

# Notes for Weather and Climate

- Weather – Current condition of the atmosphere
- Climate – Long term weather patterns for a particular area that persists for 30 years or more.
- Koepfen Classification System – temperature and precipitation
  - Tropical – high temperatures and abundant rainfall
  - Dry – low amounts of rain (deserts – arid / steppes – semi-arid)
  - Temperate – four distinct seasons with minor variations in temperature
  - Cold – rapid and extreme changes in temperature with long winters and short summers
  - Polar – Extremely cold regions with very little precipitation
- Microclimates – Localized climate that differs from main regional climate
  - Mountains – sunny side gets more sunlight and will have more abundant plant growth.

- **Urban Heat Islands** – urban areas have more pavement and less trees, so they have higher temperatures than rural areas.
- **Lake Effect Snow** – areas around large lakes, especially in cooler regions, will experience more frequent large snowstorms than areas not near large lakes.
- **Ocean Currents** – The Gulf Stream brings warm ocean water from the equator all the way to England, resulting in warmer temperatures than what it should be just based on latitude, as well as lots of fog.
- **Coastal Regions** – Due to differential heating of water and land, sea breezes create more moderate climates on the coast than inland areas.