

# Biome Information

## Key Concepts:

Terrestrial biomes and aquatic ecosystems are largely determined by their abiotic characteristics.

## Evidence of Learning: Students can ...

- list and describe Canada's biomes.
- explain the features that make a terrestrial biome most productive.

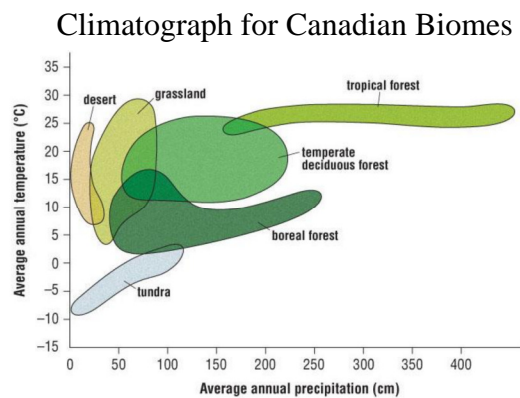
- Prominent ecosystems have characteristic features that are observable, e.g.; deserts, coral reefs, and tropical rainforests.

## Terrestrial Ecosystems

**Biome:** a large geographical region defined by climate (precipitation and temperature) with a specific set of biotic and abiotic features.

biotic means living  
abiotic means non-living

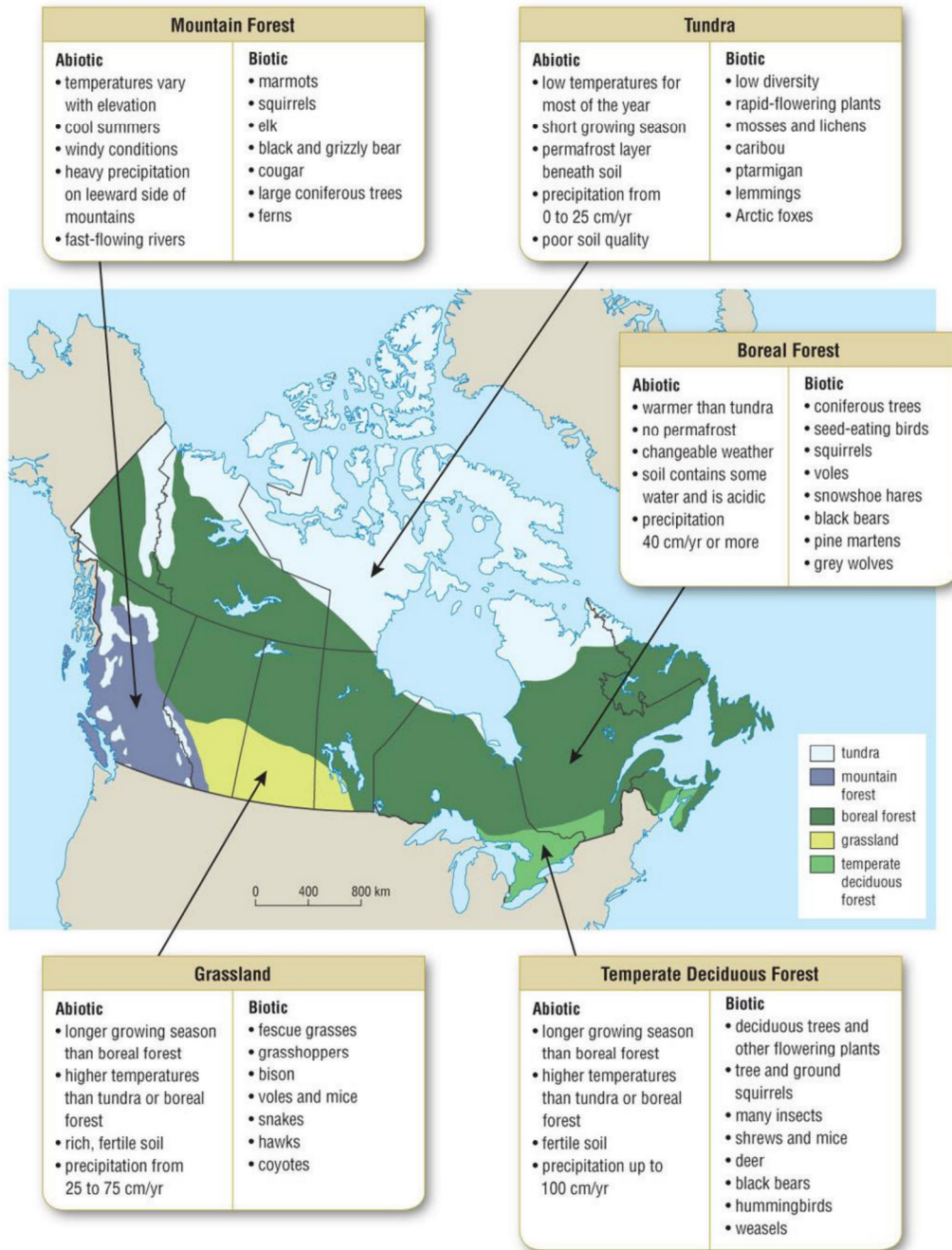
- Climate is one important characteristic for a prominent ecosystem.
- The pattern and range of temperature and precipitation lead to the establishment of biomes.



Think about the combination of temperature and precipitation and how this result in a particular biome? How does the combination of temperature and precipitation result in the types of plants and animals found in the biome?

**Figure 1:** The Climatograph shows the influence of precipitation and temperature on biome formation.

- There are five major biomes found in Canada; Tundra, Boreal Forests, Grassland, Temperate Deciduous forest, and Mountain Forest.



**Figure 2:** Canada has four major biomes. The mountain forest biome is found in British Columbia and parts of Alberta.

## **Tundra Biome**

- Most northern biome, large region of permafrost.
- Short growing season and low temperatures
- Harsh for plants to grow, Limit sunlight for photosynthesis
- Limit soil for plant growth and ability for organic decomposition and nutrient cycling.
- Animals: Caribou, and polar bear. Plants: lichen and mosses.

## **Boreal Forest Biome**

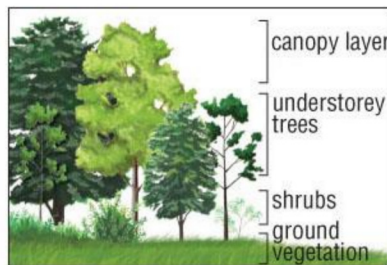
- Largest biome in Canada
- Rainfall and warm supports the growth of trees.
- Soil is acidic, decomposition of conifer needles releases acids
- Conifers are the dominant trees, with thin needles that are able to photosynthesis, and are not lost during the winter months
- Needles have a waxy coat, (cuticle) which prevents water loss during the winter.

## **Grassland Biome**

- Canada's natural grassland, prairie, has moderate rainfall, hot dry summers, black dark soil which is very fertile, compose of dead organic matter that decomposes releasing nutrients back into the soil.
- Animals: Bison

## **Temperate Deciduous Forest Biome**

- Broad leaf trees, such as; maple, oak, and ash.
- Long growing season, temperatures are moderate. Decomposition rate is quicker.
- Has a very diverse plant community, which supports a diverse animal community.



**Figure 7:** The temperate deciduous forest has distinct layers of tall canopy trees, small under storey trees, shrubs, and ground vegetation.

**Summary:**

- Precipitation and temperature are the main abiotic factors influencing biome formation.
- Terrestrial biomes have distinct biotic and abiotic characteristics.
- The five main Canadian biomes are tundra, boreal forest, grassland, temperate deciduous forest, and mountain forest.
- The boreal forest is the largest biome in Canada.