



WATER CYCLE



Our water is millions of years old. It is part of a cycle that has supplied the earth's inhabitants with water since the beginning of time. The endless circulation of water from the oceans, atmosphere and land is called the HYDROLOGIC or WATER CYCLE. A cycle is like a circle. It doesn't have a beginning or an end. The water cycle is driven by the sun's energy and wind action. The sun's heat EVAPORATES water from the surface of the oceans, wetlands, lakes and rivers into the atmosphere.

Cool or cold air can't hold as much water vapor as warm air. When the air cools down, the water vapor starts to CONDENSE into clouds in the colder temperature zones of the earth's upper atmosphere. Wind moves the clouds and moisture around the earth's atmosphere.

If the air cools enough, the vapor will turn back to a liquid and may combine with more water to fall as PRECIPITATION. Precipitation can be in the form of rain, snow, sleet, dew and hail. It returns water to the earth's surface. Some of the surface water is absorbed by vegetation and some runs off to form streams and lakes. The remainder trickles downward through the soil and rock to become ground water.

The process of constantly renewing the water supply below the surface is called RECHARGE. The ground water moves horizontally and downhill until it eventually is discharged through a spring or seep. The water is exposed to the sun which can evaporate it, turning it back into water vapor. The water vapor rises back into the atmosphere and clouds.

The precipitation may also be taken in by the roots of a plant and transported to the leaves where it will be returned to the atmosphere through the process of EVAPOTRANSPIRATION. Or, an animal may drink it and pass it back as waste. Or, it may remain a liquid and journey to the sea or wetland as part of a river or stream. There it will begin the cycle all over again.

Water is renewable since it is constantly being recycled. It can be used by a fish, tree or person and later reused. When it is used, it isn't used up, just changed. It can clean itself after it has been used. When it evaporates into the air, it leaves behind the things that have been added to it. But rain water is not always pure. Dust and smoke particles may be washed out of the air. Rain water may be affected by pollution, causing acid rain.

Water travels across the oceans in currents, through the air as vapor or in clouds; and it crosses the land as rivers and streams. It may spend a long time locked up in the frozen ice caps, in the snow at the tops of mountains, or in aquifers below the ground. But eventually the ice will melt or the ground water will come to the surface to continue the water cycle.

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