

### Climate on Rangelands

Climate = Long-term patterns of \_\_\_\_\_ and \_\_\_\_\_

Weather = \_\_\_\_\_ variation in temp., precip., wind, humidity, etc.

How does climate affect vegetation patterns?

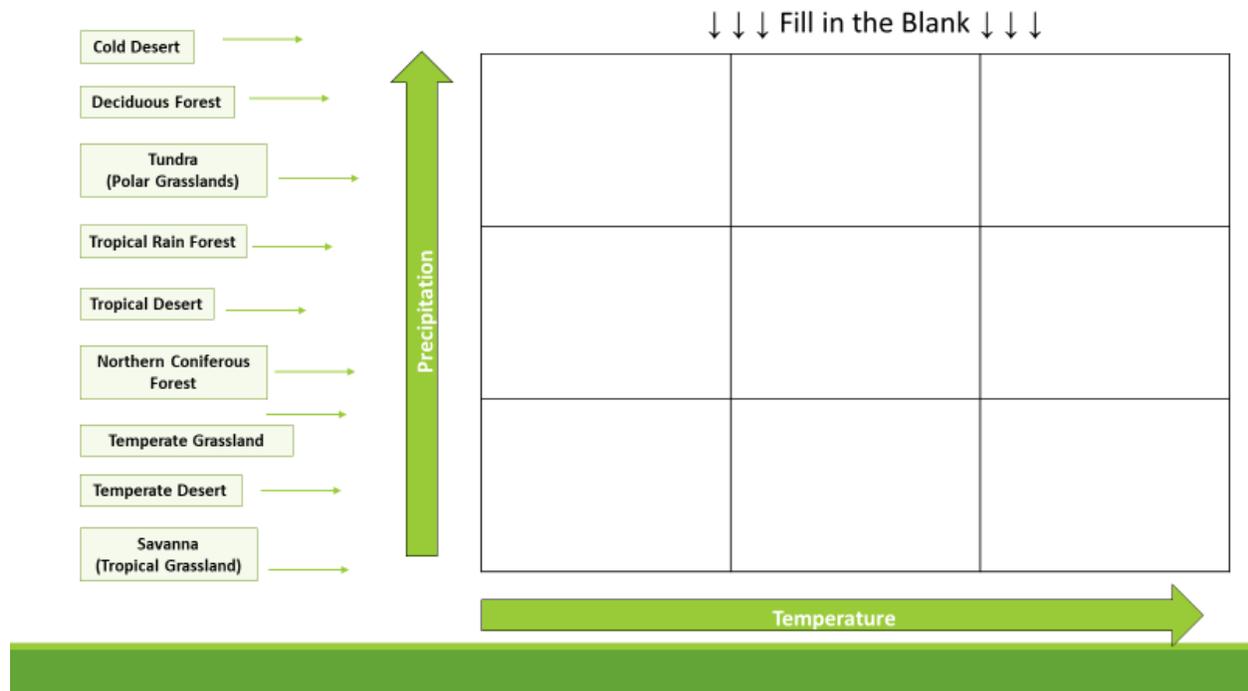
- Affects plant biomass:
  - Drives photosynthesis
  - Determines growing period
- Affects types of plants that will grow:
  - Trees need more water than shrubs, forbs, and grasses
  - Some plants like it hot and some like it cold
- Influences soil texture and structure
  - Precipitation and temperature
  - Chemical and physical weathering

Ecosystems: Community of \_\_\_\_\_ and \_\_\_\_\_ environment.

Biome: Largest \_\_\_\_\_ ecosystem that is easily recognizable.

What creates different biomes?

- Precipitation
- Temperature
- Soils
- Topography



Hadley Cell Effect (altitude and latitude are important!)

Continental Land Effects

- Lands around large bodies of water tend to have climates with \_\_\_\_\_ temperatures and \_\_\_\_\_ precipitation (moist or mesic)
- Centers of continents often have extreme temperature variations (summer to winter) and are dry.

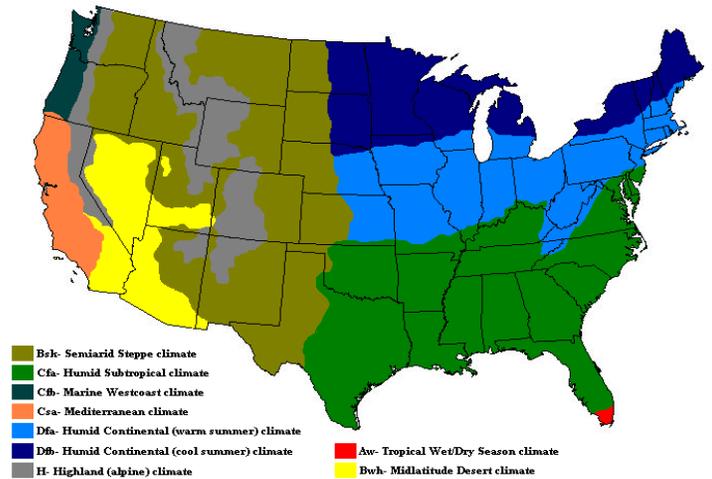
Topographic Effects

- Mountains can create \_\_\_\_\_ barriers with rain shadows on the leeward side.

Rangelands of the world ... where are they?

Climate Zones

Climate Zones of the Continental United States



Variation in Precipitation

- One of the greatest challenges of managing rangelands is dealing with year-to-year variations in precipitation.
- For example – this variation in precipitation in Southern Idaho
- April to June precipitation is known as “effective” precipitation.

