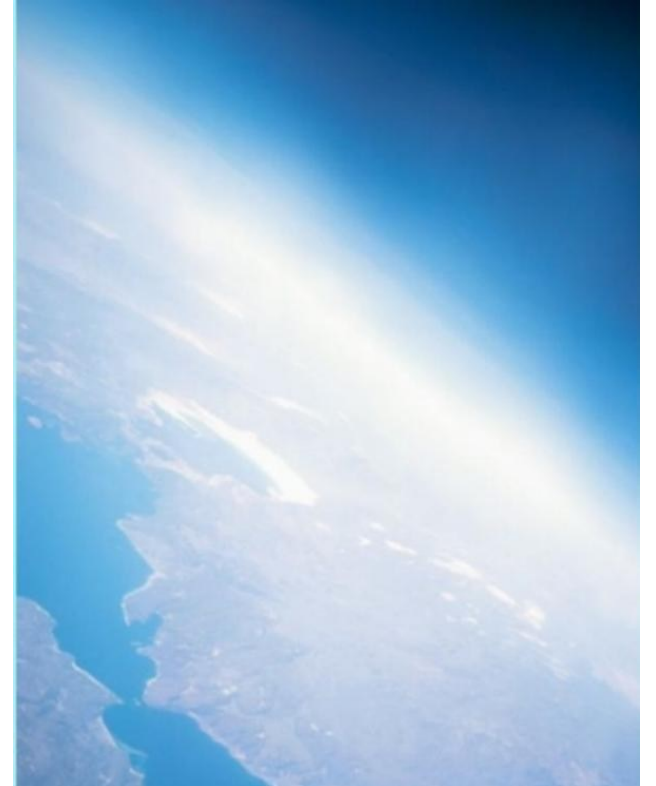


MODULE 2 – Weather and Precipitation

Characteristics of the atmosphere

- The atmosphere is a mixture of gases that surrounded the earth
- It contains oxygen and protect us From the sun's ultraviolet rays
- The atmosphere has 78% nitrogen, 21% oxygen and 1% of other gases
- It is held around the earth by gravity
- As altitude increase in the atmosphere, pressure decrease. The atmosphere axerts 14.7 lbs per square inch of pressure on us at sea level due to the force of gravity on the column of air above us. We don't notice it because we're used to it



Atmospheric water vapour

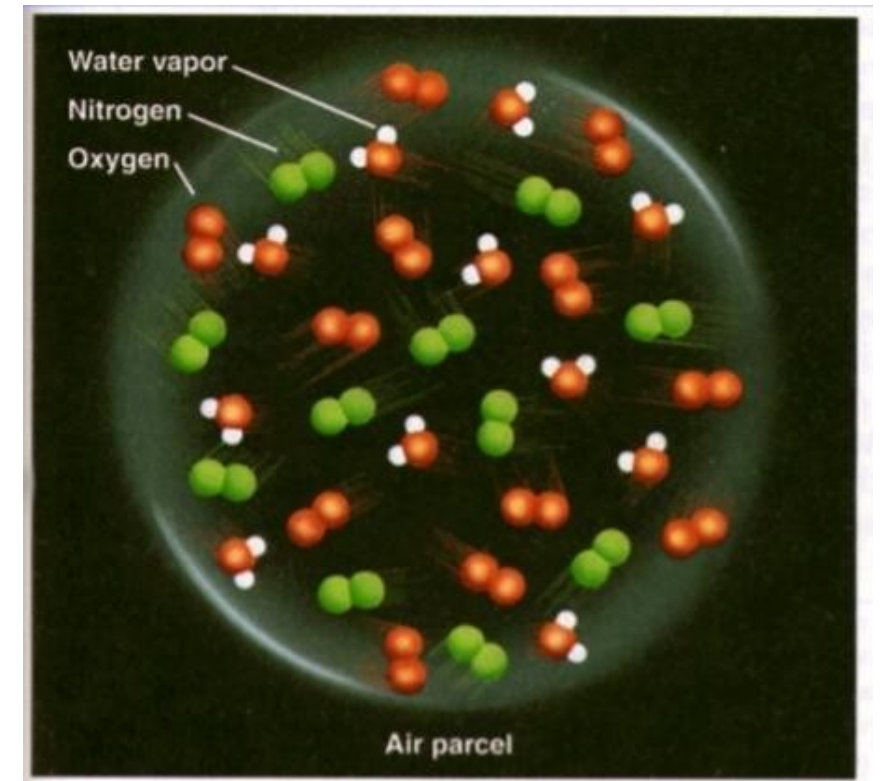
- The most important greenhouse gas
- Lower tropospheric water vapor - flux is responsible for precipitation; strongly with aerosol particles; strongly interacts with stratus clouds
- Upper tropospheric water vapor - feedback may significantly increase warming; strongly interacts with cirrus clouds
- Lower stratospheric water vapor – large chemical and radiative impact

Vaporization

- The dissociation of liquid water Molecules, which change the substance to a gas, required a lot of energy.
- The boiling point of water is the temperature in which there is enough energy to break the hydrogen bonds between water molecules.
- Water is converted from its liquid form to it's gaseous form when the heat of vaporization is reached.
- Evaporation of sweat (mostly water) remove heat from the surface of skin, cooling the body.

Vapor pressure

- The air's content of moisture can be measured by the pressure exerted by the water vapor in the air.
- The total pressure inside an air parcel is equal to the sum of pressures of the individual gases.
- High vapor pressure indicates large numbers of water vapor molecules.



Dew point temperature

- Dew point temperature is another measurement of air moisture.
- Dew point Temperature as the temperature to which moist air must be cool to become saturated without changing the pressure.
- The close the dew point temperature is to the air temperature, the closer the air is to saturation.
- Dew point can be only equal or less than air temperatures.

Humidity

- It's a measure of the amount of water in the air
- Water is added to the air by the process of evaporation
- Humidity indicates the likelihood of precipitation, dew, or fog
- Humidity is as well as relative humidity measured in %
- The amount of water that is actually in the air measured in g/m

