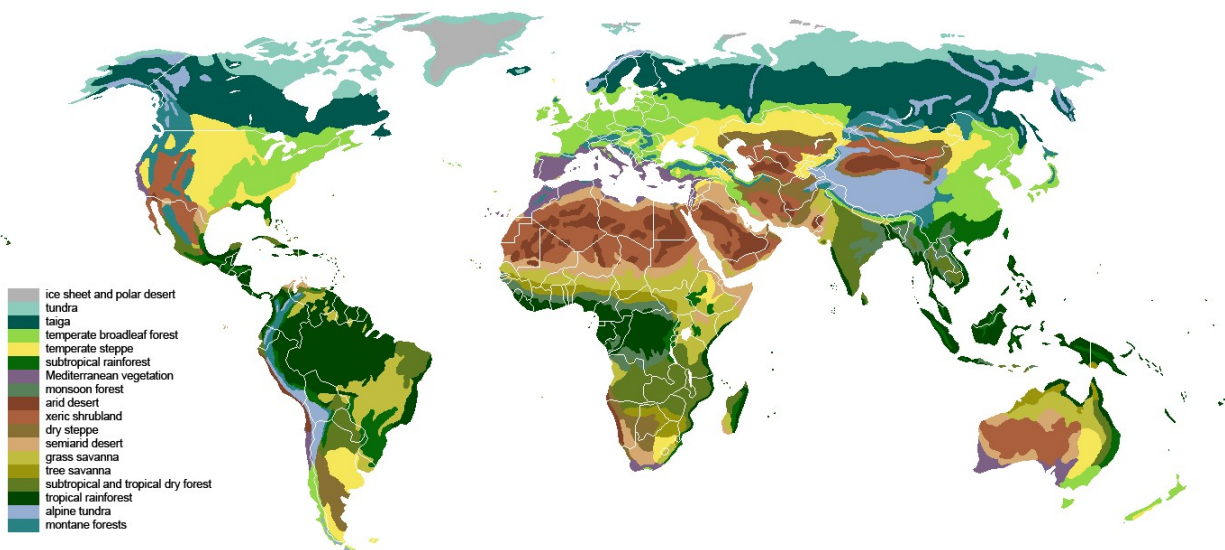


Soil's Role in Carbon Sequestration

1. The map, "Earth's Biomes," shows the locations of 18 types of biomes and their distribution around the world. Compare the map to the Soil Orders on [the front of the Geologic Map Day Poster](#) and the Carbon Sequestration Map on [the back of the 2022 Geologic Map Day poster](#).

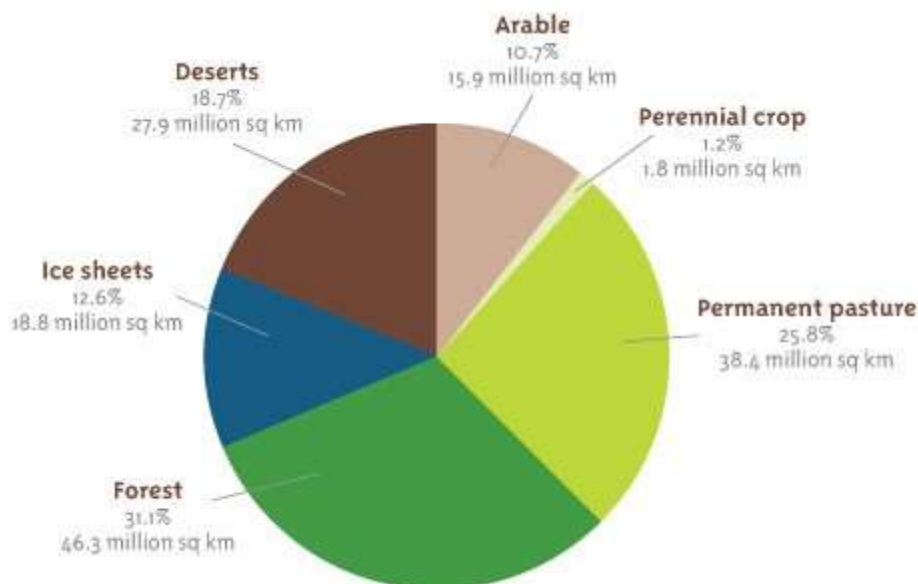
Earth's Biomes



Credit: Creative Commons, Ville Koistinen, Full-size version available at: <https://upload.wikimedia.org/wikipedia/commons/e/e4/Vegetation.png>

- a. What trends do you notice about the biomes that match up with soils capable of carbon sequestration?
- b. Which biome matches up most with the areas capable of the highest level of carbon sequestration? Learn more about the biome and soils to describe why do you think this biome may be the most capable of carbon sequestration. Answer the questions below to help guide your thinking:
 - i. What is the climate of this biome like?
 - ii. What plants and animals live there?
 - iii. Use the Soil Types map on the front of the Geologic Map Day poster to identify which type(s) of soils this biome has.
 - iv. Which category on the graph, "Comparison of Total Area on Earth in Various Land Uses," best describes the land use of this biome.

2. The graph, "Comparison of Total Area on Earth in Various Land Use Categories," shows the six major categories and percentages of how land is used or covered worldwide.
Comparison of Total Area on Earth in Various Land Use Categories



Credit: SSSA

- Which categories indicate human use? Which do you think are naturally occurring? Which categories could be considered both? Why?
- How might each category be affected by climate change? State whether the percent of each category will increase, decrease, or stay the same. Describe the effects you expect to occur.
- Research how land use can impact the amount of carbon in soil. Which use(s) increases the amount of carbon the soil can hold? Which use(s) give off carbon? Why is this?

Metadata

Grade Level: 6, 7, 8, 9, 10, 11, 12

Tags: activity, soil, carbon, carbon cycle, carbon sequestration, climate, climate change

NGSS ESS Disciplinary Core Ideas (DCI's): Earth's Systems (ESS2)

NGSS ESS Topics: Earth's Systems, Human Impacts

Categories: Geosphere: Earth's Natural Resources, Surface Processes: Soils

National Science Education Standards (1995): Earth and Space Science (A), Physical Science (B), Science in Personal and Social Perspectives (E), Science as Inquiry (G)



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