

Chapter 10: Mid-Latitude Climates

Mesothermal Climates (C Climates)

1) Mediterranean – Csa, Csb (Fig. 10.2)

- 30 – 40° latitude along the west coast of each landmass
- Alternating controls of subtropical highs (summer) and westerly winds (winter)
- Characteristics: dry summer, mild, moist winters (abundant sunshine) – less cloud coverage at night
- Inland variety has higher ranges
- Coastal fog common
- Sclerophyllous (hard leafed) veg. – drought resistant
- (Chaparral) – manzanita – young (due to fires)
 - ➔ mallee, matorral, maquis
 - (aussies) (Chile) (France)
- Fires also result in erosion problems during wet years
- Needle-leaf pines usually
- Where moisture is (typically lowlands or depressions) – woodlands – redwoods
- Most productive areas – lowlands covered with stream deposits

➔ Best crops – olives, grapes, figs, citrus

Mediterranean Area: Limestone rock, limey basic soils

CA: dense clays, hence during colonial times, use of clays for adobe

> Nowadays clays are a geologic hazard

2) Humid Subtropical – Cfa

- 15/20 to 40° N east coast of continents
- Pronounced influence of mT, warm ocean currents, and the weak western side of the subtropical high – result, very humid
- No dry season and lots more rain (25 to 100 inches (60-250 cm) a year
- Rain is max in summers
 - 1) Modified Monsoon conditions
 - 2) Convectational Activity
 - 3) Tropical Storms
- Climate covers large land areas
- Vegetation Thrives: All kinds of forests
- Drier soils produce better: too much leaching in wet areas
- very productive farming: cotton, tobacco, lumber (contains and feeds more humans than any other climate)

3) Marine west coast – Cfb, Cfc

- Temperate oceanic climate
- Continual influence by Westerlies
- 40-65° latitude
- Pronounced ocean influence (Transverse Currents, which are fed by warm water)
- Precipitation year round, with mild cool summers
- Mostly small temperature ranges, but influence of cT or Cp can bring very warm or cold conditions

3) Marine west coast – Cfb, Cfc (Continued)

- Cloudy, foggy - not many sunny days
- Lots of Crops: Wheat, barley, rye, root crops (beets, turnips, berries, grapes), grass (cattle) and timber
- In the lowlands: rain is evenly distributed
- Near Mountains: Big rain shadows
(Henderson Lake-262 in/yr)
>During the last ice age: many glaciers, created the Fjords of Norway, British Columbia, Chile, New Zealand

Humid Microthermal climate regions (D Climates)

Generally: recognizable summer and winter (four seasons)

- 35-75 degrees North Latitude
- Under the influence of the Westerlies and the Polar Front
- Continental Interiors (none in the southern hemisphere)
- Rated by their summer T
- All have precip year round except in Asia (hence the Dw classification)
- Variable weather
- Snow cover, shorter summers and growing seasons with colder D's

1) Humid continental, hot summer – Dfa, Dwa

- Densely populated and the most productive
- Rather large annual temperature ranges (larger in Asia)
- 140 to 200 day growing season
- 20 to 45 inches of precipitation per year, maximum in summer
- Precip decreases poleward and inland

Examples: NY

Indiana

Missouri

Nebraska

- Broad leaf deciduous and mixed forest: colorful falls
- Corn belt, soybeans, hay, oats: fast growing season
- Domain of Polar Front: Tornado Alley

2) Humid – continental mild summer – Dfb, Dwb

- Moderate summers, longer winters
- Frequent spells of clear cold weather
- Large annual temperature ranges
- Less precipitation, but more snow
- Mixed or coniferous forest
- Hay, root crops, dairy, spring wheat, corn, soybeans, hogs
- Shorter growing season: 90-130 days
- Glaciated topography

3) Sub-arctic – Dfc, Dfd, Dwc, Dwd

- Large annual temperature ranges
- Bitter cold winters
- Largest annual temperature ranges
- Short growing season (50-80 days)
- Taiga vegetation (coniferous)
- Poleward limit of forest growth (10 degree isotherm of the warmest month)
- Acidic soils
- Poor drainage
- More extensive in Asia
- Extends further south on east coast
- Steep T curves tied to solar duration
- Permafrost

Polar climates (E)

1) Tundra (ET)

- ♦At least 9 months below freezing
- ♦Low evaporation
- ♦Tundra veg
- ♦Muskeg: wet, soggy (lots of gnats, mosquitoes, flies)
- ♦Life more common in nearby water (the Arctic Ocean)

2) Ice Sheet (EF)

- >Low evaporation
- >Summerless
- >Continental Glaciers
- >Vostok: -127 degrees F, or 88 Celsius

Highland Climates-H Climates