

Tundra Ecosystem

Tundra ecosystems are typically found in Alaska, Greenland, Canada, Russia, and other extremely cold areas including polar regions such as the Arctic and Antarctica. The ecosystem has flat, tree-less surfaces that are covered by ice and snow for much of the year though sleet and hail is always possible. Though the region is tree-less, some low growing plants such as grass, moss, and shrubs do grow. The ocean surrounding the area includes large blocks of ice and glaciers. The average temperature throughout the year is up to -30° F. These regions typically have very long periods of light and dark that alternate between six months of light and six months of dark. The animals found in this ecosystem are specially adapted to survive extreme cold temperatures with thick fur and blubber. Such animals include polar bears, penguins, seals, wolves, caribou, foxes, goats, birds, and fish.

Forest Ecosystem

Forest ecosystems are typically found in Europe, North and South America, Asia, and Australia; usually in mid-latitude areas north of the equator. The temperatures throughout the year include very cold winters and warm summers with a range of 86°F to -20°F. Rain is plentiful and the soil is very fertile allowing for a large variety of plant life, which feeds the array of animals. This ecosystem has many trees including evergreens, that grow all year, and deciduous trees that drop their leaves seasonally. Mosses, grasses, and shrubs also grow on the lower floor of the forest. This ecosystem can get up to 60 inches of rain and snow per year. These regions provide shelter and food for a large variety of animals including deer, moose, bears, foxes, chipmunks, beavers, squirrels, rabbits, and wildcats.

Desert Ecosystem

Desert ecosystems are typically found in North America, Africa, Australia, and western Asia. The temperatures throughout the year are very high during the day (up to 120°F!) but can be very low at night (down to 25°F). There is very little rain, no more than 10 inches per year (this is what classifies these ecosystem as a desert). Some deserts are very flat with great tracks of sand and huge rock outcroppings and others have large sand dunes as tall as small mountains. Plants in these regions include grasses, small trees, cactus, succulents, and shrubs that can live in full sun with very little water. Animals in desert ecosystems are well adapted for such extreme temperatures and know how to keep cool by burrowing under the sand during the day. These animals include coyotes, mice, jackrabbits, roadrunners, owls, iguanas, foxes, camels, scorpions, snakes, and vultures.

Savanna Ecosystem

Savanna ecosystems are typically found in North and South America, Africa, Australia, and India. The regions are temperate zones that don't get enough rainfall each year to sustain a full forest. The savanna grasslands are flat with rich soil that support large rolling fields of grasses, flowers, small trees, and herbs. Grasses survive so well in these hot and mostly dry areas because the root systems of grass allow it to find water underground and can grow as high as 22 feet. Trees are sparse and typically found near a large body of water such as a lake or river. Temperate grasslands make for great farmland as is found in the American prairies. The most famous grasslands are found in Africa and Australia. The temperatures range from 68° to 80° F throughout the year and rainfall is 10-30 inches per year. Animals in tropical savanna ecosystems such as Africa include lions, elephants, giraffe, antelope, zebras, and birds. Temperate savannas, such as the North American prairie, include antelope, mice, jackrabbits, foxes, snakes, prairie dogs, and coyotes.

Rainforest Ecosystem

Rainforest ecosystems are tropical and most commonly found near the equator in South America, Africa, and Southeast Asia. The regions are warm all year long with temperatures that range from 68° to 93° F and up to 430 inches of rain per year! Though many different plants thrive in the rainforest and grow to be very large, the soil is not rich in nutrients. There are several layers within the rainforest: the emergent layer at the very top, the canopy just below, the understory below that and the forest floor at the bottom. Each layer of the rainforest has its own ecosystem to include trees, large and colorful flowers, bushes with large leaves, birds (toucans and parrots), insects (beetles and butterflies), reptiles (snakes and lizards), frogs, and a variety of animals. Animals in rainforest ecosystems are monkeys, sloths, jaguars, tigers, gorillas, anteaters, orangutans, ocelots, capybara, bats, lemurs, and piranhas.

Oceanic Ecosystem

Ocean ecosystems are the largest and most diverse of all the ecosystems on Earth. This ecosystem includes any body of saltwater on the planet, which is 70% of the Earth's surface. The ocean is divided into three layers based on how much sunlight is received in the layers. Many different animals and plants live within the top two sunlit layers. The bottom most layer is completely dark and extremely cold with very few animals that can survive there. Ocean temperatures range from 28° to 82° F. These different temperatures in the ocean along with changes of temperatures in the air above the ocean create large storms including hurricanes. The shallowest parts of the ocean that are not along a shoreline are approximately 1.5 miles deep and the deepest part of the ocean is the Mariana Trench that is over 30,000 feet deep! Plants in the ocean include kelp, algae, seagrasses, and phytoplankton (microscopic plants in the water). Animals in ocean ecosystems include sharks, whales, dolphins, octopus, sea turtles, seahorses, dozens of different types of fish, manatees, manta and stingrays, sea otters, seals, seabirds, shellfish, barnacles, coral, and narwhals.