

Expo Notes

Old Notes:

Water Vapor

Water vapor performs two major functions:

1. It is important to the radiation balance of the Earth, as its presence keeps the planetary surface warmer than would otherwise be the case.
2. It is the principal phase of the ascending part of the hydrologic cycle.

Facts:

Water vapor represents only 0.001 percent of the hydrosphere. It is more concentrated in the tropics, and less in the poles.

As the altitude rises the amount of atmospheric water vapor decreases.

The amount of water that can be held in the air depends on the temperature of the air. Air at high temperatures can hold more water vapor than air with low temperatures.

Fates of water falling to the Earth:

It may be evaporated during its fall or after it reaches the ground.

If the surface is covered with dense vegetation, much of the precipitation may be held on leaves and plant limbs, which would prevent the water from reaching the ground and is more likely to be evaporated from the plant surfaces back into the atmosphere.

If the water is absorbed by the soil it may be evaporated or absorbed by plants. Water is also returned to the atmosphere by transpiration in plants. Once the water is absorbed it is carried up through the plant trunk and branches into the leaves, where it is discharged as water vapor.

Hydrosphere:

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It includes all liquid and frozen surface waters, groundwater held in soil and rock, and atmospheric water vapor.

Facts:

The activities of modern society are having severe impacts on the hydrologic cycle.

One problem brought about by human action that is definitely affecting the hydrosphere globally is that of the greenhouse gases.

Contrails:

<http://www.pbs.org/wgbh/nova/sun/contrail.html>

New Notes:

The vapor content of air is measured with devices known as [hygrometers](#). Greenhouse gases include in the order of relative abundance [water vapour](#), [carbon dioxide](#), [methane](#), [nitrous oxide](#), and [ozone](#). Greenhouse gases come from natural sources and human activity.