Chapter Thirteen: Weather
Lesson 1: Describing Weather

Weather: the atmospheric conditions, along with short-term changes, of a certain place at a certain time

- *Meteorologists:* scientists who study and predict weather
- Variables of weather
    - Air temperature, air pressure, wind speed and direction, humidity, cloud coverage, and precipitation

Air temperature: the measure of the average kinetic energy (object in motion) of molecules in the air

- High temperature = high kinetic energy (moving fast)
- Low temperature = low kinetic energy (moving slow)
- Depends on time of day, season, location, and altitude

Air pressure: the force that a column of air applies on the air or a surface below

- Air pressure decreases as altitude increases
    - Air pressure is greatest at low altitudes
- Measured with a barometer in millibars (mb) and called barometric pressure

Wind: air moves from high to low pressure

- Direction is where the wind is coming from
- Measure wind speed with an anemometer

Humidity: the amount of water vapor in the air

- Measured in grams of water per cubic meter of air (g/m^3)
- Day with high humidity – skin will feel sticky and sweat might not evaporate

Relative humidity: the amount of water vapor present in the air compared to the maximum amount of water vapor the air could contain at that temperature

- Measured as a percent

Dew point: the temperature at which air is saturated and condensation can occur

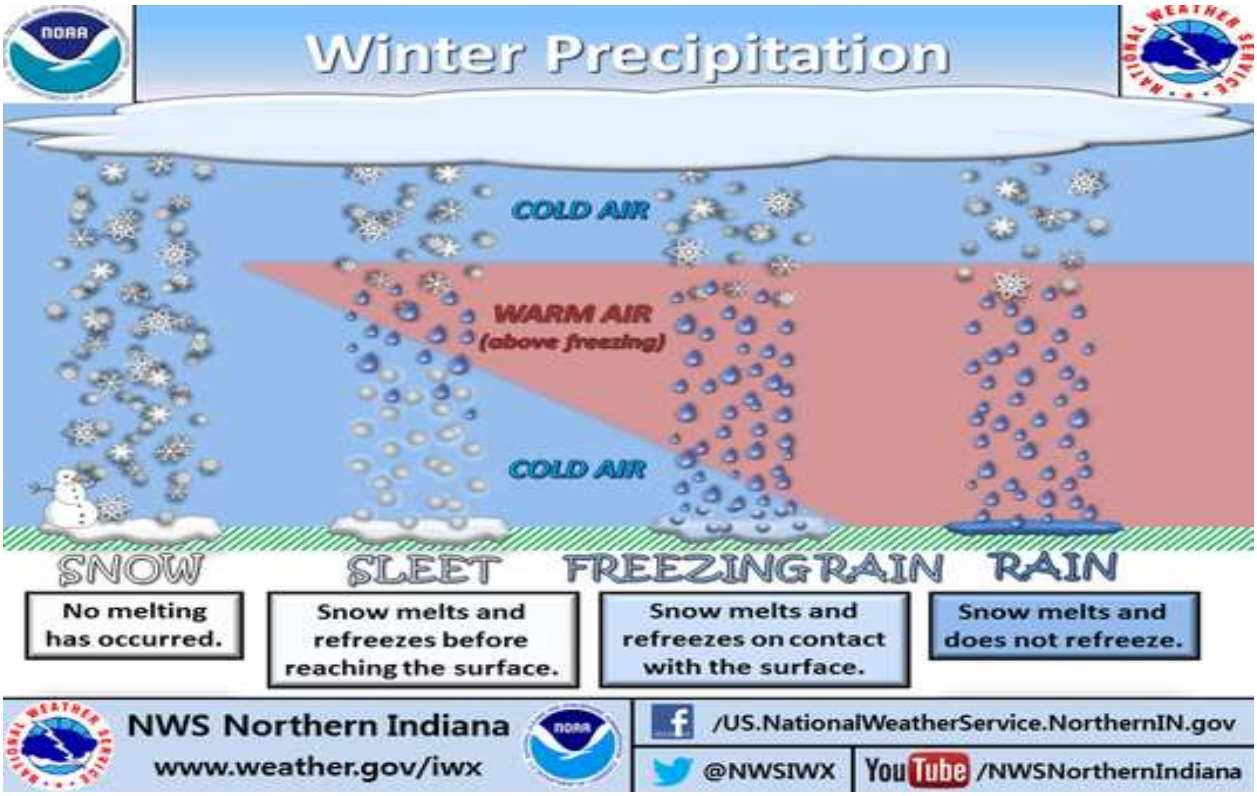
- Measured as a temperature

- The closer the dew point to the actual air temperature the more saturated the air

Clouds and Fog: when cooling air reaches its dew point, water vapor condenses on small particles in the air and forms droplets…we see this as a cloud

- *Clouds:* water droplets or ice crystals suspended in the atmosphere
    - *Fog:* a cloud that forms near Earth's surface
    - *Stratus clouds:* flat and layered clouds, generally large clouds (cover the entire sky), associated with rain that covers a large area
    - *Cumulus clouds:* fluffy and piled up clouds, generally smaller clouds, associated with cumulonimbus (thunderstorm) clouds, produce showers over a particular spot
    - *Cirrus clouds:* wispy clouds at the top of the troposphere

Precipitation: water, in liquid or solid form, that falls from the atmosphere

- Form of rain, snow, sleet, or hail
- 

- All precipitation that falls in ND, starts off as snow.

Water cycle: the series of natural processes by which water continually moves among oceans, land, and the atmosphere