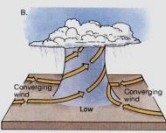
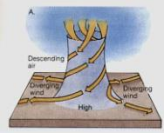


Weather Tools and Forecasting

Review:

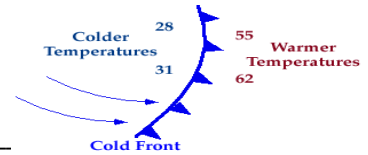


Pressure Systems

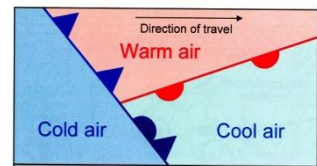
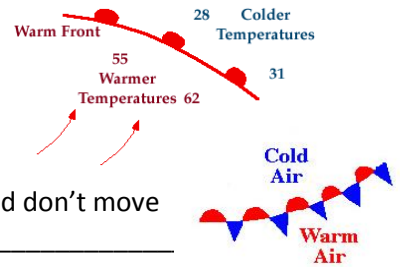
- **High Pressure:** indicates falling air that rotates _____ and brings us _____ weather. Little to no clouds associated with a high pressure system.
- **Low Pressure Systems** indicates air that is rising and cooling as it goes up in the troposphere and will start to form _____ when it reaches its _____. Air rotates _____ and brings _____ weather.

• Fronts

- **Cold Front**
 - Fast moving
 - Cold air mass overtakes a _____ air mass
 - Pushes warm air up rapidly and forms _____
 - _____ are most often associated with cold fronts.
- **Warm Front**
 - Slow moving
 - Warm air moves up and over a _____ cold air mass
 - As air moves up _____ are formed
 - Most likely will produce some type of _____



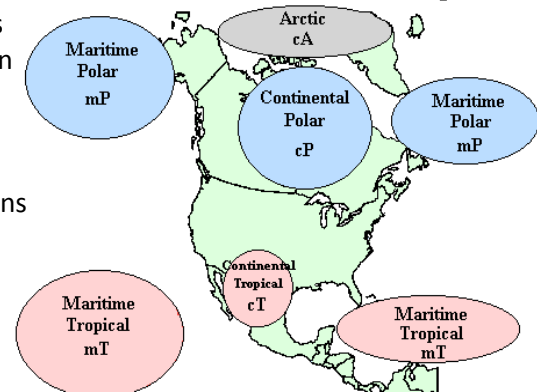
- **Stationary Front**
 - _____ air mass and a _____ air mass meet and don't move
 - Cold air cools the warm air and we will probably get some _____
- **Occluded Front**
 - two cold air masses sandwich a warm air mass and cut it off from the ground. Warm air is pushed upwards forming clouds as the warm air cools to the dew point.
 - There will probably be some precipitation



• Air Masses

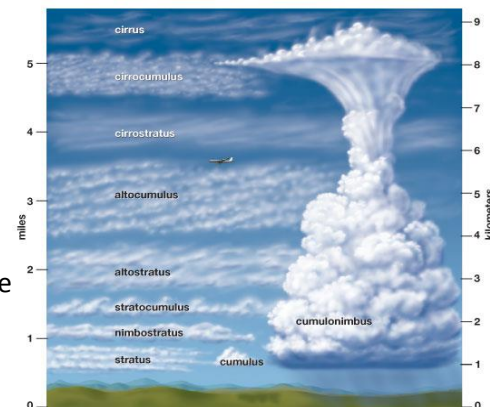
- **Maritime Polar** – _____ and _____ air mass
- **Maritime Tropical** – _____ and _____ air mass
 - _____ and Tropical Storms form in Maritime Tropical air masses
- **Continental Polar** - _____ and _____ air mass
 - When a continental polar air mass meets a _____ air mass it creates conditions that are perfect for _____ to form
 - These conditions occur most often in the _____ US called tornado alley.
- **Continental Tropical** - _____ and _____ air mass

North American Air Mass Source Regions



• Clouds

- **Cumulus** – white puffy clouds that look like cotton balls
- **Stratus** – form in flat blanket like layers
- **Cirrus** – made of ice crystals and located high in the sky
- **Nimbo/ -nimbus** – rain producing
 - **Nimbostratus:** bring steady precipitation –
 - form in layers that cover the sky
 - **Cumulonimbus** – also known as _____ bring thunderstorms
- **Alto** – means high in the sky so altocumulus and altostratus clouds are located higher in the sky



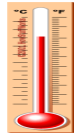
Objective 23: I can identify and describe the different tools used to identify weather

- **Barometer** – measures air pressure



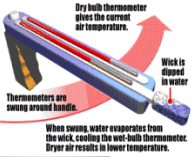
- If the air pressure is rising = _____ weather
- If the air pressure is decreasing = _____ weather

- **Thermometer** - measures air temperature



- **Psychrometer or Hygrometer:** measures relative humidity or the amount of _____ in the air

- When sweat evaporates from your skin your body temperature _____
- So when using a psychrometer one bulb is _____ the other is dry



- **Anemometer** – measures _____ speed and direction

- Sensitive enough to measure a light breeze and up to hurricane force winds
- The weather vane portion of the anemometer points in the direction the wind is coming _____



- **Radar: determines the direction and distance of objects that will reflect radio energy back**

Shows meteorologists _____ or _____

Doppler Radar –

- Shows how intense the precipitation is
- Wind _____ and _____
- Estimates the amount of _____ we may get
- Provides us early detection of _____



- **Satellite**

2 types

- _____ pass over the same spot every 12 hours
- _____ stays over the same spot on Earth all the time

Can see cloud systems, city lights, fires, effects of _____, auroras, sand or dust storms, snow cover, ice mapping, ocean currents, and many other pieces of data

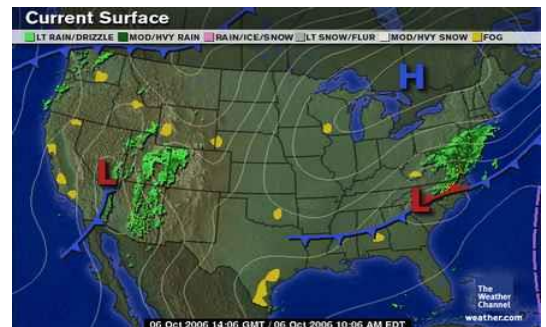


- **Summary:**

- Weather instruments reveal the **invisible factors** that help predict the weather such as
 - _____
 - _____
- Meteorologist study _____ and use temperature, air pressure, humidity, and wind speed and direction to identify weather conditions
- _____ and _____ show the movements of air masses and storms that allow meteorologist to create a good forecast.

Objective 24: I can read and understand a weather map

- **Fronts:** The symbols _____ in the direction that the front is moving towards
- **Isobars:** connect areas of equal _____
 - Air pressure is measured in millibars
- **Weather Maps**



- As we move away from a HIGH pressure system the pressure will _____
- As we move away from a LOW pressure system the pressure will _____
- We saw that areas that had precipitation were always near a _____ pressure system