Mariana A. Lopez
Mrs.D'Imperio
Science
24 April 2017

**What are biomes?:**

- Biomes are a kind of plant and animal community that covers large distinctive areas.
- Biomes are determined by climate.
- Two primary nonbiological factors which kind of biome develops in any part of the world includes **precipitation** and **temperature.**
- **Precipitation:** total amount per year, the form in which it arrives (rain, snow, sleet), and its seasonal distribution.
- **Temperature:** its pattern throughout the year
    - Warm, relatively unchanging temperatures (tropical areas)
    - Long winters with extremely cold temperatures and relatively short, cool summers (areas near the pole)
    - More evenly divided between cold and warm periods of the year (other areas)
- Other factors can also have an influence on the kind of biome found in an area:
    - Periodic fires
    - How strong the wind in the area is
    - Type of soil (dry, wet, etc)
    - The kinds of organisms currently living in the area
    - etc.

**Land: Tropical Rainforest**

**What are the characteristics of your ecosystem/biome? (climate, etc.):**

- Normally warm and relatively constant
- No frost, and it rains nearly every day
- Most areas receive in excess (more than what is needed) of 200 centimeters (80 inches) per year; some receive 500 centimeters (200 inches) or more
- High rainfall and warm temperatures

**What are the limiting factors that affect your biome? (example: lack of water would be a limiting factor for a desert):**

- **Soil:**
    - Usually poor in nutrients, because water tends to carry away nutrients not immediately taken up by plants.
    - Limits what type of plants can grow in area.
    - Most plants grow rapidly.
- **Sunlight:**
    - Most sunlight is captured by the trees.
    - For this same reason, only shade-tolerant plants live beneath the trees' canopy (a solid wall of leaves between the sun and the forest floor)

**Biotic and abiotic factors (What plants and animals are found there?):**

- **Biotic:**
    - A variety of plants with an equally large variety of animals
    - Abundant insects include:
        - Ants
        - Termites
        - Moths
        - Butterflies
        - Beetles
        - etc.
    - Other common animals:
        - Birds
        - Climbing mammals
        - Lizards
        - Tree frogs
        - Monkeys
        - etc.
    - Most common plants:
        - Balsa trees
        - Teakwood trees
        - Vines
        - Ferns
        - Mosses
        - Orchids
        - Shade-tolerant plants
        - Epiphytic plants

        - etc.
- **Abiotic:**
    - Water
    - Sunlight
    - Soil
    - Rocks
    - etc.

**Human Impacts:**

- Logging and agriculture:
    - Poor countries seek to obtain jobs and money by exploiting this resource.
    - Agriculture has not been successful yet...still, poor people will try to raise food by burning the forest and raising crops for a year or two.
    - Many other areas have been cleared for cattle ranching.

**Climate Change Affects:**

- Drier rainforest
- Less humidity
- Drier soil

**Biomes- worth preserving and why (Example: Why would it be important to protect and preserve the rainforest?):**

- Because this biome has a greater diversity of species than any other biome.
- More species are found in the tropical rainforests of the world than in the rest of the world combined.

**Aquatic: Estuaries (Marine Ecosystem)**

*** Aquatic ecosystems that have little dissolved salt are called *freshwater ecosystems*, and aquatic ecosystems that have a high salt content are called *marine ecosystems*.**

**What are the characteristics of your ecosystem/biome? (climate, etc.):**

- Shallow, partially enclosed areas where freshwater enters the ocean
- Shallow water allows light to penetrate to most of the water in the basin

    - Phytoplankton and attached algae and plants are able to use the sunlight and the nutrients for rapid growth
- The saltiness of water changes with tides and the flow of water from rivers

**What are the limiting factors that affect your biome? (example: lack of water would be a limiting factor for a desert):**

- **Temperature**
    - No matter how cold or hot an estuary is, some fish are not able to survive if water is not at a certain level.
- **Disease**
    - In a more populated area, disease is more likely to expand while in an open area like the ocean, disease is less likely to spread out.
- **Amount of food resources available**

**Biotic and abiotic factors (What plants and animals are found there?):**

- **Biotic (the number of species is less than in the ocean or freshwater) :**
    - Phytoplankton
    - Attached algae and plants
    - Fish and crustaceans such as flounder and shrimp
    - etc.
- **Abiotic:**
    - Water
    - Sunlight
    - Salt
    - Rocks
    - etc.

**Human Impacts:**

- Overfishing.
- Estuaries are important fishing areas, but are affected by the flow of fertilizer, animal waste, and pesticides down the river that drain farmland and enter estuaries.
- Oil pollution.

**Climate Change Affects:**

- Warmer water temperature.
- Some specific types of fish might no longer be able to live in estuaries.

**Biomes- worth preserving and why (Example: Why would it be important to protect and preserve the rainforest?):**

- Because estuaries serve as nursery sites for fish and crustaceans such as flounder and shrimp
- Adult fish reproduce there leaving their young and returning to the ocean.
- When the young get larger and are more able to survive in the ocean, they leave the estuaries.
- Estuaries also trap sediments; this activity tends to prevent many kinds of pollutants from reaching the ocean and also results in the gradual filling in of the estuary, which may eventually become a salt marsh and then part of a terrestrial ecosystem.