Weather and Climate (8.1)

Weather: atmospheric conditions in a particular location over a short period of time (e.g., a day or week)

> Factors influencing the weather:
>
> ς **Temperature**
> ς Type and amount of **precipitation**
> ς **Wind** speed
> ς Relative **humidity** (amount of water vapour in the air relative to maximum amount of water for the air to hold at that temperature)
> ς Atmospheric **pressure** (force exerted on a surface by the weight of the air above it)
> ς Presence of **fog, mist, clouds**

Note:
Warm air can hold more water vapour than cold air. This is why warm air is often more humid than cold air.

> **Example**: high of 28°C, sunny with cloudy periods, probability of precipitation 50%, wind traveling NE at 30km/h, and relative humidity of 20%.

Meteorologists: scientists who study the weather

What causes weather? Air and water movement

Climate: the usual pattern of weather in a region over a long period of time (determined by measuring 30+ years of weather data); determines ecosystem

> Factors influencing the weather:
>
> ς **Distance from equator**
> ς Presence of **large bodies of water**
> ς Presence of **ocean/air currents**
> ς **Land** formations
> ς **Altitude**

Climatologists: scientists who study climate

climate   (vs)

short term changes, **current** state of the atmosphere

Classifying Climate (8.2)

The traditional climate zones were created in the early 1900s, and classify climates based on **temperature, precipitation, and vegetation. ?**
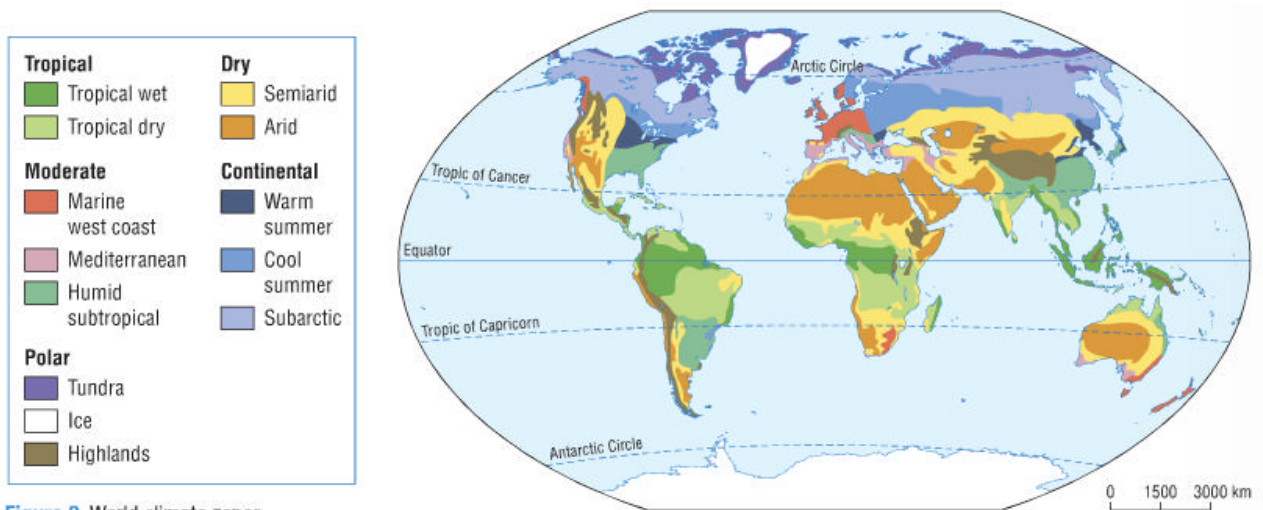

Figure 2 World climate zones

Ecoregions classify areas based on **landforms, soil, plants, animals, and climate**. They are climate zones that focus on the ecology of a region. There are 867 land-based ecoregions. **?**
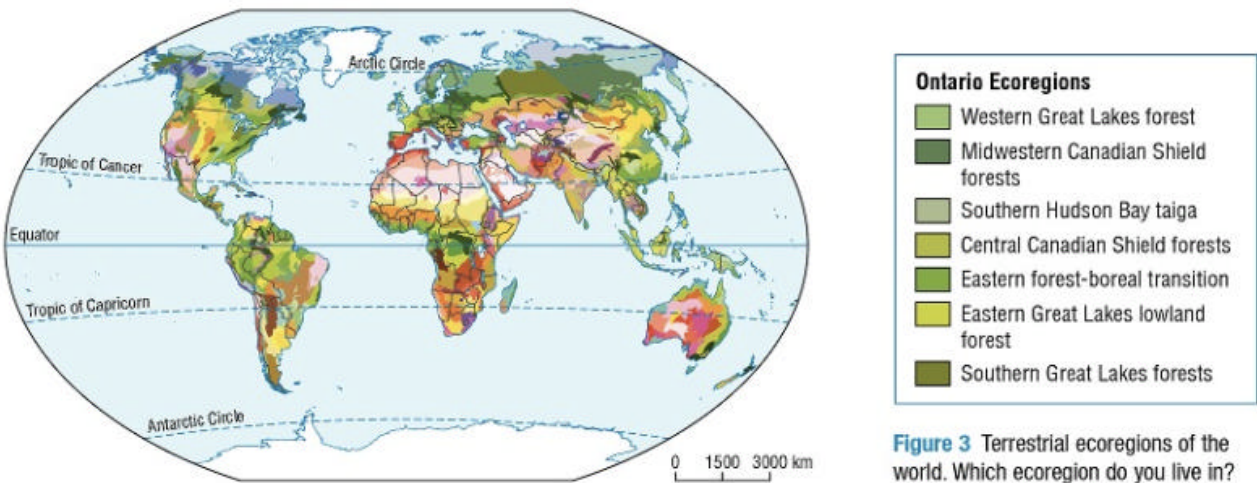

Figure 3 Terrestrial ecoregions of the world. Which ecoregion do you live in?

Canada developed its own system for mapping ecoregions to smaller zones. Just remember that:

Bioclimate profiles show trends in the climate (e.g., temperature and moisture) at certain locations. They can project the climate 40–80 years into the future.