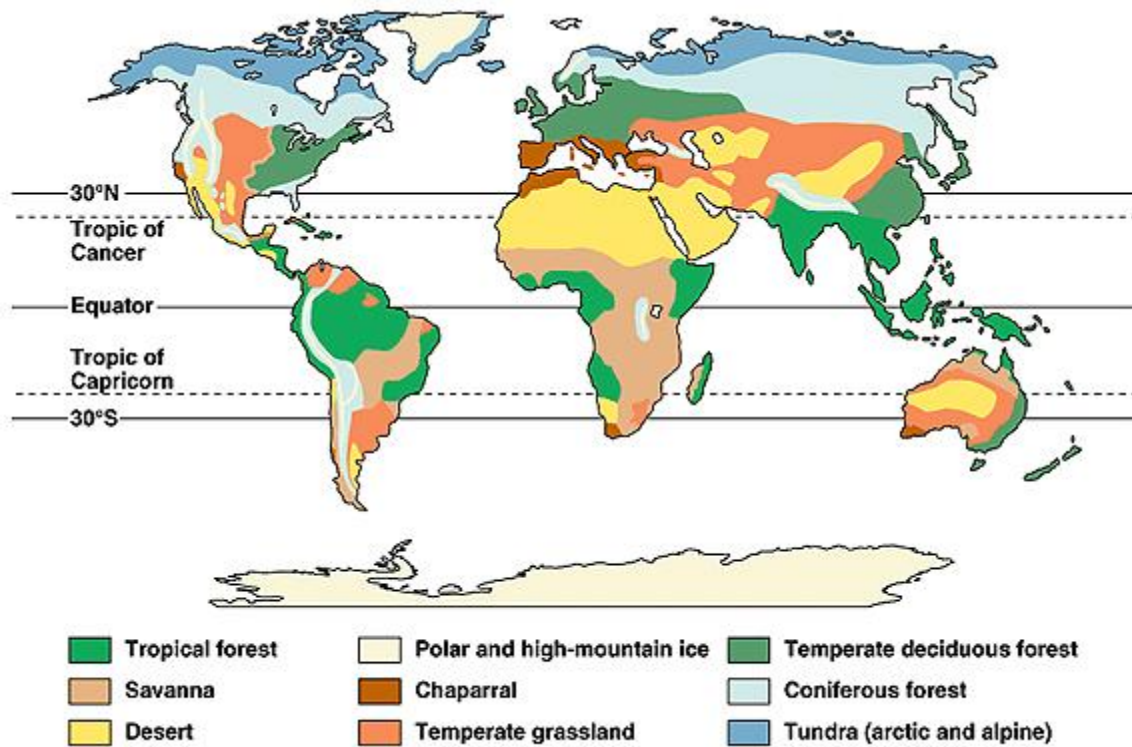


The Biosphere: Climate and Biomes

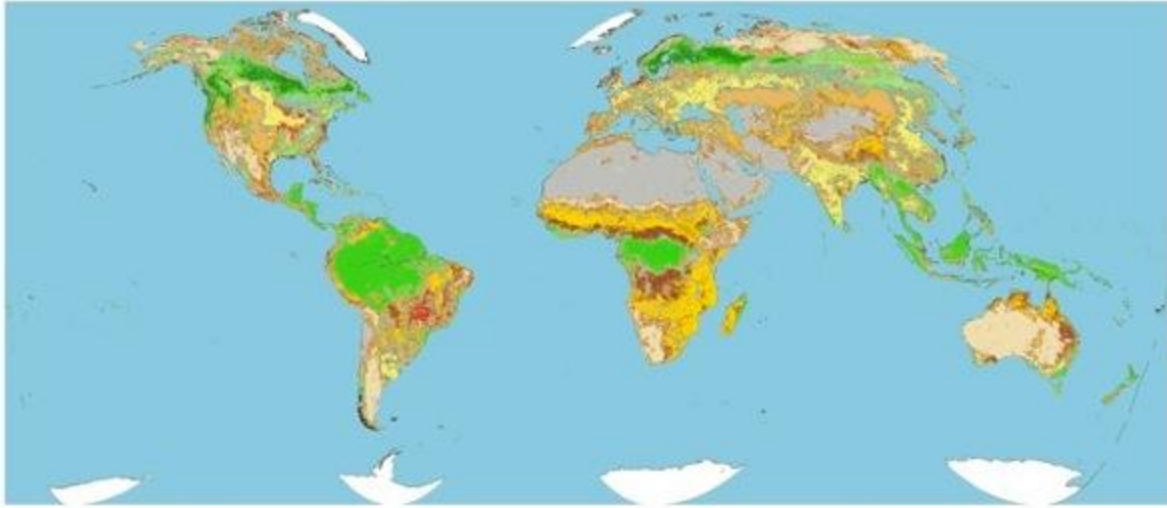
The biosphere refers to all life forms on Earth.

Weather patterns and climate greatly influence what kinds of plants and animals can successfully live in a particular geographic location.

Based on the interaction of climate, landforms, bodies of water, and soils, scientists have identified several different biomes, or distinct geographic regions with their particular types of plant and animal life.

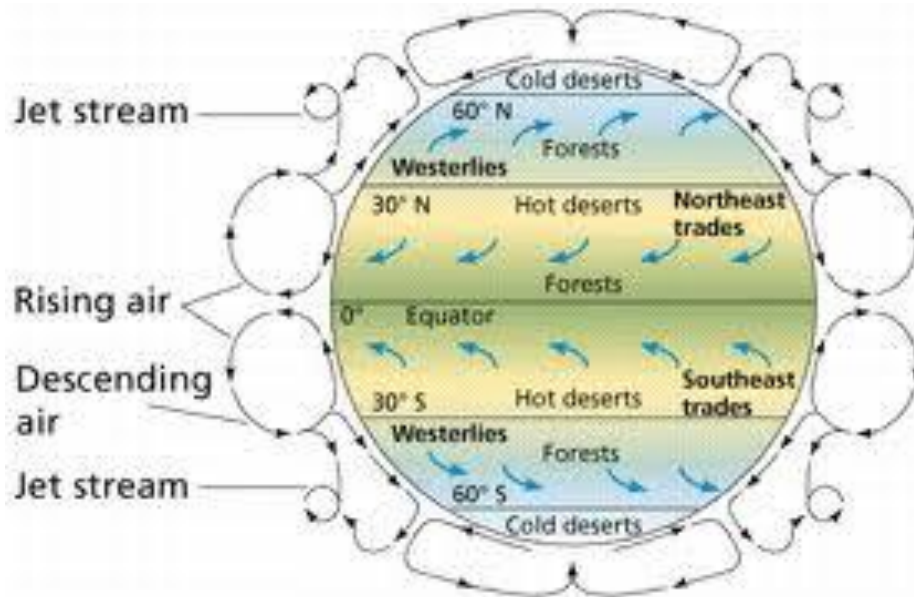


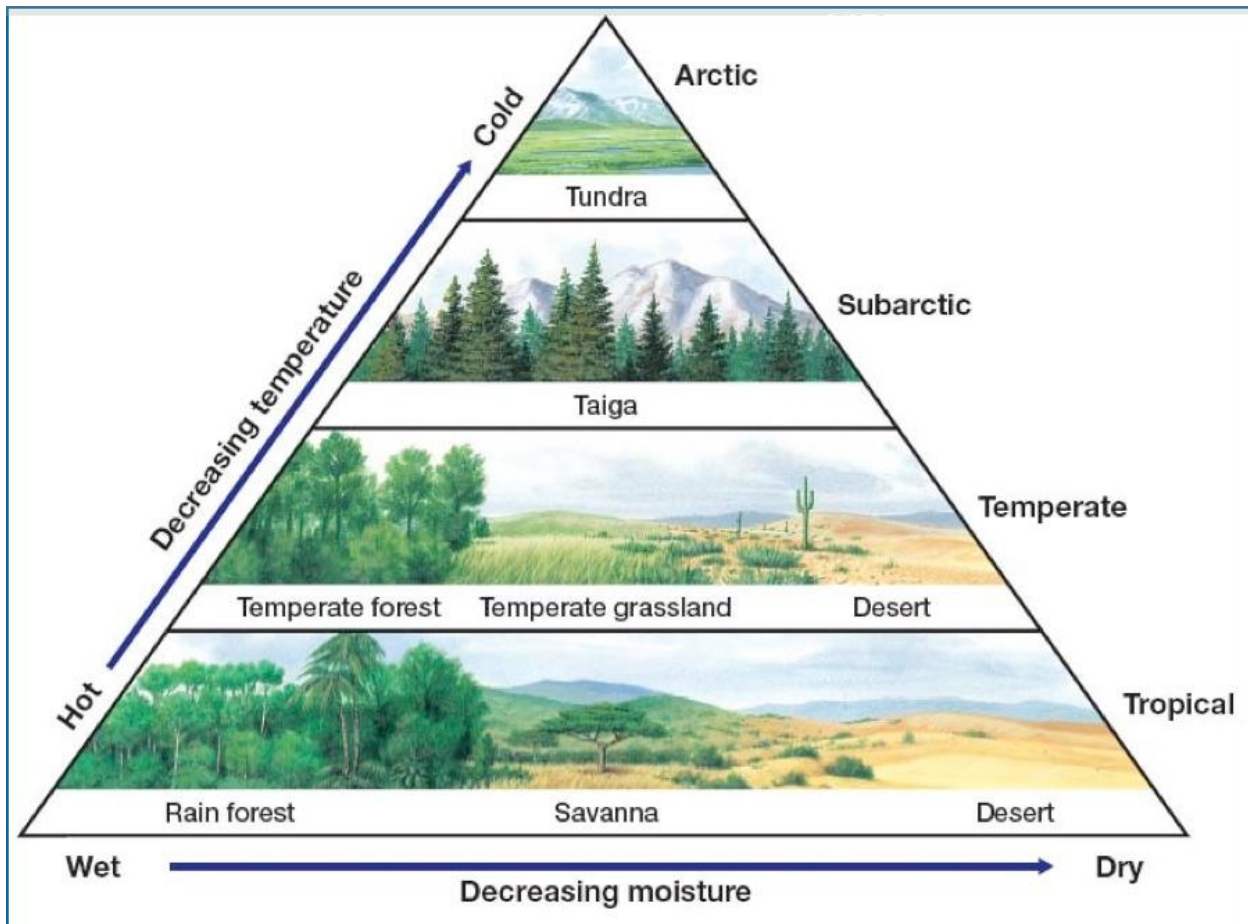
Biomes of the world



- | | | |
|-----------------------------|--------------------|---------------------------------|
| Water | Closed Shrublands | Croplands |
| Evergreen Needleleaf Forest | Open Shrublands | Urban and Built-Up |
| Evergreen Broadleaf Forest | Woody Savannas | Cropland/Natural Vegetation Mos |
| Deciduous Needleleaf Forest | Savannas | Snow and Ice |
| Deciduous Broadleaf Forest | Grasslands | Barren or Sparsely Vegetated |
| Mixed Forest | Permanent Wetlands | |

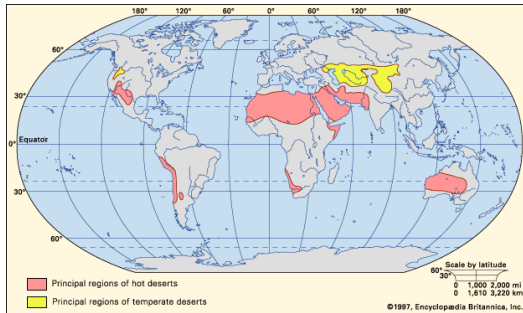
MODIS-based Land Cover Classification, IGBP
 Boston University
 Data from 2000-2001





1. Tropical Rainforest
 - a. Develop in the tropical areas near the equator
 - b. Ample rainfall
 - c. Warm temperatures year round
 - d. Large trees cover the area with their leaves forming a canopy
 - e. Despite rapid growth of trees, the topsoil is actually very thin
 - f. Marked by a great abundance of animal and plant life
 - g. More biodiversity than any other biome
2. Savanna (Grasslands, Pampas, or Steppes)
 - a. Tropical but drier
 - b. Not enough rainfall to support large amounts of trees
 - c. Grasses dominate area
 - d. Large grazing animals like cattle, antelope or bison
 - e. Have some trees
3. Desert
 - a. Regions that receive less than 10 inches of rainfall annually

- b. Deserts in the tropical latitude have their own special forms of plant and animal life which have adapted to the lack of water and extreme temperatures
 - i. Cacti, for example, store water in their stems
- c. Temperate deserts
 - i. Central Asia and Northern West Coast of North America
- d. Cold deserts
 - i. Central Asia
 - ii. Antarctic Region and Greenland



4. Temperate Deciduous Forest

- a. Develop in mid-latitude regions
- b. Ample rain, with moderate temperatures and cool winters
- c. Trees change their colors and lose leaves in the winter
- d. Wide range of plant and animal life

5. Subarctic Coniferous Forest

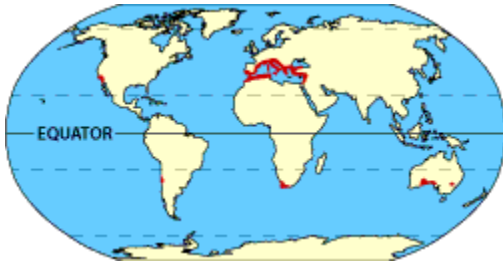
- a. Also called Taiga (or Boreal Forest)
- b. Largest biome in the world, stretches over Russia and North America
- c. Pines, and needle trees that don't lose their leaves
- d. Long, cold winters
- e. Short, rainy summers



6. Chaparral

The **chaparral** is also known as the Mediterranean shrubland. The chaparral has a warm, dry [climate](#). Nearly all of the rain there falls during 2-4 months in the winter. There is very little rain during the rest of the year.

This [biome](#) is found in two areas of the world. One area is between 30 and 40 degrees north of the equator. The other area is between 30 and 40 degrees south of the equator. The chaparral is on the west coast of continents in these two areas. These continents include North America, South America, South Africa, and Australia. The chaparral is also along the coast of the Mediterranean Sea.

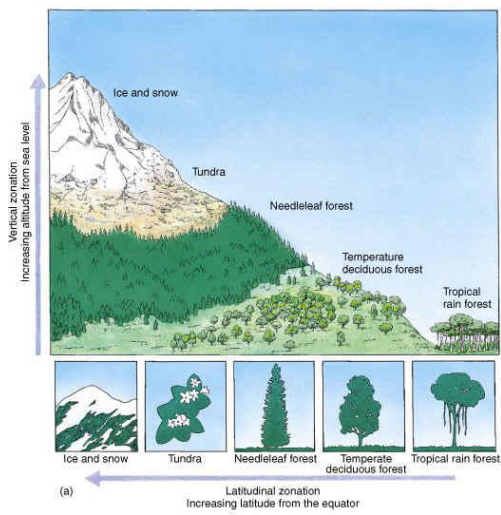


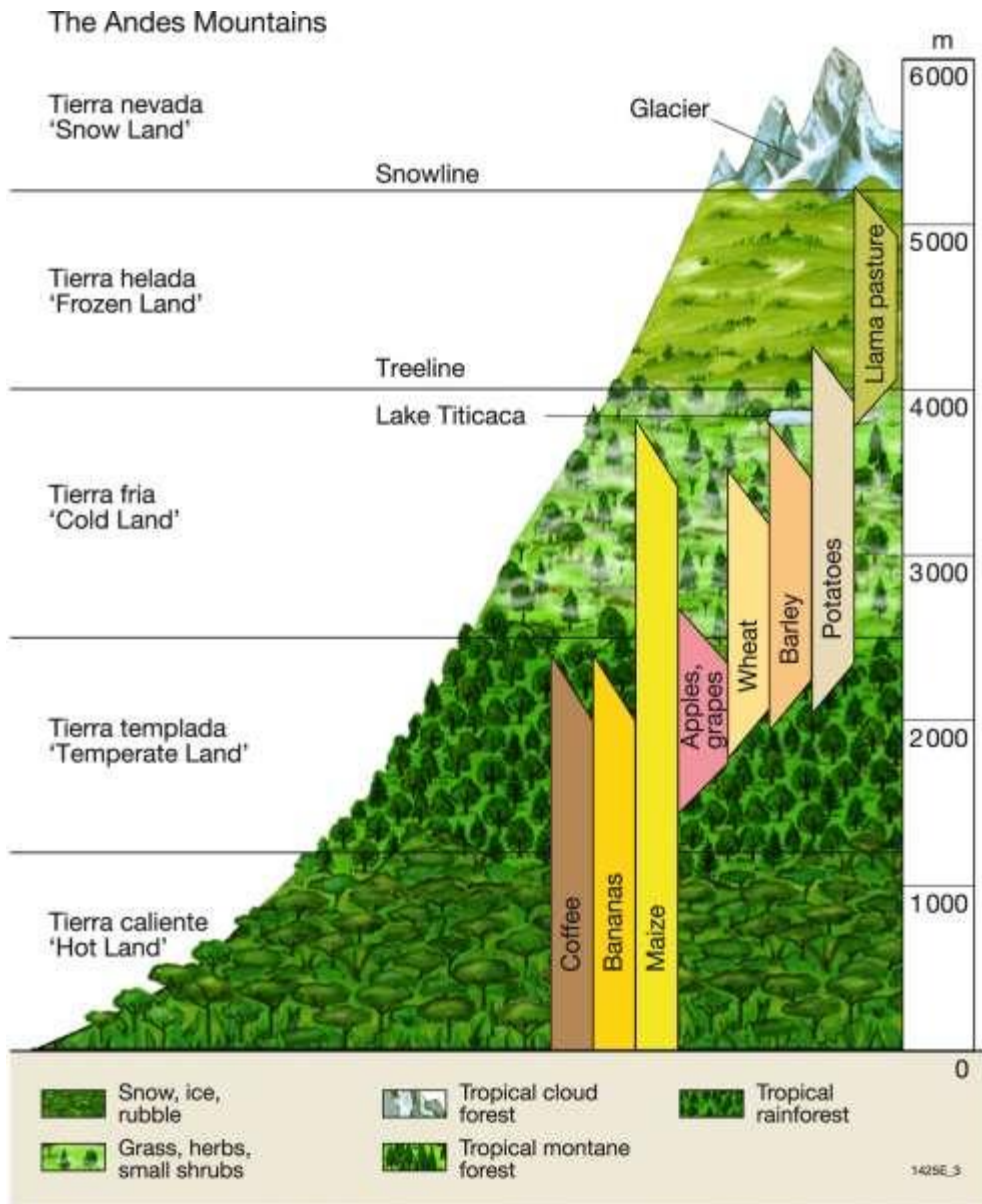
7. Tundra

- a. Found closer to the polar regions
- b. Permafrost
 - i. Frozen soil
 - ii. Trees unable to grow
 - iii. Only shallow shrubs and small bushes
- c. Short summers
- d. Distinct plant and animal life
- e. Large mammals and birds that migrate to these regions in the warmer spring and summer months.



Vertical Climate Zones





Notes created by Audrey Alamo, PreAP World Geography based on excerpts from "Mastering the TEKS in World Geography," Jarrett Publishing.