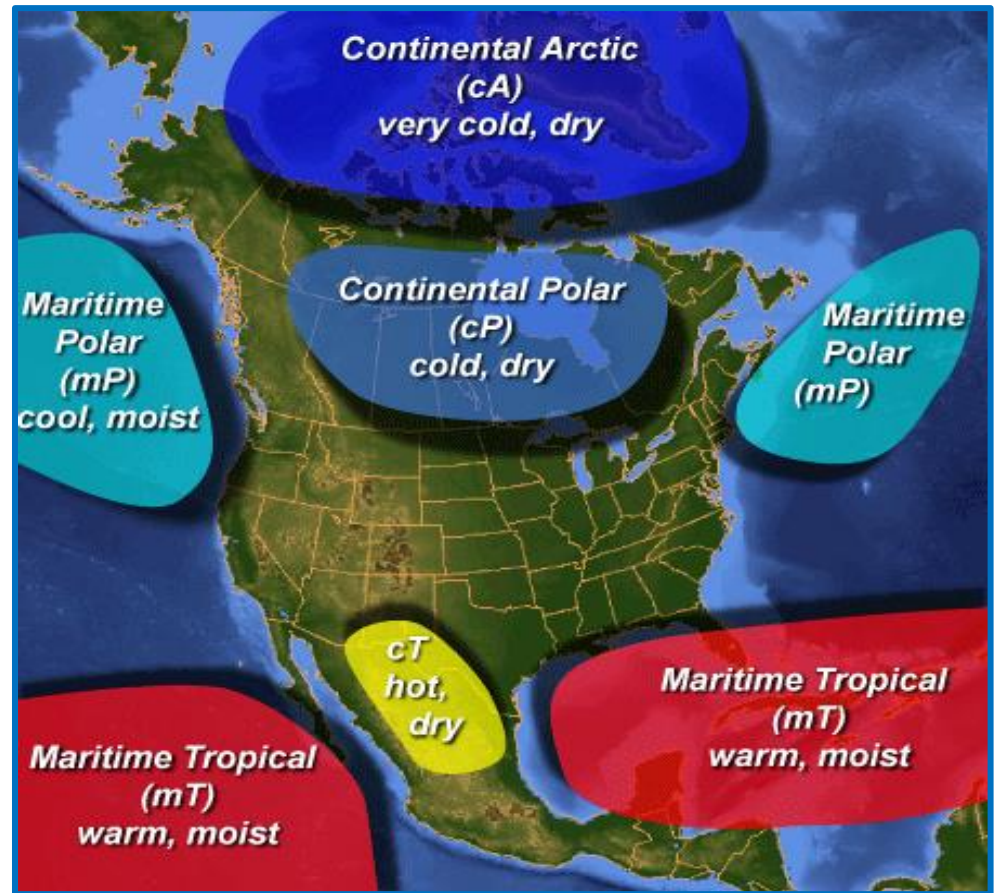


Air Masses

Air mass is defined as a *large body of air that has similar temperature and moisture within.*

- Originate in flat, uniform areas with light winds.
- *Examples:* snow covered Arctic plains, tropic-subtropic oceans, forests, mountains, large bodies of water.
- Classified by their origin:
 - Land (continental)
 - Water (maritime)
 - Latitude (Equatorial, Tropical - within 25° of equator, Polar - poleward of 60° north and south, Arctic/Antarctic)

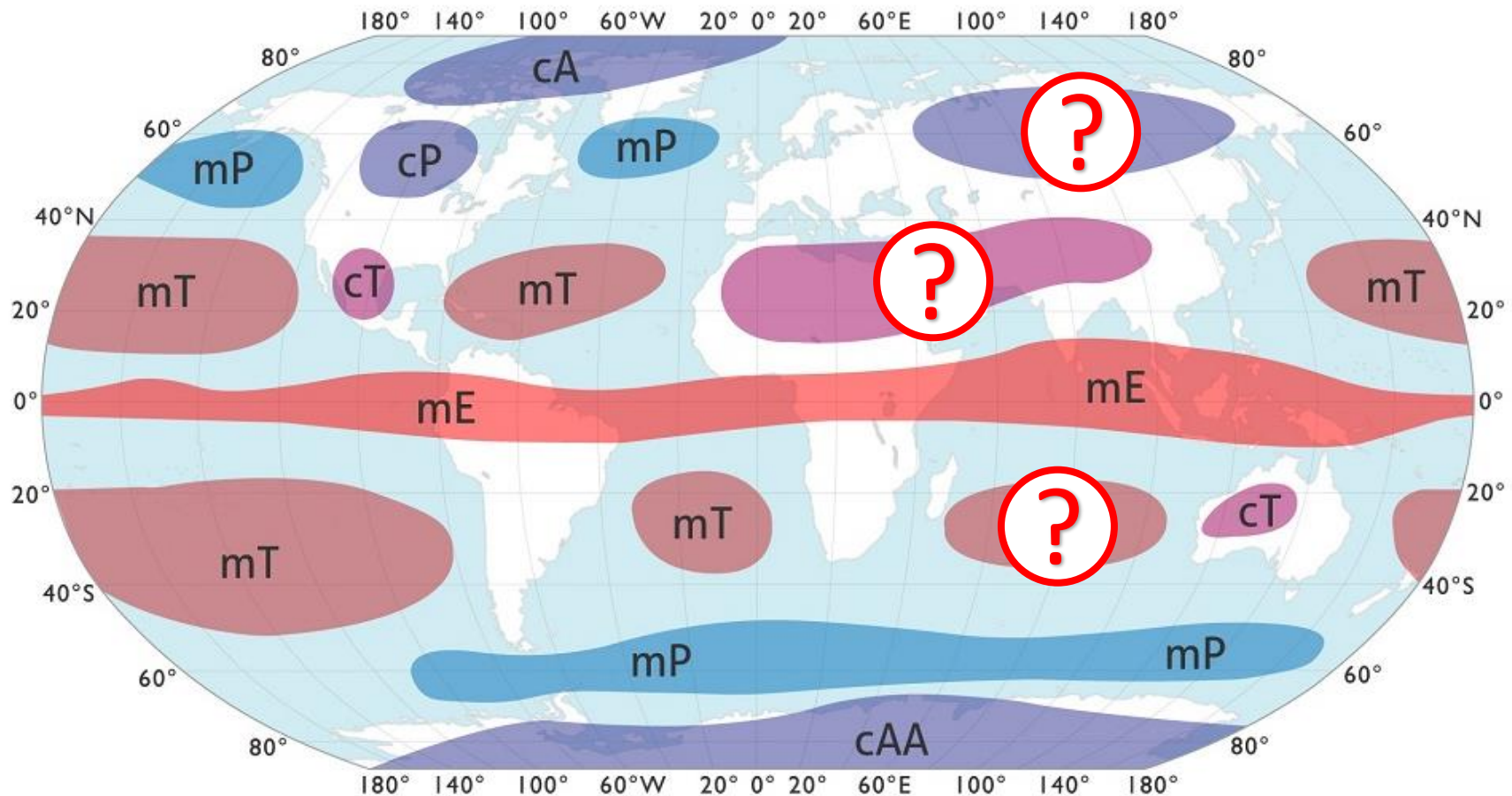


Air masses affecting the U.S. weather during the course of a typical year.

Air Masses of the World

c = continental

m = maritime



P = Polar

T = Tropical

A/AA = Arctic/Antarctic

E = Equatorial

Air Masses and Fronts

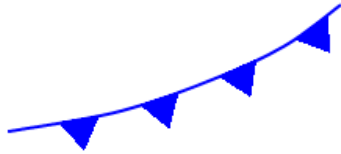
Air masses cover many thousands of square kilometers.



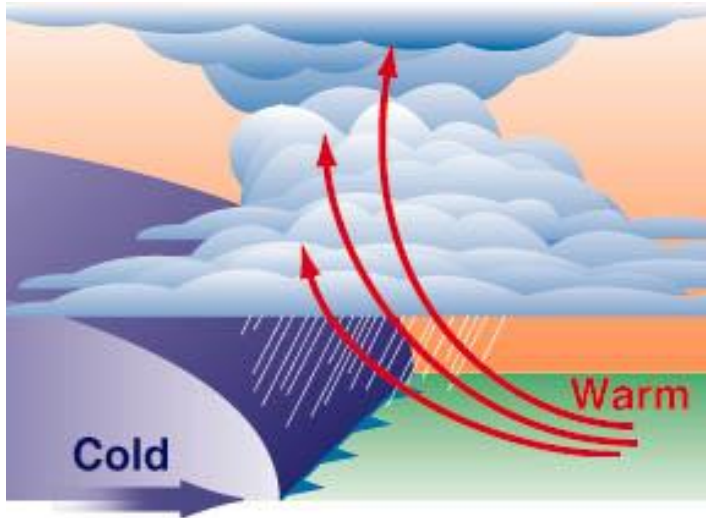
A boundary that separates two different air masses is called a weather (*atmospheric*) front.

Weather Fronts

Cold front:



fast moving cold (dense) air mass runs into a slow moving warm air mass and slides under.

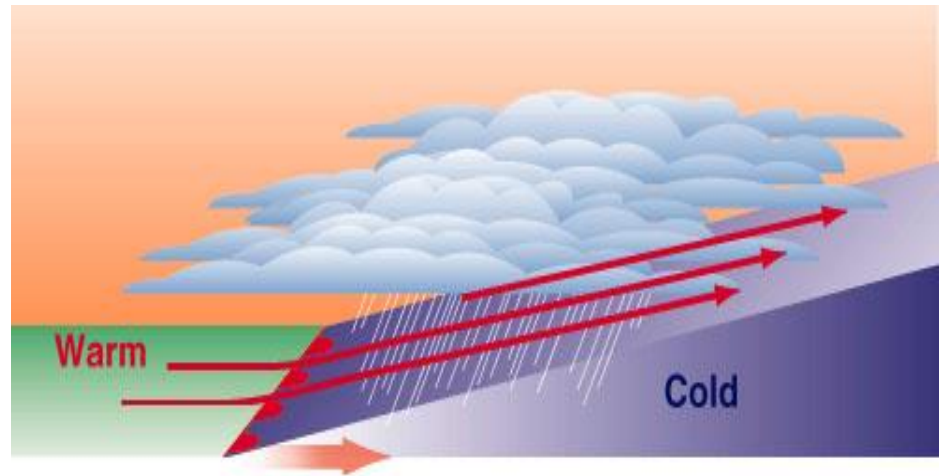


Weather: showers and thunderstorms.

Warm front:



fast moving warm (less dense) air mass collides with a slow moving cold air mass and moves over.



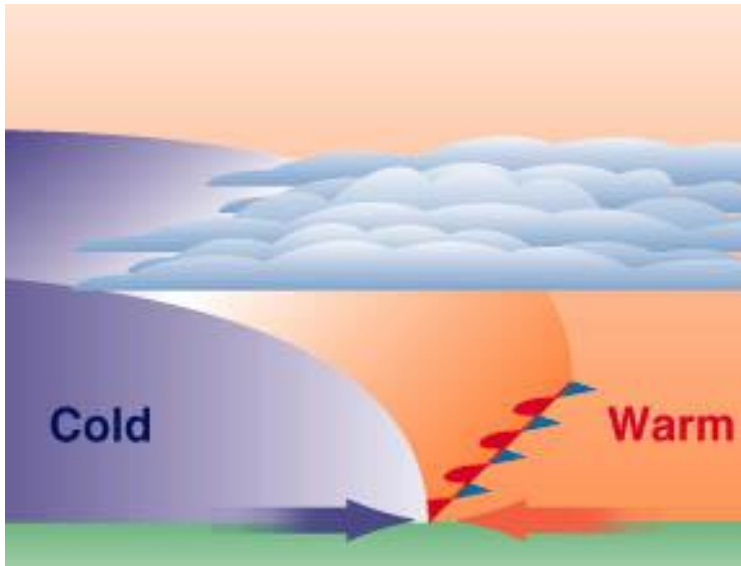
Weather: fog, rain, snow.

Weather Fronts

Stationary front:



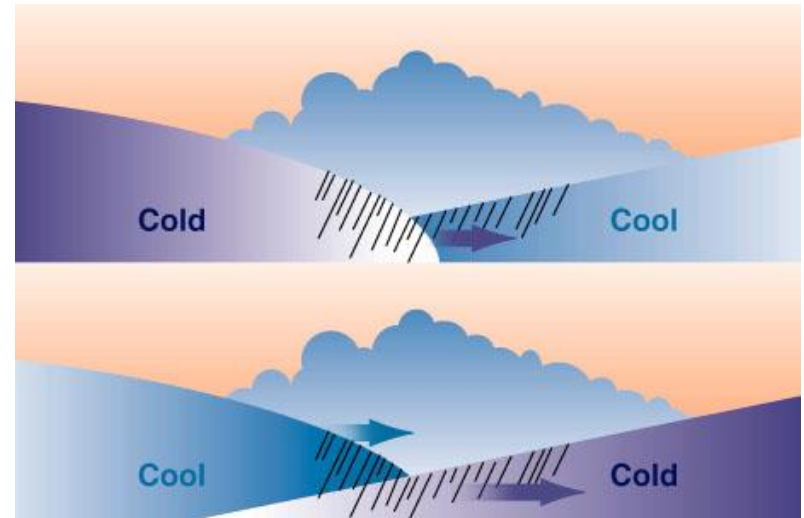
cold air mass and warm air mass meet, but neither has enough force to move the other.



Occluded front:



warm air mass is caught between two cooler air masses and the denser cold air masses move underneath and push it upward.



Weather: rain, thunder.