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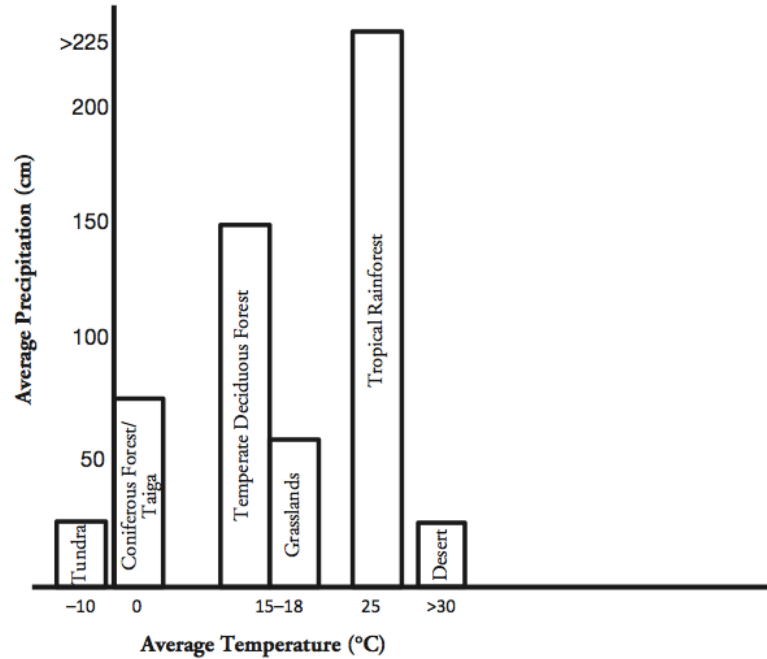
EXPLORE *Biomes & Biodiversity*

Why?

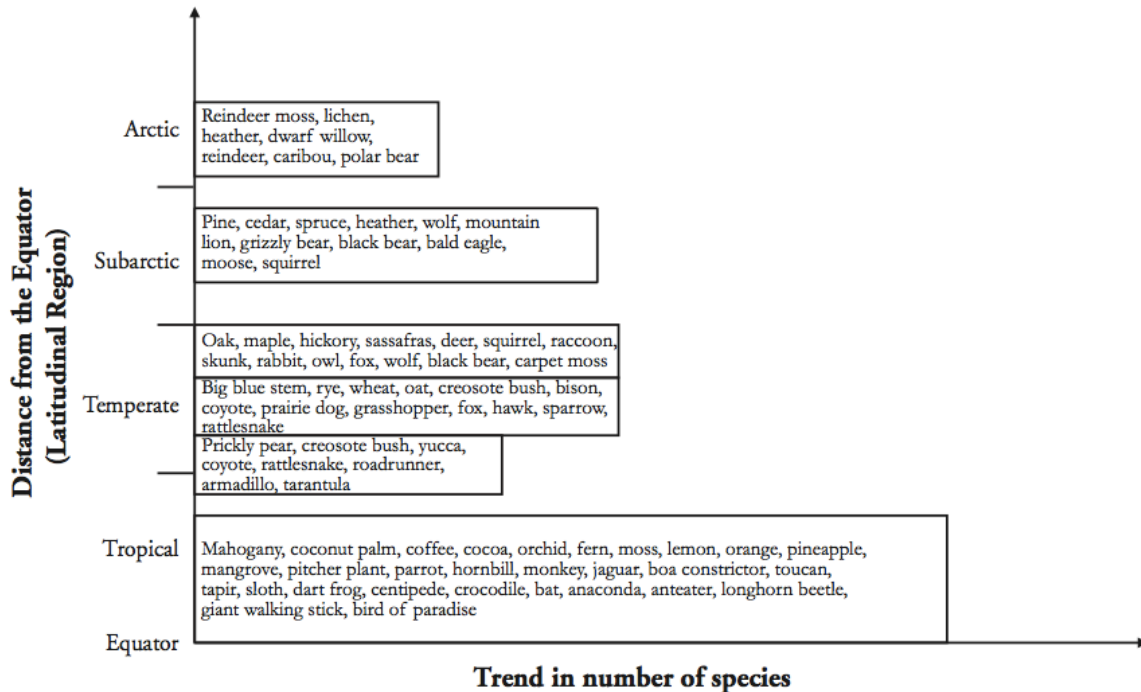
Have you ever wondered why no polar bears are in California, or cacti in Alaska? The amount of precipitation and the temperature varies tremendously across North America, resulting in well-defined community boundaries or **biomes** that are suitable for some populations but not for others.

Model 1 – Biomes of North America

Average Precipitation and Temperature



Model 2 – Plant and Animal Species in North American Biomes

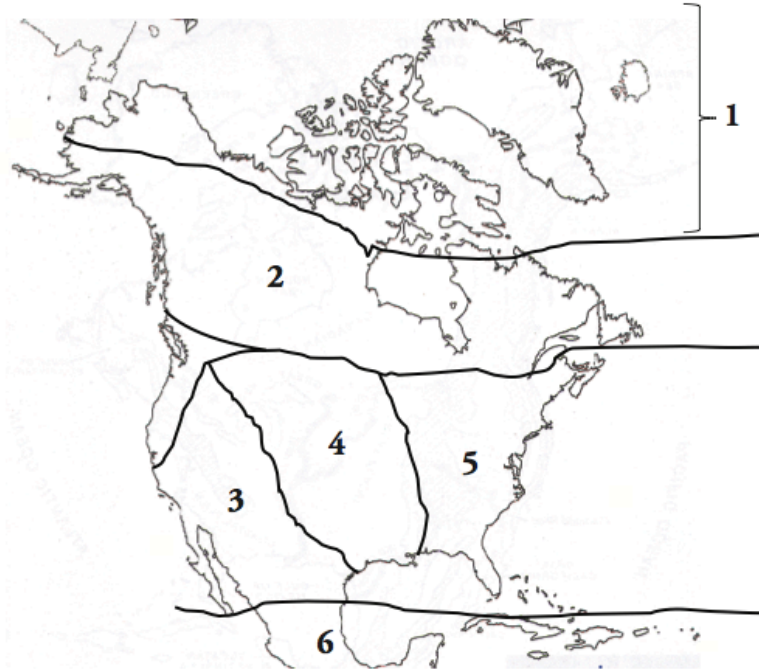


1. According to Model 1, which two biomes have the same amount of rainfall?
2. Which biome in Model 1 has the most rainfall?
3. Which biome has the highest average temperature?
4. Which two biomes have nearly the same average temperature?
5. Refer to Model 1.
 - a. Name the three different types of forests shown in Model 1.
 - b. What is another name for the coniferous forest?
 - c. What characteristic differentiates the tundra and the desert?
 - d. Why might the tundra also be known as the “frozen desert”?
6. Consider the biomes in Model 1 with moderate temperatures.
 - a. What characteristic differentiates the grasslands and temperate deciduous forests?
 - b. What would be the most likely reason for the grasslands having grasses rather than trees as their dominant plant species?

7. Describe the relationship between **temperature**, **rainfall**, and the **type of forest**.

8. The six bars in Model 2 represent the six North American biomes introduced in Model 1, and include a list of some plants and animals typically found in each biome.
 - a. What information is represented by the x-axis in Model 2?
 - b. What information is represented by the y-axis in Model 2?
 - c. How might the y-axis information in Model 2 be related to one of the data axes in Model 1?

9. Identify each of the six biomes found in North America on the map below. Average rainfall data is given to help you choose between biomes in the same latitudinal region.



Zone	Rainfall (cm)
1	25
2	75
3	25
4	60
5	150
6	>225

- 1. _____
- 2. _____
- 3. _____

- 4. _____
- 5. _____
- 6. _____

10. Refer to Model 2.

- a. Which latitudinal region contains the fewest number of species?
- b. Which latitudinal region contains the largest number of species?

11. **Biodiversity** is a term used to describe the variety of plant and animal species in a given biome. An ecosystem or biome that supports a large variety of species is very biodiverse.

- a. What biome in North America has the highest biodiversity?
- b. What biome in North America has the lowest biodiversity?

12. What is the general trend of biodiversity in biomes as the latitude moves from the arctic region towards the equator?