

Weather

1. Air Masses

- a. A large region of the lower troposphere that has a relatively uniform temperature and moisture content
- b. Classifications
 - i. cA – continental arctic/Antarctic – high latitudes, very cold dry air, form over snow or iced covered surface
 - ii. cP – Continental Polar – similar to cA, formed further south, still cold and dry
 - iii. cT – Continental tropical – hot, dry tropical air, forms over low-latitude lands.
 - iv. mP – Maritime polar – forms over oceans in northern Atlantic and Pacific oceans, and the southern oceans
 - v. mT – Maritime tropical – hot humid air, form in mid –l attitudes of oceans.
- c. Modification
 - i. Temperature and humidity can change as the air mass moves over land
 - ii. Temperature can increase or decrease depending upon conditions
 - iii. Change in temperature will change moisture holding capacity
 - iv. Dry air can evaporate additional water
 - v. Topography can cause air to rise.

2. Frontal Systems

Front – boundary between one air mass and another

- a. Cold Front
 - i. Air mass is cold behind the front.
 - ii. Advancement forces the warm air up – clouds form
 - iii. Pressure increases
 - iv. Expect moderate to light precipitation if warm air is wet (humid)
- b. Warm Front –
 - i. Air mass is warm behind the front
 - ii. Warm is relatively stable – move slower than cold front
 - iii. As front passes, can expect light rain (if air mass is humid)
 - iv. Expect little to no rain until cold front passes
- c. Occluded front – cold front has caught the warm front
- d. Stationary Front – front is moving very slowly