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Notes on Biomes[1]

Biome = a biotic community characterized by species diversity and climate, particularly temperature and precipitation because they greatly affect net primary productivity (productivity of organic compounds). Latitude and elevation are also important factors in classifying biomes. Biomes are often given local names (E.g. grassland in North America is a "prairie"

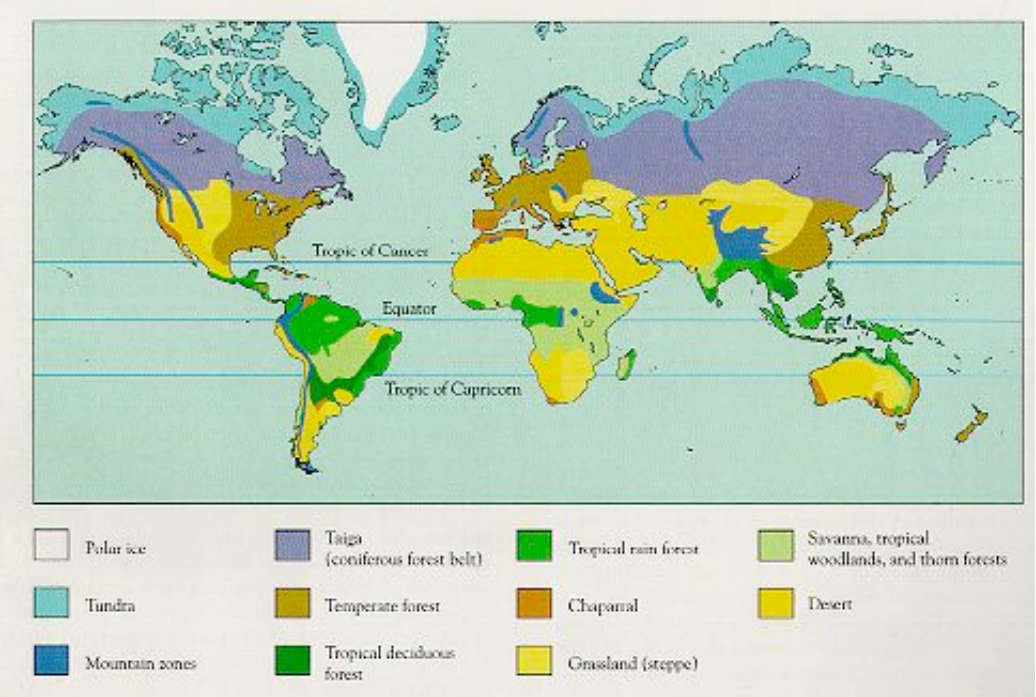
Here is a general outline of the different biomes:

1. Terrestial Biomes
   - **Tundra (Arctic/Antarctic/Alpine)-** Arctic/Antarctic tundra consists of frozen plains, north of taiga. Alpine tundra is at the tops of mountains (high altitude), above the tree line. Low temperatures, moisture→not much biodiversity.
   - **Taiga (Coniferous/Boreal)**- World's largest terrestrial biome. Open woodland or dense forest. High latitude, low temperatures, low amount of light, some precipitation→low biodiversity. Soil lacking nutrients.
   - **Temperate Deciduous Forest**- Milder climate, more biodiversity than with taiga.
   - **Temperate Woodlands**- Drier than temperate deciduous forest. Small trees allow more light.
   - **Grasslands**- "Too dry for forests, too wet for deserts." Moderate temperatures, seasonal rainfall. Rich soil.
   - **Savannas**- Between grassland and forest. Always warm. Rich soil. Dry/rainy season.
   - **Temperate Shrubland (Chaparral**)- Hot, dry summer/mild, rainy winter.
   - **Deserts**- Dry, little moisture. Soil is sandy or rocky, with not much organic material.
   - **Tropical Rain Forests**- High temperatures, high moisture→high biodiversity.

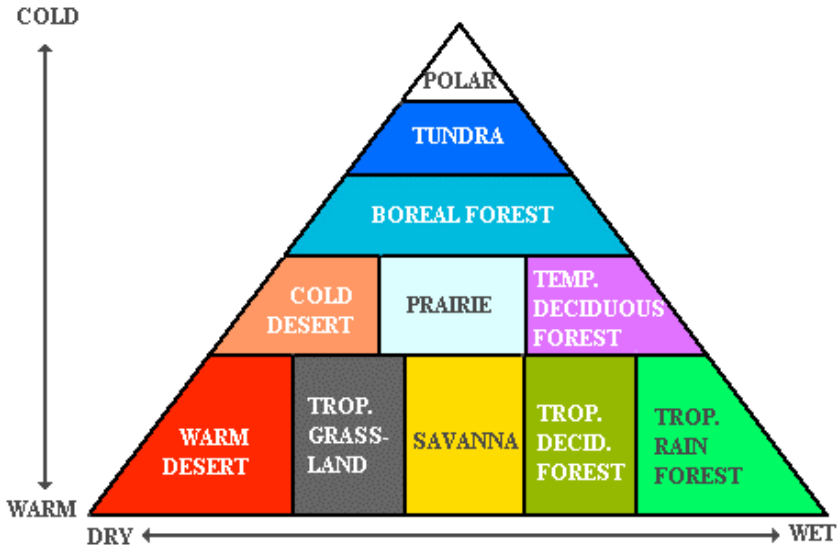
2. Freshwater
   - **Freshwater Wetlands**- Ponds, rivers, streams, lakes, swamps, marshes. Insects, amphibians, reptiles. Floating plants. High biodiversity.

3. Marine
   - **Benthos**- Sea floor. No light→no photosynthesis→no plants.
   - **Hydrothermal Vents**- Deep ocean, sulfur compound vents. Home to chemosynthetic bacteria.
   - **Coral Reefs**- Found in warm, shallow, ocean. Fringing reefs, barrier reefs and coral atolls. High biodiversity.
   - **Intertidal**- Area where tides come in and out. High biodiversity. Water movement exchanges nutrients and waste.
   - **Ocean**- Low biodiversity, except near shoreline. 75% of Earth's surface.

[1] These notes are from the Barron's AP Prep Book. More in depth classifications on Wikipedia: http://en.wikipedia.org/wiki/Biome



**There is also a map of the world biomes on pg. 79 in the Barron's book.



Quiz Questions

1. List and generally describe three different biomes.
2. What are the main factors in characterizing a biome and why?
3. What are three different biomes found on the Big Island?
4. Which biome do you think is at the greatest risk right now? (This question is pretty much a freebie as long as you give a substantial reason why. Unfortunately, most biomes are at risk.)