

**Ecosystems and Biomes** ▪ *Section Summary***Biomes****Guide for Reading**

- What are the six major biomes on Earth?
- What factors determine the type of biome found in an area?

A **biome** is a group of ecosystems with similar climates and organisms. **The six major biomes that most ecologists study are the rain forest, desert, grassland, deciduous forest, boreal forest, and tundra. It is mostly the climate conditions—temperature and precipitation—in an area that determine its biome.** The climate limits distribution of plants. In turn, the types of plants determine the kinds of animals that live there.

Tropical rain forests are warm and humid. Tropical rain forests are found near the equator. The tall trees form a leafy roof called a **canopy**. A second layer of shorter trees and vines form an **understory**. Temperate rain forests are found farther north. They also receive a lot of rain but are cooler than tropical rain forests.

A **desert** is an area that receives less than 25 centimeters of rain each year. Deserts have large shifts in temperature during the day. Desert organisms are adapted to the lack of rain and to the extreme temperatures.

Most **grasslands** receive between 25 and 75 centimeters of rain each year and are populated mainly by grasses and other nonwoody plants. Grasslands that are located close to the equator are called **savannas**. Savannas receive as much as 120 centimeters of rain each year.

The trees found in deciduous forests, called **deciduous trees**, shed their leaves and grow new ones each year. These forests receive at least 50 centimeters of rain each year. Temperatures vary during the year. Some of the mammals in deciduous forests enter a low-energy state similar to sleep, called hibernation in the winter.

Boreal forests contain **coniferous trees**, which produce their seeds in cones and have leaves shaped like needles. Winters are long, very cold, and snowy. Summers are rainy and warm enough to melt all the snow.

The **tundra** is extremely cold and dry, often with no more precipitation than a desert. Most of the soil is frozen all year long. The frozen soil is called **permafrost**. Plants include low-growing mosses, grass, and shrubs.