the Earth by the sun.

For Further Exploration

Maps

- NG MapMaker Interactive: Land Cover—North and South America
- National Geographic Events: Giant Traveling Map of North America

Worksheets & Handouts

- USGS: Tree Species Distribution Maps for North America

Websites

- National Geographic Travel: North America
- National Geographic Environment: Expedition Blue Planet—North America



© 1996–2015 National Geographic Society. All rights reserved.