



WEATHER



What causes weather?
What causes weather?
What causes weather?
What causes weather?
What causes weather?

- The sun hitting the earth unevenly is what causes weather
- All elements of weather are the direct result of energy from the sun
- The sun's rays hit earth unevenly and the land absorbs the heat unevenly (Global wind patterns)
 - This uneven heating is why weather changes.
- latitude = weather change... #1 reason global wind patterns
- Most ~80% weather fronts enter from Pacific Ocean
 - ↓
 - (Pacific — Atlantic)

- Front = boundary

7 Areas weather includes

- ♥ Air temperature
- ♥ Cloud cover
- ♥ Amount of sunlight
- ♥ Relative Humidity (humidity)
- ♥ Precipitation
- ♥ Pressure
- ♥ Wind speed + direction (wind)



weather includes...

Temperature:

- Temperature is measured by a thermometer
- Temperature is the amount of heat in a substance

the Earth's atmosphere:

- Atmosphere = is a layer that surrounds earth
- Nitrogen = 90% Carbon Dioxide = 10% Oxygen = 5%
- atmosphere is made out of...
- Most of earth's weather occurs in the TROPOSPHERE

sunlight:

- of the 100% of solar energy that comes from the sun, 2/3 radiates back out to space & 1/3 absorbs on earth

clouds:

- clouds provide precipitation & can hold in heat:
- * Cirrus found highest in atmosphere = ICE
- * Cumulus found in mid atmosphere (moist)
- (Puffy-cotton balls, also storm clouds / severe weather the taller the cloud the more moisture)
- * stratus found in low atmosphere "blanketing the sky"
- * Nimbo - storm cloud (could be stratus or cumulus)

GENERAL:

- Weather is the condition of the Earth's atmosphere at any given time
- It can drastically change in 24 hrs
- clouds come in many shapes and forms
- No matter what shape or elevation clouds form the same way, by having water vapor condense onto small particles (dust, salt crystals, dust, smoke)
- clouds provide precipitation
- Rain - Snow - FREEZING Rain
- Sleet - Hail
- clouds also blanket (provide shading & trap heat)
- (Nimbo is added onto a word when it is gray or stormy)
- Fog is also cloud but EXTREMELY close to the ground.

• Wind is moving air in the atmosphere

• Air is always moving from high pressure to low pressure

• The strongest wind pattern is a tornado, the air pressure is extremely low

• When the sun heats the earth unevenly the air pressure becomes high and low which causes weather.

• Cold air = more dense > hot air = less dense
* hot air rises →

- Wind speed is measured in kilometers per hour (kph) - measured with a device called an anemometer

• Wind direction is always stated in terms of where the air is coming from.

→ Both air molecules are packed tightly which is why more dense

measured in: wind sock & wind vane

• Rain is when the precipitation that falls through an atmosphere (above freezing) and hits the ground (below freezing)

• Snow is when the precipitation falls through the atmosphere that is (below freezing) and hits the ground (below freezing)

• Sleet happens over frozen but then warms in a pocket of air and freezing again making the snowflake in ice chunks

• Hail is when water freezes and falls into a under freezing atmosphere but so much moisture that doesn't melt

• Freezing Rain is rain all the way until it touches a frozen surface.



