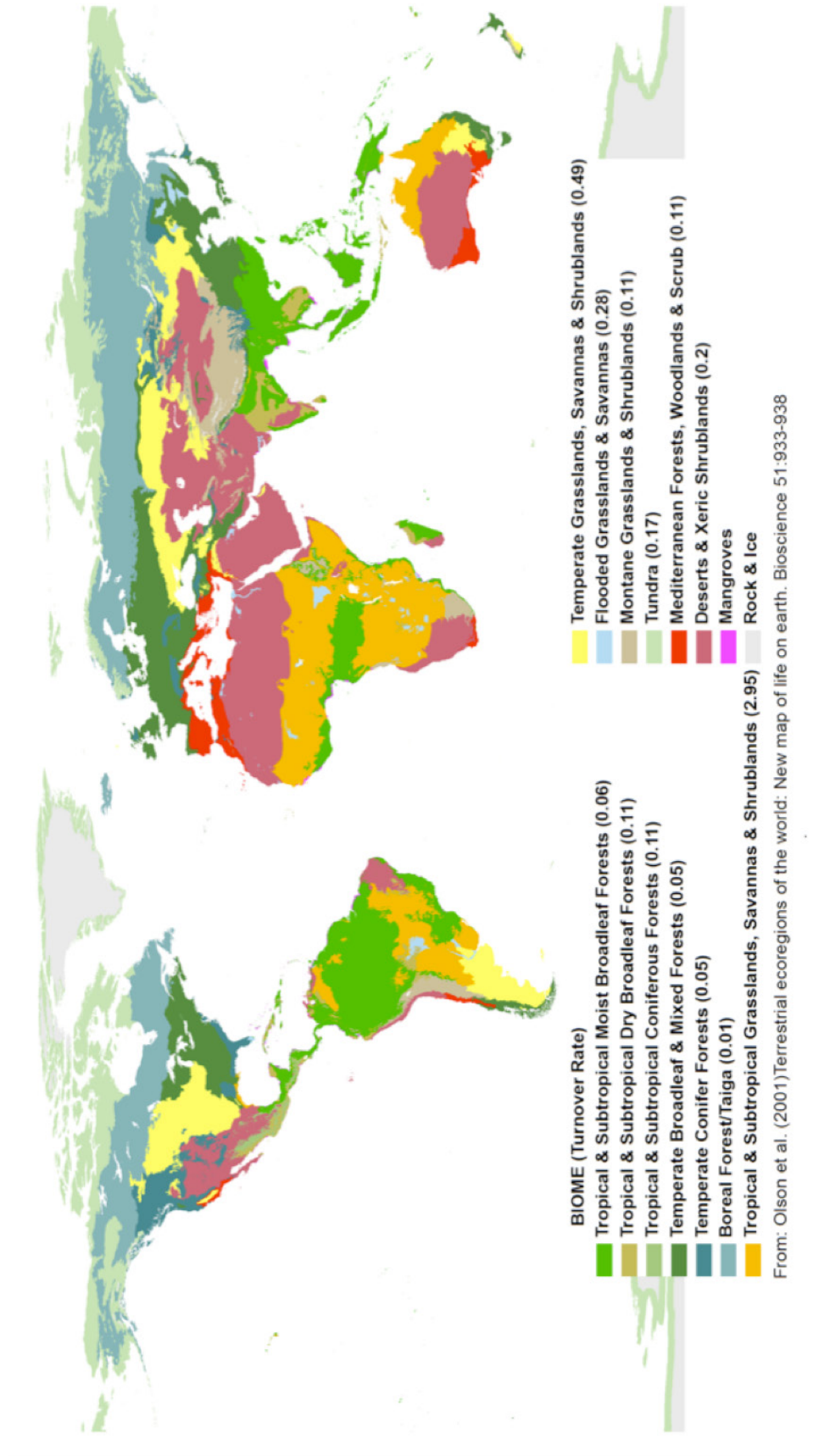


Global Biome Map

(adapted from *World Wildlife Fund*)



Global Biome Classification Category Descriptions

(Descriptions from the GLOBE Seasons and Biomes Project. Learn more at <https://www.globe.gov/do-globe/measurement-campaigns/past-projects/earth-as-a-system-projects/seasons-and-biomes>)

Tropical and subtropical moist broadleaf forests (tropical and subtropical, humid):

Generally found in large, discontinuous patches centered on the equatorial belt and between the Tropics of Cancer and Capricorn, Tropical and Subtropical Moist Forests are characterized by low variability in annual temperature and high levels of rainfall (>200 centimeter annually). Forest composition is dominated by semi-evergreen and evergreen deciduous tree species.

Tropical and subtropical dry broadleaf forests (tropical and subtropical, semi-humid):

Though these forests occur in climates that are warm year-round, and may receive several hundred centimeters of rain per year, they deal with long dry seasons which last several months and vary with geographic location.

Tropical and subtropical coniferous forests (tropical and subtropical, semi-humid): These tropical regions experience low levels of precipitation and moderate variability in temperature. Tropical and Subtropical Coniferous Forests are characterized by diverse species of conifers, whose needles are adapted to deal with the variable climatic conditions.

Temperate broadleaf and mixed forests (temperate, humid): This biome is characterized by rainfall broadly distributed throughout the year and consists of deciduous trees, sometimes mixed with species of evergreens. Species such as oak (*Quercus* spp.), beech (*Fagus* spp.), birch (*Betula* spp.), and maple (*Acer* spp.) typify the composition of the Temperate Broadleaf and Mixed Forests.

Temperate coniferous forests (temperate, humid to semi-humid): Temperate evergreen forests are found predominantly in areas with warm summers and cool winters, and vary enormously in their kinds of plant life. In some, needleleaf trees dominate, while others are home primarily to broadleaf evergreen trees or a mix of both tree types. Temperate evergreen forests are common in the coastal areas of regions that have mild winters and heavy rainfall, or inland in drier climates or montane areas. Many species of trees inhabit these forests including pine (*Pinus* spp.), cedar (*Cedrus* spp.), fir (*Abies* spp.), and redwood (*Sequoioideae* spp.).

Boreal forests/taiga (subarctic, humid): Low annual temperatures characterize northerly latitudes; precipitation ranges from 40-100 centimeters per year and may fall mainly as snow. This combination, along with nutrient poor soils - largely a result of permafrost and the resulting poor drainage - favors conifer species (*Abies*, *Picea*, *Larix*, and *Pinus*), although species of deciduous trees are also rather common: *Betula* spp. and *Populus* spp. Ground cover in Boreal Forests and Taiga is dominated by mosses and lichens.

Tundra (Arctic, Antarctic, alpine): The tundra is a treeless polar desert found in the high latitudes in the polar regions, primarily in Alaska, Canada, Russia, Greenland, Iceland, and Scandinavia, as well as sub-Antarctic islands. The region's long, dry winters feature months of total darkness and extremely frigid temperatures.

Mediterranean forests, woodlands, and shrub (temperate warm, semi-arid with winter rainfall): This biome is characterized by hot and dry summers, while winters tend to be cool

and moist. Most precipitation arrives during these months. Most plants are fire adapted, and dependent on this disturbance for their persistence.

Tropical and subtropical grasslands, savannas, and shrublands (tropical and subtropical, semi-arid): This biome is characterized by rainfall levels between 90-150 centimeters per year.

Temperate grasslands, savannas, and shrublands (temperate, semi-arid): This biome differs largely from tropical grasslands in the annual temperature regime as well as the types of species found here. Generally speaking, these regions are devoid of trees, except for riparian or gallery forests associated with streams and rivers. However, some regions do support savanna conditions characterized by interspersed individuals or clusters of trees.

Montane grasslands and shrublands (alpine or montane climate): This major habitat type includes high elevation (montane and alpine) grasslands and shrublands. They are tropical, subtropical, and temperate. The plants and animals of tropical montane plateaus display striking adaptations to cool, wet conditions and intense sunlight. Around the world, characteristic plants of these habitats display features such as rosette structures, waxy surfaces, and abundant pilosity (covered with fine hairs).

Flooded grasslands and savannas (temperate to tropical, fresh or brackish water inundated): Common to four of the continents on Earth are large expanses or complexes of flooded grasslands. These areas support numerous plants and animals adapted to the unique hydrologic regimes and soil conditions. Large congregations of migratory and resident waterbirds may be found in these regions.

Mangrove (subtropical and tropical, salt water inundated): Mangroves occur in the waterlogged, salty soils of sheltered tropical and subtropical shores. They are subject to the twice-daily ebb and flow of tides, fortnightly spring and neap tides, and seasonal weather fluctuations. They stretch from the intertidal zone up to the high-tide mark. These forests are comprised of 12 genera comprising about 60 species of salt-tolerant trees.

Deserts and xeric shrublands (temperate to tropical, arid): Worldwide, Deserts and Xeric Shrublands vary greatly in the amount of annual rainfall they receive; generally, however, evaporation exceeds rainfall in these ecoregions, usually less than 10 inches annually. Temperature variability is also extremely diverse in these remarkable lands. Many deserts, such as the Sahara, are hot year-round but others, such as Asia's Gobi, become quite cold in winter.