



# BiomeViewer: Biodiversity and Human Impacts

## OVERVIEW

This worksheet is designed to familiarize you with the many features found in [BiomeViewer](#).

## TIPS FOR USING THE APP

- You can use BiomeViewer [online](#) or [download](#) an iPad version from the App Store.
- Click and hold the globe to spin it and explore different parts of the world.
- Click and release a spot on the globe to drop a pin there to see a summary of the characteristics of the biome for that location.
- You can also search for locations by name, latitude/longitude, or zip code.
- In the biome summary panel, click on “More” to see a longer description, photos, a larger climate graph, and wildlife data.
- Click on “Compare” to view details on two biomes side by side.
- On the biomes legend, use the arrows at the top to see different layers including anthromes, temperature, precipitation, and terrain.
- Click the gear icon to toggle gridlines and political boundaries on and off.
- Click on the globe icon to switch between a spherical view and a flat projection of Earth.

## BIODIVERSITY AND LATITUDE

1. Drop the pin on any point in one of the biomes listed in Table 1 below and record the following:

Biome name: \_\_\_\_\_

Latitude and longitude: \_\_\_\_\_

Range of temperatures: Minimum \_\_\_\_\_ Maximum \_\_\_\_\_

Range of rainfall: Minimum \_\_\_\_\_ Maximum \_\_\_\_\_

Total number of species (richness): \_\_\_\_\_

2. Share the data you collected with your classmates and complete Table 1 as others share their data. Pick just one representative location for each biome.

**Table 1. Characteristics of some representative biomes.**

| Biome                      | Latitude | Species Richness |
|----------------------------|----------|------------------|
| Tundra                     |          |                  |
| Boreal Forest              |          |                  |
| Temperate Deciduous Forest |          |                  |
| Desert                     |          |                  |
| Tropical Rain Forest       |          |                  |
| Alpine                     |          |                  |

3. Based on the completed table, do an “I see, I think, I wonder” activity by completing Table 2.

**Table 2. Questions about patterns in biomes.**

| <p><i>I see</i></p> <p>What patterns do you observe?</p> | <p><i>I think</i></p> <p>What can you infer from the patterns?</p> | <p><i>I wonder</i></p> <p>What else would you like to explore?</p> |
|--|--|--|
|  |  |  |

4. Change the view to a flat map and turn on the gridlines. Click on the Sahara Desert near the Tropic of Cancer. Click “compare” and select the tropical rain forest biome in Southeast Asia at about the same latitude. Then, answer the following questions:

a. How do rainfall and temperature patterns differ between the biomes?

b. List the species richness for each biome.

Sahara Desert: \_\_\_\_\_ SE Asia Tropical Forest: \_\_\_\_\_

c. Think about the difference or similarity in species richness between these two biomes. What could account for this difference or similarity?

**HUMAN IMPACTS ON BIODIVERSITY**

5. Go back to your original biome from question 1. Make sure you are still in flat map view. Change to the Anthrome layer and select the year 2000.

- a. Select the point in your biome with the highest level of human disturbance. List the Anthromes at this location for each of these years:

1700: \_\_\_\_\_

1800: \_\_\_\_\_

1900: \_\_\_\_\_

2000: \_\_\_\_\_

- b. Briefly summarize how humans have impacted the environment at this location over time.

- c. At this location, record the following:

Anthrome (year 2000): \_\_\_\_\_

Species Richness: \_\_\_\_\_

# Species NOT listed as "Least Concern": \_\_\_\_\_

- d. Now select the point in your biome with the lowest level of human disturbance. Ideally, it should be a wilderness area, but as close as possible to the last location. Record the following:

Anthrome: \_\_\_\_\_

Species Richness: \_\_\_\_\_

# Species NOT listed as "Least Concern": \_\_\_\_\_

- e. Summarize the differences in species richness and IUCN status of species between the two locations. Make a claim for how human disturbance could have impacted biodiversity in your biome. Support your claim with evidence.