

Water Cycle

The water, or hydrologic, cycle describes the continuous circulation of Earth's water in the air, on land, and in the ground. The amount of water on the planet and in Earth's atmosphere remains essentially the same, but it moves around constantly as a gas, liquid, or solid.

One of the main processes in the water cycle is evaporation. By evaporation, water in the liquid state on the surface of the Earth is transferred to a gas, or vapor, state. This process occurs when water molecules are heated, such as when the sun heats a puddle. The principal source of water vapor is the oceans, but evaporation also occurs in soils, snow, and ice. Even the leaves of plants have minute pores that allow for evaporation in a process called transpiration.

Another main process in the water cycle is condensation. Condensation is the transition of water from the gas state to the liquid state. Water vapor is the primary form of moisture in the atmosphere and helps form dew, frost, fog, clouds, and precipitation. When water vapor cools, or the air can no longer hold the amount of water vapor it contains, the water returns to a liquid state and falls as precipitation (rain, snow, sleet, and so on).

Precipitation that falls to the Earth is then reused, completing the last part of the water cycle. Some precipitation is returned to the atmosphere by evaporation. Other precipitation sinks into the soil and may eventually reach streams as groundwater runoff, while the rest flows directly as surface runoff into the sea.

Solid water in the form of ice and snow plays a role in the water cycle. Ice and snow on the Earth's surface occur in various forms such as frost, sea ice, and glacier ice. When the ice melts, liquid water flows into rivers and returns to the sea or evaporates. In addition, snow and ice can be converted directly from a solid to a vapor in a process known as sublimation.

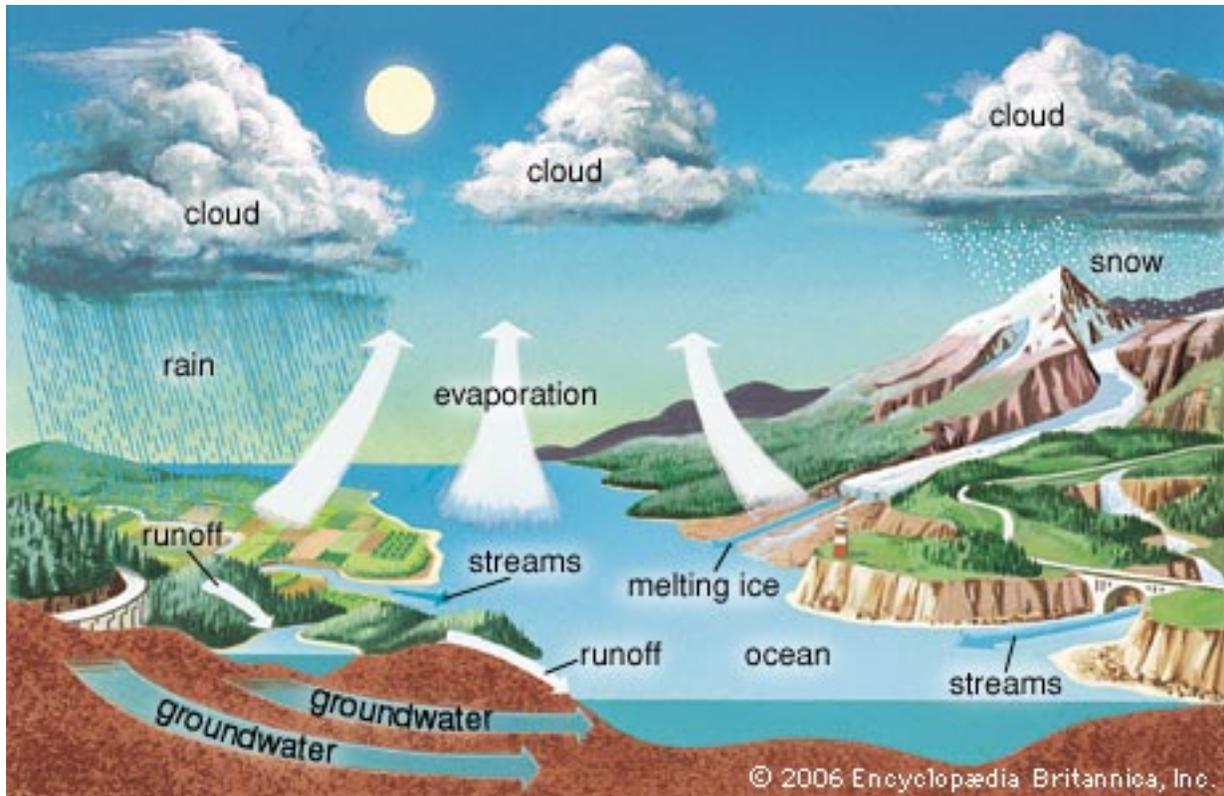


Figure 1: The Earth's water is constantly being recycled in a process known as the water cycle.

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