

Life Science 7

Ch 20-1 Notes

"Land Ecosystems"

p 526-533

Objectives

- Define **biome**.
- Describe three different forest biomes
- Distinguish between temperate grasslands and savannas.
- Describe the importance of permafrost to the arctic tundra biome.

Biomes

- **biome**- _____
- Defined by
 - _____ patterns, (temperate, tropical, etc)
 - _____ patterns, (desert, rain forest)
 - dominant _____ (grassland, forest, etc)

Tundra

- located in the extreme north, where snow melts seasonally, sun is gone for months at a time!
- tundra contains a layer of soil that is frozen all of the time = _____
 - permafrost keeps water from draining, so plenty of water for organisms
- plants include: reindeer moss (a _____), grasses, sedges, and other annuals, few trees present (mainly dwarf trees)
- animals are typically small: _____, weasels, arctic fox, snowshoe hare, ptarmigan, _____
 - exceptions: large herbivores (_____), and _____
- soil is nutrient poor, as it is relatively young (glaciers only recently retreated)
- overall, diversity is low, due to large environmental stresses

Tundra images

Coniferous Forest (Taiga)

- located around the globe just _____ of tundra region
- plants: _____ dominate, but some angiosperms also present (aspen, birch)
- much thicker layer of soil, _____
- animal life: _____, moose, wolves, bear, rodents, rabbits, lynx, sable, mink, beaver, _____, _____ (similar to northern MN)

Taiga images

Temperate Coniferous Forest (NW Coniferous Forest)

- located along western North America as far south as northern

- gymnosperms dominate again (including redwoods)
- sometimes called “_____”

Temperate Deciduous Forest

- located in eastern North America, mideastern North America (ex: southeastern MN), SE Canada, parts of Japan, China, Australia
- plants: deciduous hardwoods (_____, etc)
- soil is usually very rich, clay level also below soil
- originally much animal life, but has been reduced with _____

Temperate Deciduous Forest Images

Temperate Grasslands

- Midwestern USA (ex: Kansas, Iowa, western MN, ND, SD), central Asia, Australia, Europe, South America
- few trees, dominant species is _____
- very rich soils
- once abundant wildlife, but now is diminished (man again)
- think “_____” (this is OUR biome!!)

Temperate Woodland/Shrubland

- Hot, dry summers, cool moist winters
- woody evergreen shrubs, small leathery leaves
- coyotes foxes, bobcats, mountain lions
- Southern California, Mediterranean coast, south Africa, Australia

Deserts

- characterized by _____, sparse or nonexistent _____ life (temperature does not have to be hot!)
- desert animals typically small, hard to spot (_____ mainly)
- desert plants typically use reduced leaves to limit water loss from transpiration
- plants exhibit **allelopathy**- plants secrete toxins to limit other plant growth nearby
- Found in Africa, Middle East, SW USA, Mexico, South America, Australia

Desert Image

Tropical Rain Forest

- _____ of land organisms here!
- lots of precipitation year round, and warm temperatures
- nutrient poor soil

Tropical Rain Forest

- rain forest has three distinct **stories** of vegetation (_____)
 - crown (canopy)- _____, lots of sunlight/photosynthesis
 - middle story- smaller trees, still lots of light/photosynthesis
 - understory- very little light, plants are adapted for life here, may even be _____ (strangler fig)
- animal life is extremely varied
- rain forests are in great danger due to man cutting them down to make farmland, or for lumbering purposes

Tropical Rain Forest Image

Tropical Dry Forest

- _____ all year around, alternating wet and dry seasons
- Tall _____ trees, drought tolerant orchids, bromeliads, aloes
- Animal life abundant: monkeys, tigers, elephants, Indian rhino, birds, insects, reptiles
- Found in Africa, South America, Central America, Mexico, India, Australia, tropical islands

Savannah (Tropical Grassland, Veld)

- precipitation occurs in distinct season, _____ year round
- typical African scene (_____, etc)