

Biomes for SAT Biology (Ecology)

Terrestrial Biomes

Biomes/Climates	Vegetation Description	Animals	Other Remarks
Tropical Forest High Temperature High Rainfall	Dense vegetation(doesn't shed leaves - like vines, epiphytes (plants growing on the other plants) Trees grow closely together in a dense canopy high above the ground such that sunlight barely reaches the ground	Monkey, lizards, snakes and birds that inhabits in typical tropical or rainforest Forest ground inhabited by saprophytes living off dead organic matter	Mainly found in central africa, Central America, the Amazon basin and southeast Asia, one of the most productive and diverse communities
Savana (Grassland) Low Rainfall (usually 10-30 inches per yr - although considerably more than deserts)	Few trees and vegetation offers little protections for their animals, so the animals generally are hooved and run fast	Bisons, antelopes, cattle and zebras	At Prairies east of the Rockies, the Steppes of Ukraine and Pampas of Argentina
Desert Less than 10 inches of rainfall per year - rain concentrated in a few heavy cloudburst.	Growing season restricted to the days after rain falls; generally small in size. Cactus, sagebrush, and mesquite conserve water actively.	Animals avoid extreme heat often by being nocturnal; lizards live in burrows. Birds and mammals found in deserts developed adaptations to maintain constant body temperature.	Sahara in Africa, Mojave in US and Gobi in Asia
Temperate Deciduous Forest Cold winters, warm summers and moderate rainfall	Temperate deciduous or "broadleaf"; trees such as beech, maple, oaks and willows - shed leaves during cold winter months.	Deer, fox, woodchuck and squirrel. Forest floor rich soil of decaying matter, inhabited by worms and fungi.	Located in northeastern and central eastern United States and in central Europe
Northern Coniferous Forest Cold, dry	Inhabited by fir, pine and spruce trees; evolved adaptations for water conservation (needle-shaped leaves) Forest floor is dry and contains a layer of needles with fungi, moss and lichens	Common animals (in North America) includes moose, deer, black bears, hares, wolves and porcupines.	Found in extreme northern part of US and in Canada
Taiga Less rainfall than temperate forest, has long cold winters.	Inhabited by a single type of coniferous tree, the spruce. Forest floor contains moss and lichens.	Birds are the most common animal; the black bear, moose and wolves are also found here.	Found in northern parts of Canada and Russia

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<p>Tundra Treeless Ground always frozen (the permafrost) but surface can melt in summer; short summer.</p>	<p>Short growing season during summer; when ground is wet and marshy, it houses lichens and moss.</p>	<p>Polar bears, musk oxen and arctic hens appear in the region during summers.</p>	<p>Frozen plain located between taiga and northern icesheets.</p>
<p>Polar Region Frozen area with very few vegetation and animals</p>	<p>-</p>	<p>Seals, walruses and penguins, generally living near oceans and surviving by preying on marine life.</p>	<p>At the poles</p>

*Sequence of biomes between equator and the pole is comparable to the sequence of regions on mountains. The nature of the regions is determined by the same decisive factors - temperature and rainfall. That means the base of the mountain would resemble temperate deciduous and then slowly become polarlike at the peak.

Aquatic Biomes

Biomes	Conditions	Vegetation/Animals
Intertidal Zone (in Marine Biomes)	Exposed at low tide, undergoes variations in temperature and periods of dryness.	Algae, sponges, clams, snails, sea urchin, sea stars (starfish) and crabs
Littoral Zone (in Marine Biomes)	Region on the continental shelf that contains ocean area with depths of up to 600 feet, extends several hundred miles from the shores.	Algae, crabs, crustacea and many different species of fishes
Pelagic Zone (in Marine Biomes)	Typical of the open sea and refers to the water column itself (excluding the bottom regions). Further divided into Photic (presence of light) and Aphotic zones.	Photic Zone - sunlit area depth of 250-600 feet; contains plankton (passive drifting masses of microscopic photosynthetic and heterotrophic organisms) and nekton (fish, sharks, whales); chief autotroph being diatom, an algae Aphotic Zone - no sunlight, no photosynthesis; only heterotroph and chemoautotroph that have adaptations to survive in cold water, high pressure and complete darkness - a fiercely competitive habitat
Benthic Zone (in Marine Biomes)	Bottom region of the sea at any depth (the seabed)	Varies in general but include crustaceans, sea stars, sea cucumber, anemones and algae (when at photic level)
Freshwater Biomes	Rivers, lakes, ponds and marshes - link between oceans and land; rivers were routes by which ancient marine organisms reached land Factors affecting life includes temperature, transparency, depth of water, available oxygen/carbondioxide and salt concentration They are also affected by variations in climate; may freeze, dry up or have mud from their floors stirred up by storms - temperatures also varies considerably.	Fresh water lower concentration of salt so organisms have homeostatic mechanisms to maintain water balance through removal of excess water, such as contracile vacuole of protozoa and excretory systems of fish