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- for students to copy in their own hand-writing
  - ◆ in order to complete their class notes
  - ◆ if student did not have enough time in class
  - ◆ if student was away and missed this section
- for assistants and tutors to follow progress of the concepts taught

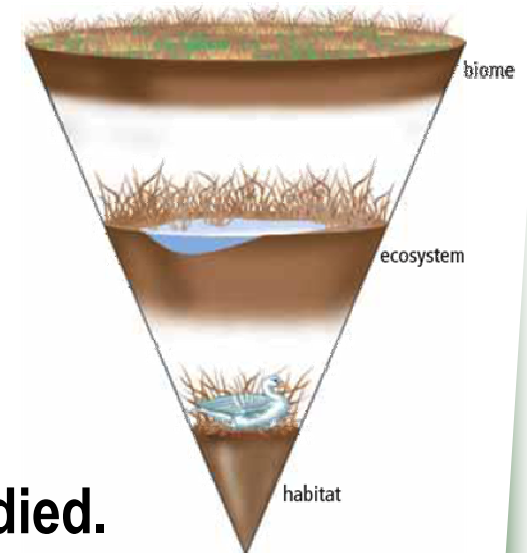
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# 1.1 Biomes



- **The word “biosphere” refers to anywhere on Earth living things exist.**
  - ♦ **A biome is a region with similar biotic and abiotic components.**
    - **Biotic = living things**
    - **Abiotic = non-living things (air, water, soil, etc.)**
  - ♦ **A biome here in BC can be the same as a biome in New Zealand.**
    - **If biotic and abiotic conditions are the same, similar biomes can exist far apart.**
- **In this course, eight terrestrial biomes will be studied.**
  - ♦ **Biomes are classified based on many qualities, such as water availability, temperature, and interactions between biotic and abiotic factors.**
  - ♦ **Boreal forest, desert, grassland, permanent ice, temperate deciduous forest, temperate rainforest, tropical rainforest and tundra.**

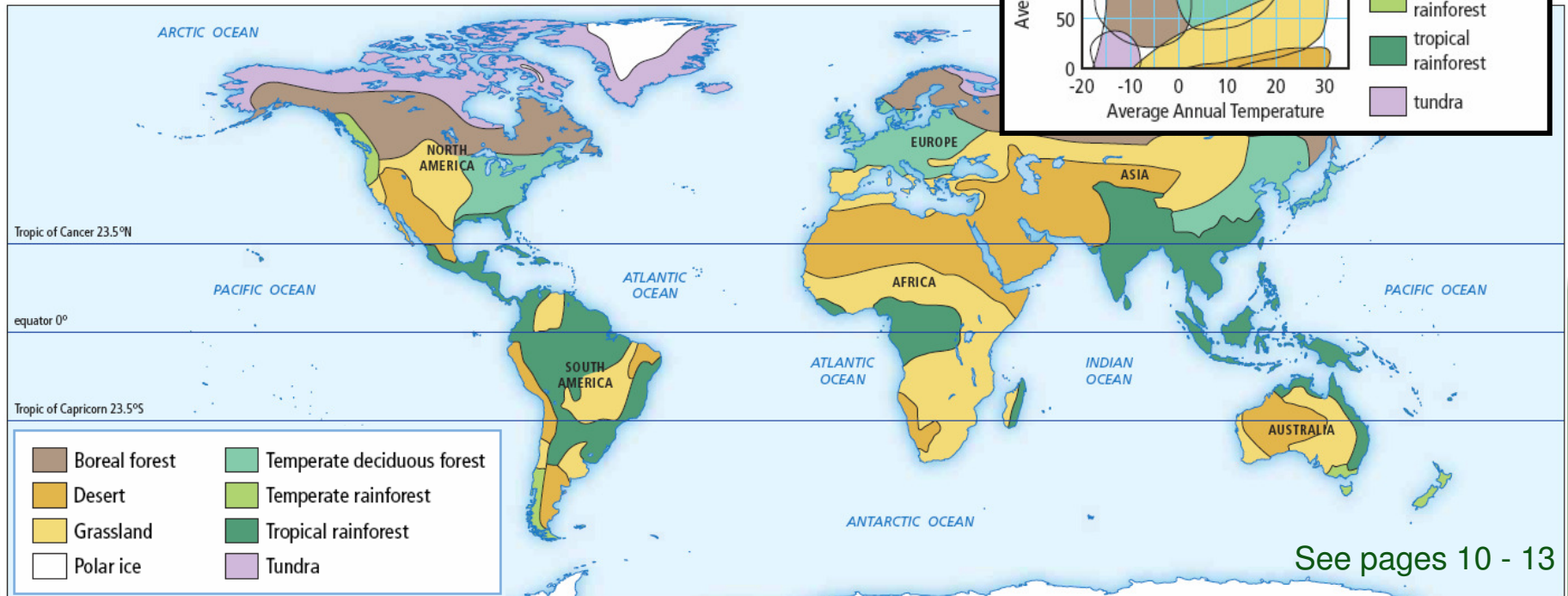
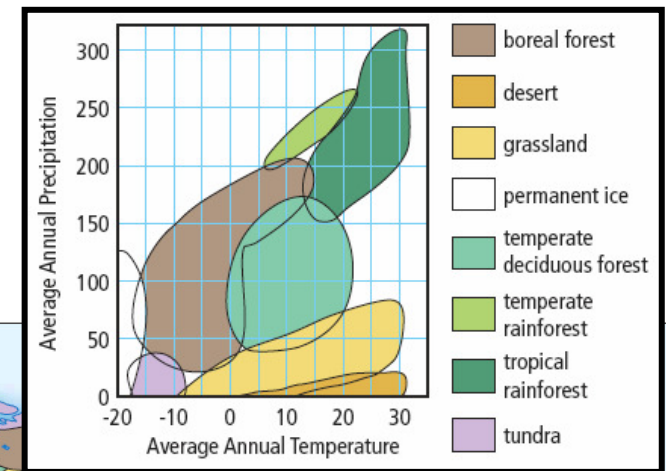


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# Factors That Influence the Characteristics and Distribution of Biomes



- **Certain characteristics help to identify biomes.**
  - ◆ **Temperature and precipitation are two of the most important abiotic factors.**
  - ◆ **Other factors include latitude, elevation and ocean currents.**

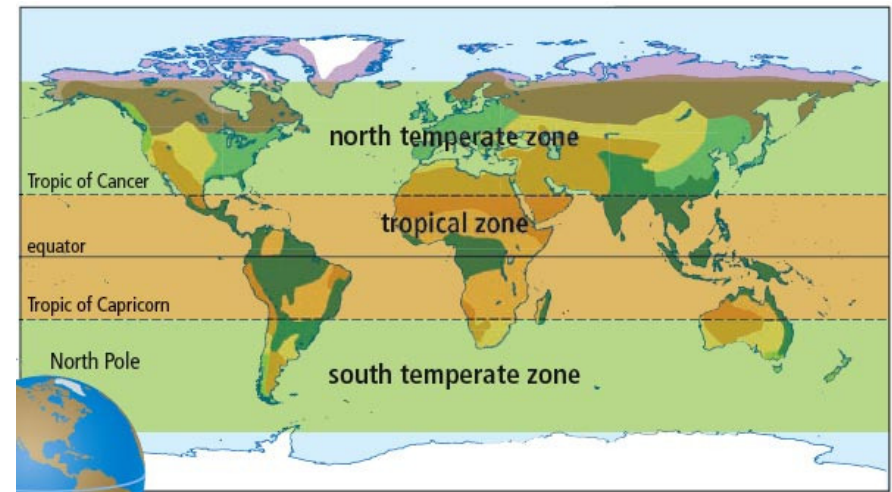


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# Factors That Influence the Characteristics and Distribution of Biomes (continued)



- **Latitude is an abiotic factor that influences biomes.**
  - ◆ Latitude is the distance north and south from the equator.
  - ◆ Latitude influences both temperature and precipitation.
    - The tropical zone has very warm temperatures and high precipitation.
      - The sun shines straight down
      - warm air holds more moisture than cooler air.
- **Elevation also influences biomes.**
  - ◆ Higher elevations have less air, and therefore less heat is retained.
  - ◆ Windward sides of mountains are wet, leeward sides are very dry.
- **Ocean currents carry warmth and moisture to coastal areas.**
  - ◆ Where warm currents meet land, temperate biomes are found.

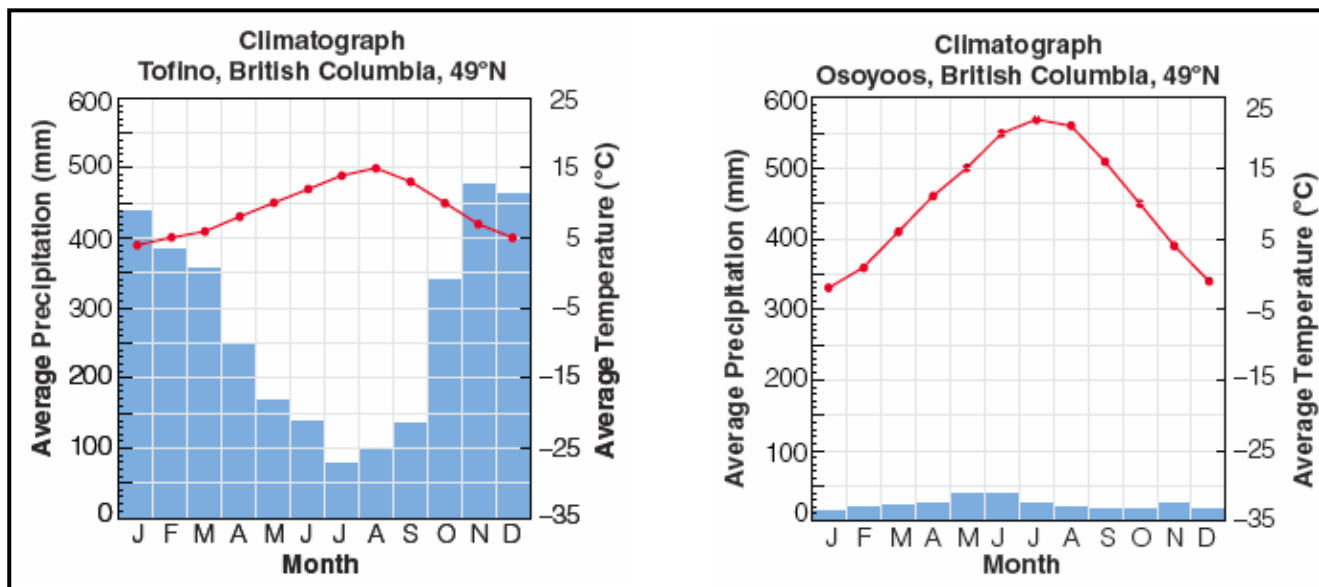


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# Climatographs



- **Climate refers to the average pattern of weather conditions over a period of several years.**
  - ♦ A climatograph shows the average temperature and precipitation for a location over a period of 30 years or more.
- **Biomes are often defined using information in climatographs.**
  - ♦ Examine the differences between Tofino and Osoyoos



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# Adaptations and Biomes



- **Biomes are often identified with characteristic biotic factors.**
  - ◆ For example, a cactus in the desert, or a caribou on the tundra.
  - ◆ An adaptation is a characteristic that allows an organism to better survive and reproduce.
    1. **Structural adaptation - a physical feature that helps an organism survive.**
      - A wolf has large paws to help it run in snow.
    2. **Physiological adaptation - a physical or chemical event inside the body of an organism that allows it to survive.**
      - A wolf maintains a constant body temperature.
    3. **Behavioural adaptation - a behaviour that helps an organism to survive.**
      - A wolf hunts in packs to capture large prey.



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[Take the Section 1.1 Quiz](#)

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