



# AIR MASS AND FRONTS

# TYPES OF AIR MASSES

- Tropical, or warm air masses form in the tropics and have low air pressure.
- Polar, or cold air masses form north of 50 north latitude and south of 50 south latitude. They have high air pressure
- Maritime air masses form over oceans and are humid.
- Continental air masses form over land, in the middle of continents and are dry



## **Four major types of air masses influence the weather in North America:**

- Maritime tropical
  - Over oceans and low air pressure (warm and Humid)
- Continental tropical
  - Over land and low air pressure (warm and dry)
- Maritime polar
  - Over ocean and high air pressure (cold and humid)
- Continental polar
  - Over land and high air pressure (cold and dry)



# MARITIME TROPICAL

- Warm, humid air masses form over oceans near the tropics. Maritime tropical air masses that form over the gulf of Mexico and the Atlantic Ocean move first into the southeastern United States.
- These air masses then move north and northeast, where they influence weather in the central and eastern United States



## MARITIME POLAR

- Cool, humid air masses form over the icy cold North Pacific and North Atlantic oceans
- Maritime polar air masses affect the west coast more than the East coast.



## CONTINENTAL TROPICAL

- Hot, dry air masses form only in summer over dry areas of the Southwest and northern Mexico
- Continental tropical air masses cover a smaller area than other air masses



# CONTINENTAL POLAR

- Large continental polar air masses form over central and northern Canada and Alaska.
- Continental polar air masses bring clear, cold, dry air to much of North America.



# FRONTS

- The area where the air masses meet and do not mix becomes a front.
- There are four types of fronts: cold fronts, warm fronts, stationary fronts, and occluded fronts





# COLD FRONTS

- Cold air is dense and tends to sink.
- Warm air is less dense and tends to rise.
- When a rapidly moving cold air mass runs into a slowly moving warm air mass, the denser cold air slides under the lighter warm air.

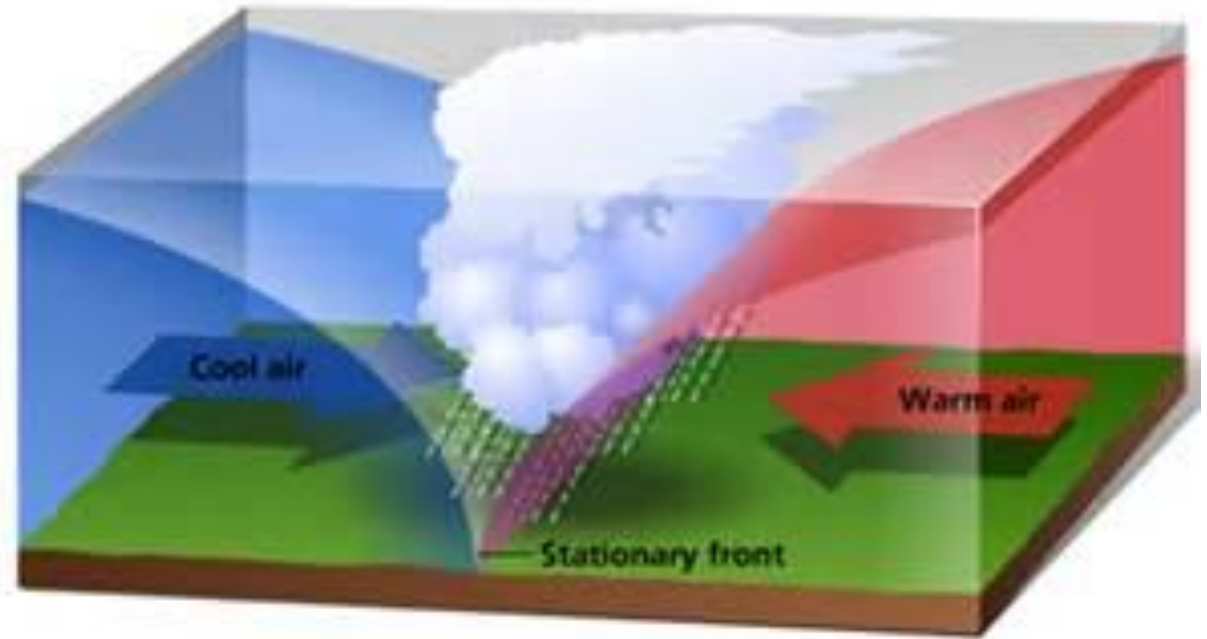


# WARM FRONTS

- Clouds, storms and rain also accompany warm fronts
- A warm front, a moving warm air mass collides with a slowly moving cold air mass

# STATIONARY FRONTS

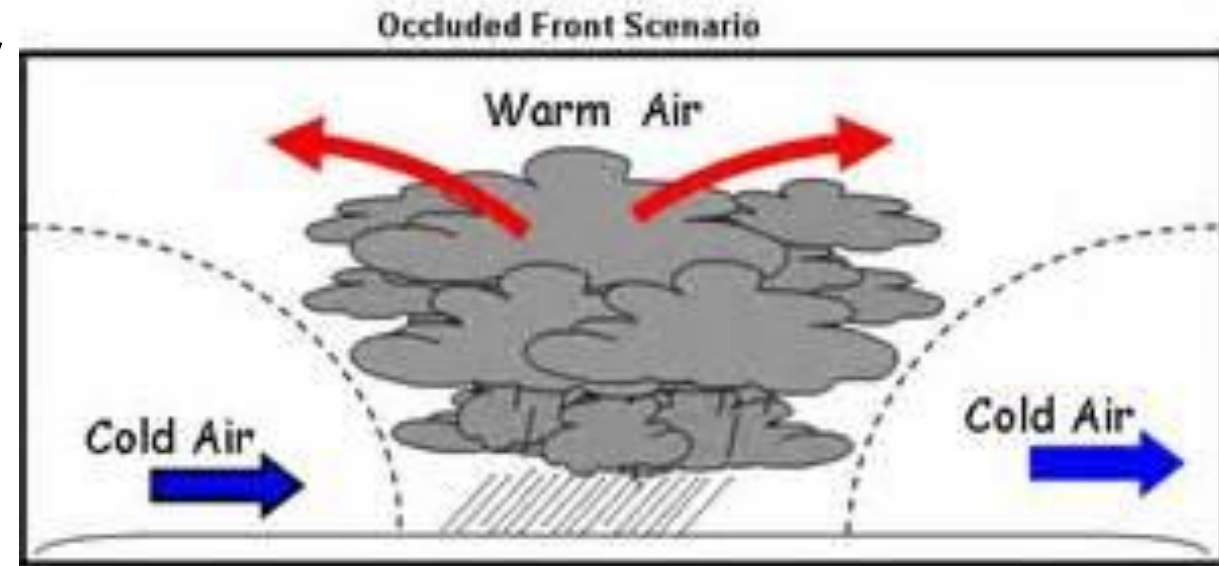
- Sometimes cold and warm air masses meet, but neither one has enough force to move the other.
- The two air masses face each other in a standoff



# OCCLUDED FRONTS



- The most complex weather situation occurs at an occluded front.
- At an occluded front, a warm air mass is caught between two cooler air masses.



Symbol for occluded front



# CYCLONES AND ANTICYCLONES

- A swirling center of low air pressure is called a cyclone,
- Cyclones and decreasing air pressure are associated with storms and precipitations
- Anticyclones are high-pressure centers of dry air

Name \_\_\_\_\_

Directions- Move the symbol for each type of front into a box, name it, and explain how the front is created. Complete descriptions for all four fronts.



	Weather fronts	