

## Reader's Guide

*This second edition of U•X•L Encyclopedia of Biomes* offers readers comprehensive, easy-to-use, and current information on twelve of Earth's major biomes and their many component ecosystems. Arranged alphabetically across three volumes, each biome chapter includes: an overview; a description of how the biomes are formed; their climate; elevation; growing season; plants, animals, and endangered species; food webs; human culture; and economy. The information presented may be used in a variety of subject areas, such as biology, geography, anthropology, and current events. Each chapter includes a "spotlight" feature focusing on specific geographical areas related to the biome being discussed and concludes with a section composed of books, periodicals, Internet addresses, and environmental organizations for readers to conduct more extensive research.

### Additional Features

Each volume of *U•X•L Encyclopedia of Biomes* includes color maps and at least 60 photos and illustrations pertaining to each biome, while sidebar boxes highlight fascinating facts and related information. All three volumes include a glossary, a bibliography, and a subject index covering all the subjects discussed in *U•X•L Encyclopedia of Biomes*.

### Note

There are many different ways to describe certain aspects of a particular biome, and it would be impossible to include all of the classifications in *U•X•L Encyclopedia of Biomes*. However, in cases where more than one

classification seemed useful, more than one was given. Please note that the classifications represented here may not be those preferred by all specialists in a particular field.

Every effort was made in this set to include the most accurate information pertaining to areas and other measurements. Great variations exist in the available data, however. Sometimes differences can be accounted for in terms of what was measured: the reported area of a lake, for example, may vary depending upon the point at which measuring began. Other differences may result from natural changes that took place between the time of one measurement and another. Further, other data may be questionable because reliable information has been difficult to obtain. This is particularly true for remote areas in developing countries, where funds for scientific research are lacking and non-native scientists may not be welcomed.

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### Comments and Suggestions

We welcome your comments on this work as well as your suggestions for topics to be featured in future editions of *U•X•L Encyclopedia of Biomes*. Please write: Editors, *U•X•L Encyclopedia of Biomes*, U•X•L, 27500 Drake Rd., Farmington Hills, MI 48331-3535; call toll-free: 1-800-877-4253; fax: 248-699-8097; or send e-mail via [www.gale.cengage.com](http://www.gale.cengage.com).

## *Words to Know*



**Abysal plain:** The flat midportion of the ocean floor that begins beyond the continental rise.

**Acid rain:** A mixture of water vapor and polluting compounds in the atmosphere that falls to Earth as rain or snow.

**Active margin:** A continental margin constantly being changed by earthquake and volcanic action.

**Aerial roots:** Plant roots that dangle in midair and absorb nutrients from their surroundings rather than from the soil.

**Algae:** Plantlike organisms that usually live in watery environments and depend upon photosynthesis for food.

**Algal blooms:** Sudden increases in the growth of algae on the ocean's surface.

**Alluvial fan:** A fan-shaped area created when a river or stream flows downhill, depositing sediment into a broader base that spreads outward.

**Amphibians:** Animals that spend part, if not most, of their lives in water.

**Amphibious:** Able to live on land or in water.

**Angiosperms:** Trees that bear flowers and produce their seeds inside a fruit; deciduous and rain forest trees are usually angiosperms.

**Annuals:** Plants that live for only one year or one growing season.

**Aquatic:** Having to do with water.

**Aquifer:** Rock beneath Earth's surface in which groundwater is stored.

**Arachnids:** Class of animals that includes spiders and scorpions.

**Arctic tundra:** Tundra located in the far north, close to or above the Arctic Circle.

**Arid:** Dry.

**Arroyo:** The dry bed of a stream that flows only after rain; also called a wash or a *wadi*.

**Artifacts:** Objects made by humans, including tools, weapons, jars, and clothing.

**Artificial grassland:** A grassland created by humans.

**Artificial wetland:** A wetland created by humans.

**Atlantic blanket bogs:** Blanket bogs in Ireland that are less than 656 feet (200 meters) above sea level.

**Atolls:** Ring-shaped reefs formed around a lagoon by tiny animals called corals.

**B**

**Bactrian camel:** The two-humped camel native to central Asia.

**Bar:** An underwater ridge of sand or gravel formed by tides or currents that extends across the mouth of a bay.

**Barchan dunes:** Sand dunes formed into crescent shapes with pointed ends created by wind blowing in the direction of their points.

**Barrier island:** An offshore island running parallel to a coastline that helps shelter the coast from the force of ocean waves.

**Barrier reef:** A type of reef that lines the edge of a continental shelf and separates it from deep ocean water. A barrier reef may enclose a lagoon and even small islands.

**Bathypelagic zone:** An oceanic zone based on depth that ranges from 3,300 to 13,000 feet (1,000 to 4,000 meters).

**Bathyscaphe:** A small, manned, submersible vehicle that accommodates several people and is able to withstand the extreme pressures of the deep ocean.

**Bay:** An area of the ocean partly enclosed by land; its opening into the ocean is called a mouth.

- Beach:** An almost level stretch of land along a shoreline.
- Bed:** The bottom of a river or stream channel.
- Benthic:** Term used to describe plants or animals that live attached to the seafloor.
- Biodiverse:** Term used to describe an environment that supports a wide variety of plants and animals.
- Bio-indicators:** Plants or animals whose health is used to indicate the general health of their environment.
- Biological productivity:** The growth rate of life forms in a certain period of time.
- Biome:** A distinct, natural community chiefly distinguished by its plant life and climate.
- Blanket bogs:** Shallow bogs that spread out like a blanket; they form in areas with relatively high levels of annual rainfall.
- Bog:** A type of wetland that has wet, spongy, acidic soil called peat.
- Boreal forest:** A type of coniferous forest found in areas bordering the Arctic tundra. Also called taiga.
- Boundary layer:** A thin layer of water along the floor of a river channel where friction has stopped the flow completely.
- Brackish water:** A mixture of freshwater and saltwater.
- Braided stream:** A stream consisting of a network of interconnecting channels broken by islands or ridges of sediment, primarily mud, sand, or gravel.
- Branching network:** A network of streams and smaller rivers that feeds a large river.
- Breaker:** A wave that collapses on a shoreline because the water at the bottom is slowed by friction as it travels along the ocean floor and the top outruns it.
- Browsers:** Herbivorous animals that eat from trees and shrubs.
- Buoyancy:** Ability to float.
- Buran:** Strong, northeasterly wind that blows over the Russian steppes.
- Buttresses:** Winglike thickenings of the lower trunk that give tall trees extra support.



- Canopy:** A roof over the forest created by the foliage of the tallest trees.
- Canyon:** A long, narrow valley between high cliffs that has been formed by the eroding force of a river.
- Carbon cycle:** Natural cycle in which trees remove excess carbon dioxide from the air and use it during photosynthesis. Carbon is then returned to the soil when trees die and decay.
- Carnivore:** A meat-eating plant or animal.
- Carrion:** Decaying flesh of dead animals.
- Cay:** An island formed from a coral reef.
- Channel:** The path along which a river or stream flows.
- Chemosynthesis:** A chemical process by which deep-sea bacteria use organic compounds to obtain food and oxygen.
- Chernozim:** A type of temperate grassland soil; also called black earth.
- Chinook:** A warm, dry wind that blows over the Rocky Mountains in North America.
- Chitin:** A hard chemical substance that forms the outer shell of certain invertebrates.
- Chlorophyll:** The green pigment in leaves used by plants to turn energy from the sun into food.
- Clear-cutting:** The cutting down of every tree in a selected area.
- Climax forest:** A forest in which only one species of tree grows because it has taken over and only that species can survive there.
- Climbers:** Plants that have roots in the ground but use hooklike tendrils to climb on the trunks and limbs of trees in order to reach the canopy, where there is light.
- Cloud forest:** A type of rain forest that occurs at elevations over 10,500 feet (3,200 meters) and that is covered by clouds most of the time.
- Commensalism:** Relationship between organisms in which one reaps a benefit from the other without either harming or helping the other.
- Commercial fishing:** Fishing done to earn money.
- Conifer:** A tree that produces seeds inside cones.
- Coniferous trees:** Trees, such as pines, spruces, and firs, that produce seeds within a cone.

**Consumers:** Animals in the food web that eat either plants or other animals.

**Continental shelf:** A flat extension of a continent that tapers gently into the sea.

**Continental slope:** An extension of a continent beyond the continental shelf that dips steeply into the sea.

**Convergent evolution:** When distantly related animals in different parts of the world evolve similar characteristics.

**Coral reef:** A wall formed by the skeletons of tiny animals called corals.

**Coriolis effect:** An effect on wind and current direction caused by Earth's rotation.

**Crustaceans:** Invertebrate animals that have hard outer shells.

**Current:** The steady flow of water in a certain direction.



**Dambo:** Small marsh found in Africa.

**Dark zone:** The deepest part of the ocean, where no light reaches.

**Deciduous:** Term used to describe trees, such as oaks and elms, that lose their leaves during cold or very dry seasons.

**Decompose:** The breaking down of dead plants and animals in order to release nutrients back into the environment.

**Decomposers:** Organisms that feed on dead organic materials, releasing nutrients into the environment.

**Deforestation:** The cutting down of all the trees in a forest.

**Dehydration:** Excessive loss of water from the body.

**Delta:** Muddy sediments that have formed a triangular shape over the continental shelf near the mouth of a river.

**Deposition:** The carrying of sediments by a river from one place to another and depositing them.

**Desalination:** Removing the salt from seawater.

**Desert:** A very dry area receiving no more than 10 inches (25 centimeters) of rain during a year and supporting little plant or animal life.

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