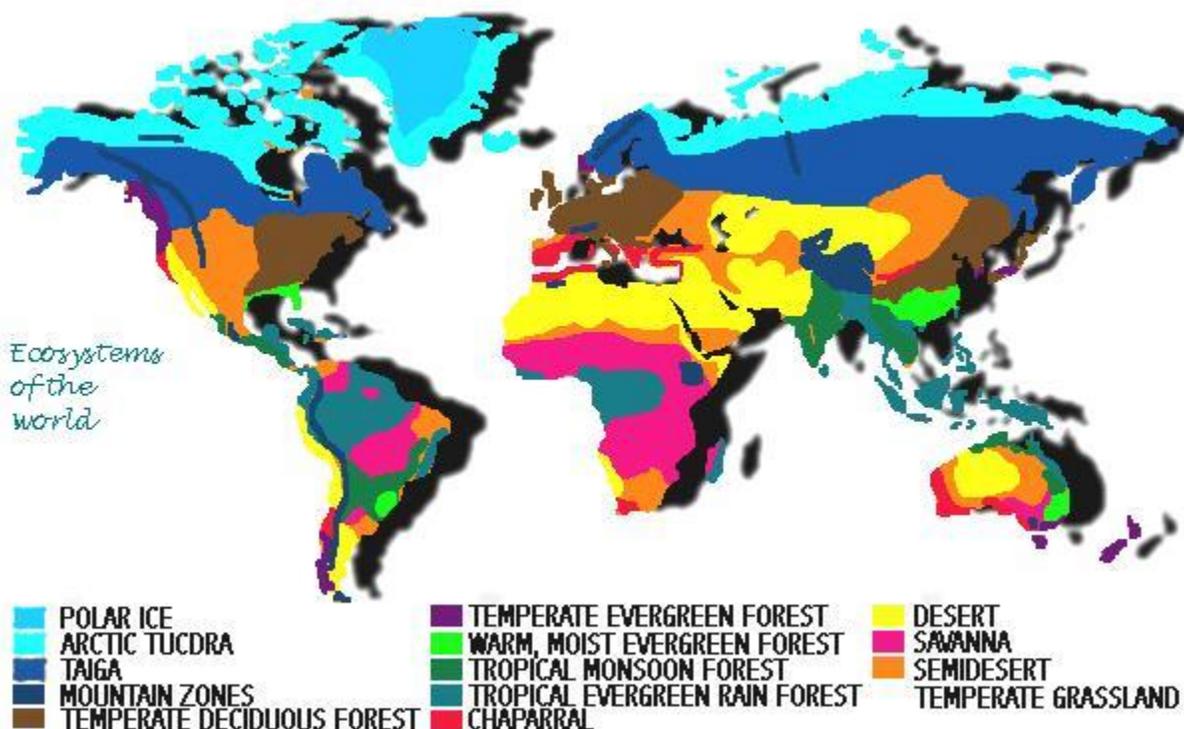


Forest
Desert
Prairie/Grassland
Tundra
Aquatic
environmental
issues

Introduction

The biosphere is divided into six major land biomes: Tundra, Taiga (coniferous forest), Deciduous Forest, Grasslands, Deserts, and Tropical Rain Forests. In addition there are two water biomes - the Marine biome, which includes all the oceans and seas of the world and the Freshwater biome.

A biome is a large geographic area with a multitude of animal (fauna) and plant (flora) life. Flora is often used to determine biome classification; plant structures (such as trees, shrubs, and grasses), leaf types (such as broadleaf and needles), and plant spacing (forest, woodland, savanna) are all characteristics used to classify. The climate (latitude, longitude and elevation - how high it rises above sea level) and geography (temperature, soil composition, amount of annual precipitation) of a region also determine the type of biome that will exist in an area. Each biome contains ecosystems with organisms adapted to that particular environment.



http://www.somers.k12.ny.us/SIS/MAIN/sis/research/gr5links/americas/biome_maps.html

The Task



You are the newly appointed Deputy Secretary of the Office of International Affairs, Department of the Interior (<http://www.doi.gov/intl/>) for President Barack Obama. The U.S. Department of the Interior (DOI) is the primary conservation agency of the United States whose function is to maintain our country's natural resources. Their Office of International Affairs is responsible for fulfilling international treaty obligations that deal with endangered species, wetlands, the protection of world cultural and natural heritage, and marine pollution, and providing technical assistance and scientific advice on wildlife, water, and other natural resources (e.g., water issues in Middle East peace talks), park management, and addressing environmental hazards (e.g., volcano and earthquake monitoring).

<http://pnt.gov/membership/doi.shtml>

The President is embarking on a worldwide tour of diverse biomes. Since he is such a busy man, he needs you to provide him with a dossier (a file containing detailed records on a particular subject) on the biomes he is scheduled to visit. You must provide him with background information on the biome as well as any environmental issues concerning the biome. The President wants to know if there is anything that can be done to curtail these problems in the future. Be sure to give him some of your ideas. You and your staff of three will research each of the following biomes: Forest (Temperate Deciduous and Rainforest), Desert, Prairie/Grassland, Tundra, Aquatic (Ocean and Freshwater - lakes and rivers.) You may present this information in the format that you find most effective whether it is a poster, a report, a scrapbook, a brochure, a powerpoint presentation, or some other method. You must also present your findings to the President and members of Congress, providing the president with a one page summary.

The profile for the President must contain six components:

- A. The physical make-up of the biome (abiotic)
- B. The plant life of the biome. (flora)
- C. The animal life of the biome. (fauna)
- D. A food web of plants and animals within the biome.
- E. The problems concerning your biome, how they occur, ways to curtail them, their impact on the organisms in the ecosystem.
- F. An oral presentation to the President and Congress summarizing your findings.

A. Physical make-up:

1. Topography (mountains, hills, major rivers, lakes, and etc.)
2. Substratum (soil, rock, permafrost, etc.)
3. Climate and Seasons (average precipitation, temperature, winds...)
4. Ecosystems within the biome.
5. Maps identifying where the biome occurs in the Western Hemisphere.
6. Human activity (mining, agriculture, major industries...)
7. History of the area (Settled by..., Site of first..., Covered by ice during...)

Physical make-up report - minimum of 2 pages.

B. Plants (flora):

1. Describe three plants stating characteristics and adaptations of each.
2. Include the common and scientific name of each plant.

Extra points for pictures of each plant included. If a picture of each plant is included place the common and scientific name above each picture.

C. Animals (fauna):

1. Describe five animals stating characteristics and adaptations of each. How do the adaptations allow each animal to survive in this biome?
2. Include the common and scientific name of each animal.

3. You must choose animals from different levels of a food chain.

example: Bark beetle American Toad Black Snake Redtailed Hawk

Extra points for pictures of each animal included. If a picture of each animal is included place the common and scientific name above each picture.

D. Food Web

1. Construct a food web using the plants and animals from your reports. Include other animals from the biome.
2. Be creative in the construction of your biome web. You may hand draw the organisms, cut them out from magazines, use Internet graphics, or use any other creative approach in depicting your food web.
3. There must be at least 5 plants and 8 animals in your food web.
4. DO NOT pick all carnivores!!!

Remember, you must have primary consumers before you move up the food chain.

E. Ecosystem Problems

1. Summarize the ecological issues surrounding your region.
2. Explain their history and occurrence.
3. Effect on ecosystem and living organisms contained there.
4. Possible methods used to control these damaging influences.
5. Your recommendation to the president.

F. Oral Presentation

1. Each team member will present their part of the report.
2. The presentation must:

Describe the biome's physical make-up.

Describe at least three plants found in the biome.

Describe at least two animals found within the biome.

Discuss and explain the food web.

Explain the conservation issues regarding the biome and what can be done to address them.

Resources

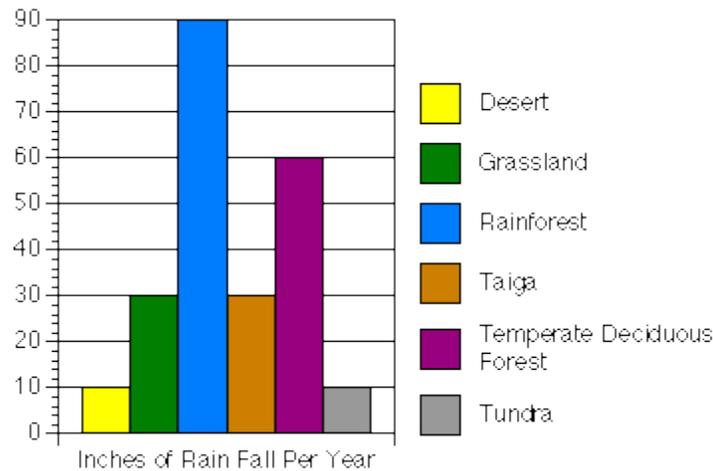
- **ThinkQuest - Biomes** - <http://library.thinkquest.org/C0113340/main.php?section=biomes>
 - If you select each individual biome and Media Gallery, it will present you with various pictures of living organisms from that biome.
- **MBGnet: Missouri Botanical Gardens - What's It Like Where you Live?** - <http://www.mbgnet.net/index.html>

Conservation

- **ThinkQuest - Ecosystems of Our World - How Humans Have Affected Them** - <http://library.thinkquest.org/11353/ecosystems.htm>

Weather/Climate

- **Weather Eye - Climate** - <http://weathereye.kgan.com/cadet/climate/> A website that helps you understand the difference between weather and climate and has some fun interactive features.
- **BBC - Global Climates** - <http://www.bbc.co.uk/schools/gcsebitesize/geography/weather/globalclimaterev2.shtml>



<http://www.mbgnet.net/sets/temp/rainfall.gif>

- [Photos and Images](#)
- [Team Responsibilities](#)
- See Individual Biome pages for additional links