

Rainforest



Temperature: The tropical rainforest is a hot, moist biome where it rains all year long. Temperatures generally range from 70° to 85° Fahrenheit or warmer.

Precipitation: 100 to 200 inches of rain per year

Vegetation: The rainforest is known for its dense vegetation which includes tall, leafy trees that grow to heights of about 250 feet or more. Thick, woody vines climb up the trees to reach for sunlight. Smaller palm trees and ferns also grow in the rainforest.

Location: Rainforests can be found between the Tropic of Cancer and the Tropic of Capricorn. These locations include the Amazon rainforest in Brazil, the Congo in Africa, and the Kinabalu in Malaysia. The Pacific Islands contain over 25% of the world's rainforests.

Description: The rainforest is composed of three layers: the canopy, understory, and floor. The canopy is the top layer which contains giant trees and vines. This layer of vegetation prevents much of the sunlight from reaching the ground. The middle layer, or understory, is made up of smaller palm trees, and ferns. The bottom layer, or floor, of the rainforest is covered with wet leaves that decomposes rapidly in the wet, warm conditions (like a compost pile), sending nutrients back into the soil.

Grassland



Temperature: Depending on the latitude of the location, a grassland's yearly temperatures can range can between 10°Fahrenheit to about 86°Fahrenheit

Precipitation: About 20 to 35 inches of rain per year; the amount of rain correlates with the height of the grasses

Vegetation: Grasses like prairie clover, salvia, oats, wheat, barley, and coneflowers

Location: They are often located in the mid-latitude zones and can be found on every continent except Antarctica. Grasslands include the Great Plains of North America, the pampas of South America, the steppes of Central Eurasia, and they surround the deserts in Australia.

Description: Grasslands are open and continuous, fairly flat areas of grass. Tropical grasslands have dry and wet seasons that remain warm all the time. Temperate grasslands have cold winters and warm summers with some rain. A few trees may be found in this biome along the streams, but not many due to the lack of rainfall.

Desert



Temperature: Average of 100°Fahrenheit (during the daytime), average of 26°Fahrenheit (night)

Precipitation: Most deserts will receive, on average, about 9 to 10 inches of rain per year. When compared to a rainforest, a desert will receive only 10% of the precipitation a rainforest does.

Vegetation: Desert plants need to have adaptations to compensate for the lack of water. Some plants, such as cacti, store water in their stems and use it very slowly, while others, like bushes, conserve water by growing few leaves or by having large root systems to gather water.

Location: Between 15° and 35° latitude (north and south of the equator). Some examples are Mojave, Sonoran, Chihuahuan, and Great Basin (North America); Sahara (Africa); Negev (Middle East); and Gobi (Asia)

Description: Desert biomes are the driest of all the biomes. The temperature in the desert can change drastically from day to night because the air is so dry that heat escapes rapidly at night. The temperature also varies greatly depending on the location of the desert.

Coniferous Forest (Taiga)



Temperature: -40° to 68° Fahrenheit; in the summer, temperatures average around 50°Fahrenheit

Precipitation: Precipitation varies from 11 to 35 inches annually. The amount of precipitation depends on the forest location- northern coniferous forests receive the most rain during their short summers, while precipitation is more evenly distributed throughout the year in the lower latitudes.

Vegetation: Coniferous forests consist mostly of conifers, trees that grow needles instead of leaves, and cones instead of flowers. Conifers tend to be evergreen, that is, they bear needles all year long. Some of the more common conifers are spruces, pines, and firs.

Location: Coniferous forests can be found between 50° and 60° north latitude, especially in Russia (where it is called taiga), Canada, and the Scandinavian countries in Europe. Temperate coniferous forests grow in the lower latitudes of North America, Europe, and Asia, in the high elevations of mountains.

Description: Between the tundra to the north and the deciduous forest to the south lies the large area of coniferous forest. Coniferous forest regions have cold, long, snowy winters, and warm, humid summers. They have well-defined seasons and at least four to six frost-free months.

Deciduous Forest



Temperature: While temperatures can range from -22° to 86° Fahrenheit, the yearly average is 50° Fahrenheit hot summers, cold winters

Precipitation: 29 to 59 inches of rain per year

Vegetation: Many different kinds of trees, shrubs, and herbs grow in deciduous forests. Most of the trees are broadleaf trees such as oak, maple, beech, hickory, and chestnut. During the fall, trees change color and then lose their leaves. There are also several different kinds of plants, like mountain laurel, azaleas, and mosses.

Location: Temperate deciduous forests are located in the mid-latitude areas, which means that they are found between the Polar Regions and the Tropics. Deciduous forests can be found in the Eastern United States, Canada, Europe, China, and Japan

Description: The deciduous forest regions are exposed to warm and cold air masses, which causes this area to have four seasons, including cold winters and hot, wet summers. Leaves change color in autumn, fall off in the winter, and grow back in the spring; this adaptation allows plants to survive cold winters.

Tundra



Temperature: -40° to 0° Fahrenheit, most temperatures average below zero for 10 months out of the year

Precipitation: Precipitation in the tundra totals 5 to 10 inches a year, including melted snow.

Vegetation: The temperatures are so cold that there is a layer of permanently frozen ground below the surface, called permafrost, a defining characteristic of the tundra biome. In the tundra summers, the top layer of soil thaws only a few inches down, providing a growing surface for the roots of vegetation, including lichens, mosses, grasses, and shrubs.

Location: Tundra is found in the regions just below the ice caps of the Arctic, extending across North America to Europe, and Siberia in Asia. Much of Alaska and about half of Canada are in the tundra biome. Tundra is also found at the tops of very high mountains elsewhere in the world.

Description: Tundra comes from the Finnish word *tunturia*, meaning "treeless plain." The tundra is the coldest of the biomes. It also receives low amounts of precipitation, making the tundra similar to a desert. The tundra is usually a wet place because the low temperatures cause evaporation of water to be slow. Much of the Arctic has rain and fog in the summers, and water gathers in bogs and ponds.

Savanna



Temperature: Hot and dry in the summer, cool and moist in the winter

Precipitation: The chaparral typically receives 7 to 39 inches of rain per year. This rain is unpredictable, varying from month to month. There is a noticeable dry season and wet season.

Vegetation: Aromatic herbs (sage, rosemary, thyme, oregano), shrubs, acacia, chamise, grasses. There is usually not enough rain to support tall trees.

Location: Western coastal regions between 30° and 40° latitude, including southwestern Africa, southern California (called woodlands), Chile and Mexico (called chaparral), areas surrounding the Mediterranean Sea and Australia (called brush). These regions are usually found surrounding deserts and grasslands.

Description: Savannas are a type of brushland that includes chaparral and woodlands. They are made up of grasses and short trees. The many varieties of savanna can thrive on steep, rocky slopes. Savannas are usually fairly open, so grasses and other short plants grow between the shrubs. In the areas with little rainfall, plants have adapted to drought-like conditions. Several plants have developed fire-resistant adaptations to survive the frequent fires that occur during the dry season.