What is a Biome?

- **Defined:** Large area with distinct climate, plant, and animal life
- **Climate factors:** sun, rain, topography
- **Climate determines life**
Tundra

• Northern-most latitudes
• Climate: cold temps, low rain (under 5in)
• **Permafrost**: permanently frozen layer of soil

• Reasons for few trees:
  – 1) Low rainfall
  – 2) Frozen soil
Panoramic View
Tundra Life

- **Animals**: Rodents, Hares, Moose, Caribou, Deer, Wolves, Migrating birds, Biting insects

- **Plants**: Lichen, Moss, Grass, Shrubs

- Many with red leaves (absorb sunlight)
• AKA: Coniferous forest
  – Cones trees dominant
• Found in Northern latitudes & higher altitudes
• Climate:
  – Warm summers, cold winters
  – Average rainfall = 15-30 inches
Taiga Life

- **Animals**: Moose, Caribou, Black bear, Porcupines, Wolves
- Many migratory & hibernating animals

- **Plants**: Pine, evergreen, spruce, fir trees
- Waxy coating to prevent water loss
Temperate: distinct seasons

Deciduous: Plants that lose leaves during the winter
  – Prevents water loss

Climate:
  – Warm and cold seasons
  – Total rainfall = 30-60 inches
Deciduous Life

- **Animals**: Deer, Squirrels, Opossums, Birds
  - Occupy various forest layers

- **Plants**: Maple, Oak, Elm trees
- Some coniferous trees
Tropical Rain Forest

- Climate:
  - Near equator: steady warm year round temperatures
  - Much rainfall year round (60 –160 inches)
- Greatest amount of biodiversity on the Earth
Rainforest Layers

- **Emergent Layer**: Tallest tree tops
  - Must be wind, heat tolerant
- **Canopy**: Dense tree tops allow little light to pass
  - Gaps fill very fast when tree falls (succession)
  - Most animal life
- **Understory**: Small trees, tree trunks, vines
- **Ground level**: Little vegetation
  - Little sunlight
Tropical Rainforest Life

- **Animals**: Parrots, Insects, Bats, Sloth, Monkeys, Reptiles

- **Plants**:
  - **Epiphytes**: plants that grow & attach to taller trees
  - **Bromeliads**: Plants w/ cup-like leaves to collect water
Bromeliads offer microhabitats
Epiphytes grow in the air!
Grasslands

- Areas dominated by grasses
- Rich soil; Commonly used as farmland
- Climate:
  - Rain unevenly distributed (10-30 inches/year)
  - Temp varies
Types of Grasslands

• Rainfall affected by Rocky Mtns.
  – 1) Short Grass (less rain)
  – 2) Mixed Grass (more rain)
  – 3) Tall Grass (most rain)

• Added rainfall from Gulf of Mexico
Grassland Life

- **Animals**: Grizzly bears, sheep, antelope, rabbits, bison, prairie dogs
- **Plants**: Grasses (up to 2m in height)
Deserts

- **Desert**: Any area that receives less than 10 inches precipitation per year
- **Climate**:  
  - Dry: under 10 inches  
  - Hot temps (Mojave desert)  
  - Cold temps (Siberia)
Desert Life

- **Animals**: Burrowing rodents, Jackrabbits
- Cold-blooded reptiles: environment determines body temp

- **Plants**: Cacti, sagebrush
  - Waxy coating prevents water loss
  - Long roots
  - Needle leaves
Desert

Rocky or sandy biome with little precipitation and plant life.
Warning!

- Most biomes are in immediate danger
- Habitat destruction (deforestation) threatening biodiversity
- Forests & grasslands being turned into farm land
- Conservation laws being overturned
Name this Biome!
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Quick Review

• Each biome has a distinct climate
• More water usually means more life
• Biomes are endangered