

Lesson 2

Terrestrial Biomes

Focus Question

What characteristics do scientists consider when they are describing different regions of the world?

New Vocabulary

weather

latitude

climate

tundra

boreal forest

temperate forest

woodland

grassland

desert

tropical savanna

tropical seasonal forest

tropical rain forest

Review Vocabulary

biome: a large group of ecosystems that share the same climate and have similar types of plant communities

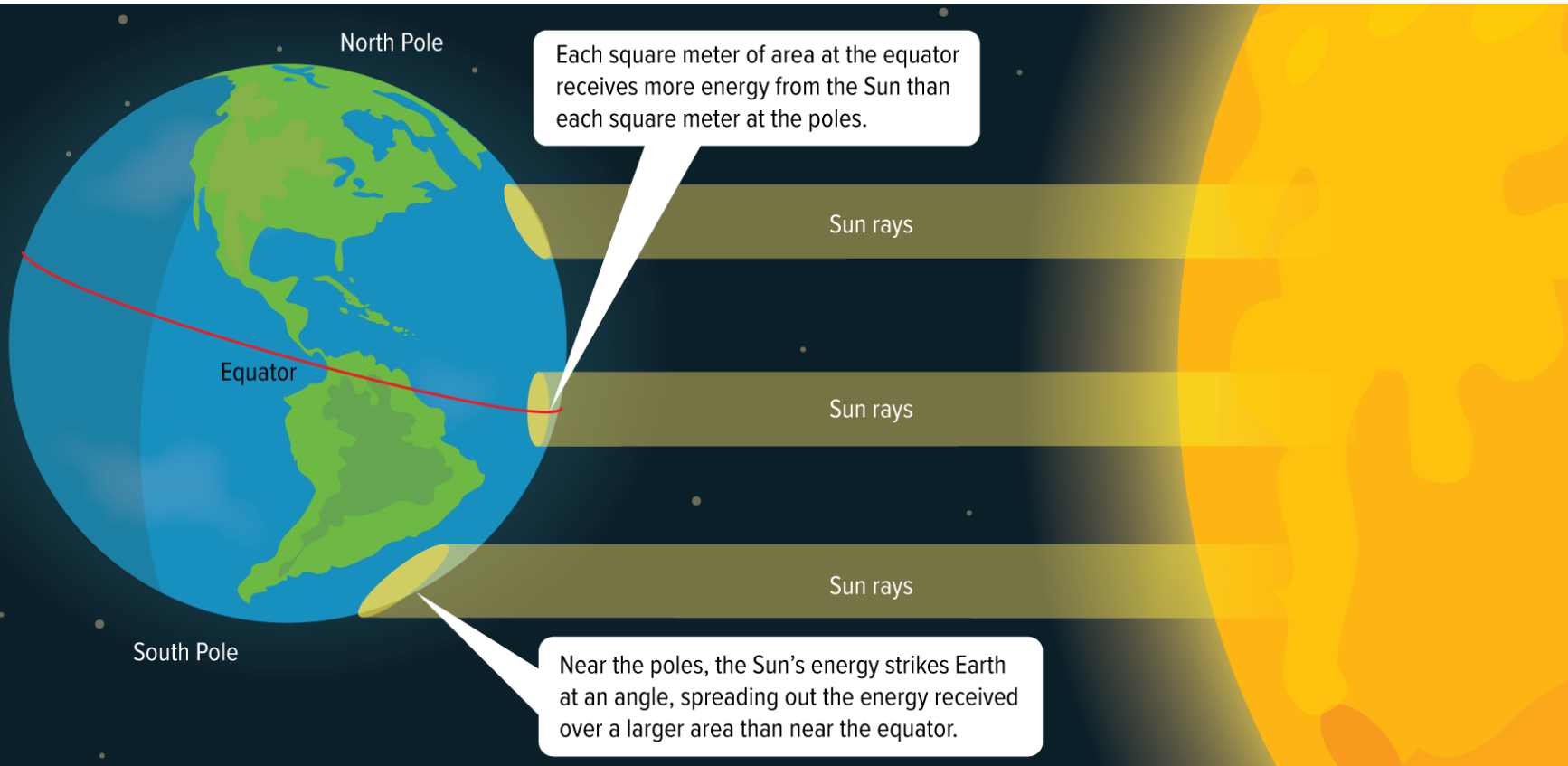
Effects of Latitude and Climate

- **Weather** is the condition of the atmosphere at a specific place and time.
- Weather is driven by global differences in latitude and climatic conditions.

Effects of Latitude and Climate

- **Latitude** is the distance of any point on the surface of Earth north or south from the equator.
- Light from the Sun strikes Earth more directly at the equator than at the poles.
- This is illustrated on the next slide.

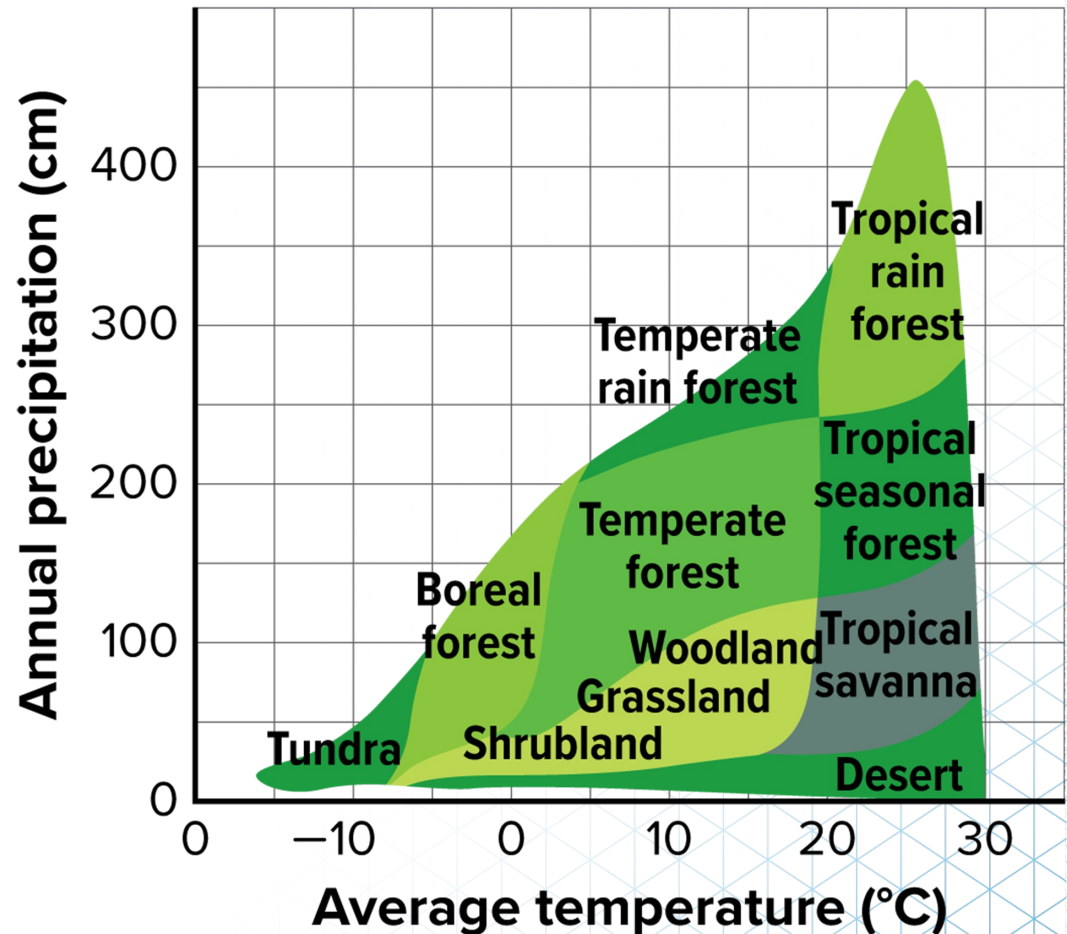
Effects of Latitude and Climate



Effects of Latitude and Climate

- The average weather conditions in an area describe an area's **climate**.
- Plants and animals have adapted to the climate of their biome. Small changes in temperature and precipitation can affect them.

Annual Precipitation v. Temperature for Various Biomes



Major Land Biomes

- Biomes are classified primarily according to the characteristics of their plants.
- Biomes are also characterized by abiotic climate characteristics, such as temperature, precipitation, the amount of sunlight, and the amount and type of wind.
- The plants and abiotic characteristics in a biome influence the types of animals that live there.

Major Land Biomes

Tundra

- A **tundra** is a treeless biome with a layer of permanently frozen soil below the surface called permafrost.
- Tundra plants have very shallow roots.

Boreal Forest

- The **boreal forest** is a band of dense evergreen forest. It is also called the northern coniferous forest, or taiga.
- Summers are longer than tundra summers.
- The ground lacks a permafrost layer.

Major Land Biomes

Temperate Forest

- A **temperate forest** is composed mainly of broad-leaved, deciduous trees.
- The fallen leaves return nutrients to the soil.
- All four seasons occur in temperate forests.

Temperate Woodland and Shrubland

- Open **woodlands** and mixed shrub communities are found in areas with less annual rainfall than in temperate forests.

Major Land Biomes

Temperate Grassland

- **Grasslands** are characterized by fertile soils that can support a thick cover of grasses.
- Drought, grazing, and animals such as the bison keep grasslands from becoming forests.

Desert

- A **desert** is any area in which the annual rate of evaporation exceeds the rate of precipitation.

Major Land Biomes

Tropical Savanna

- A **tropical savanna** is characterized by grasses and scattered trees in climates that receive less precipitation than some other tropical areas.

Tropical Seasonal Forest

- **Tropical seasonal forests** are also called tropical dry forests.
- Almost all of the trees in the biome drop their leaves to conserve water during dry season.

Major Land Biomes

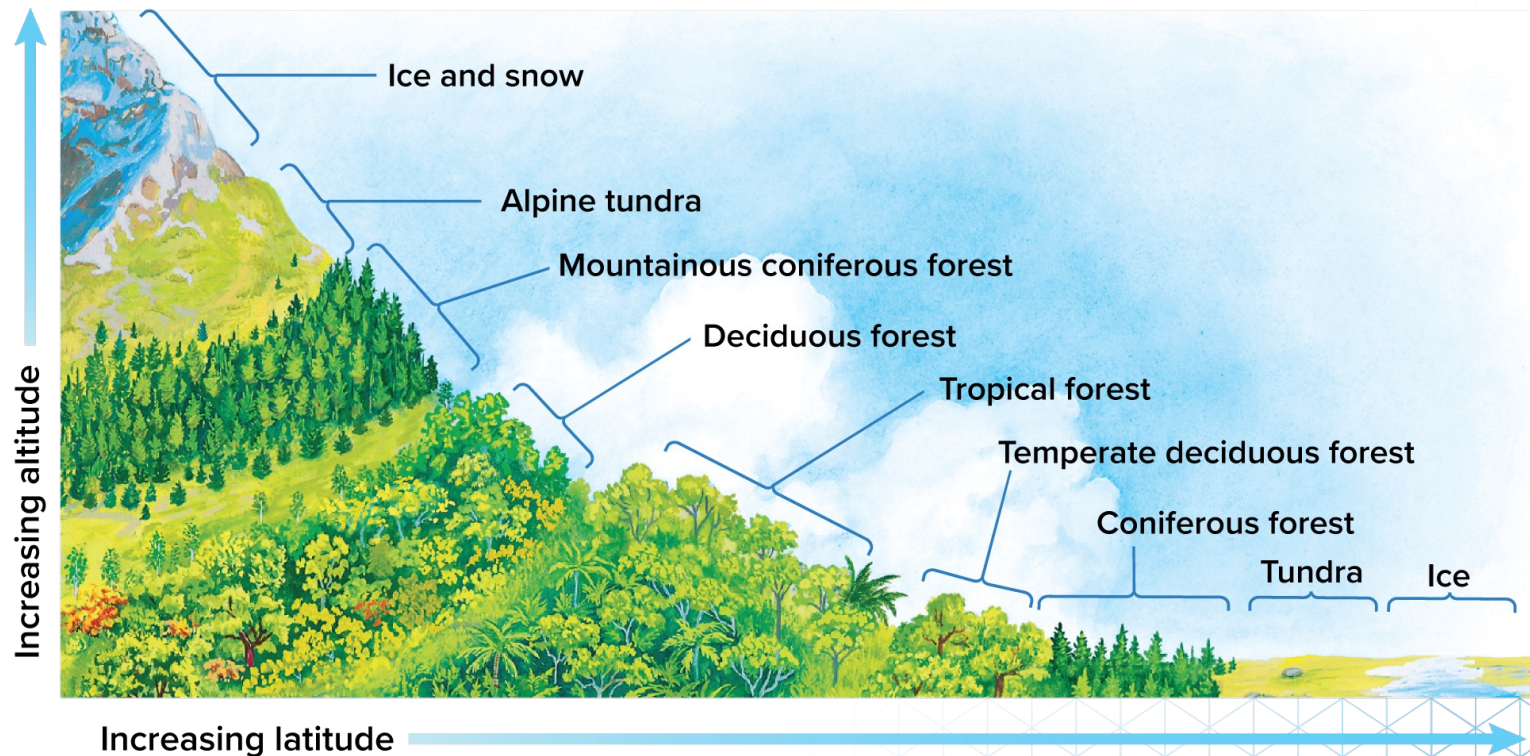
Tropical Rain Forest

- Warm temperatures and large amounts of rainfall throughout the year characterize the **tropical rain forest**.
- The tropical rain forest is the most diverse of all land biomes.

Other Terrestrial Areas

Mountains

- Mountains do not fit the definition of a biome because their climate characteristics and plant and animal life vary depending on elevation.



Other Terrestrial Areas

Polar Regions

- Polar regions are not considered true biomes because they are ice masses and not true land areas with soil.
- Polar regions, which are cold all year, border the tundra at high latitudes.