

Evaporation



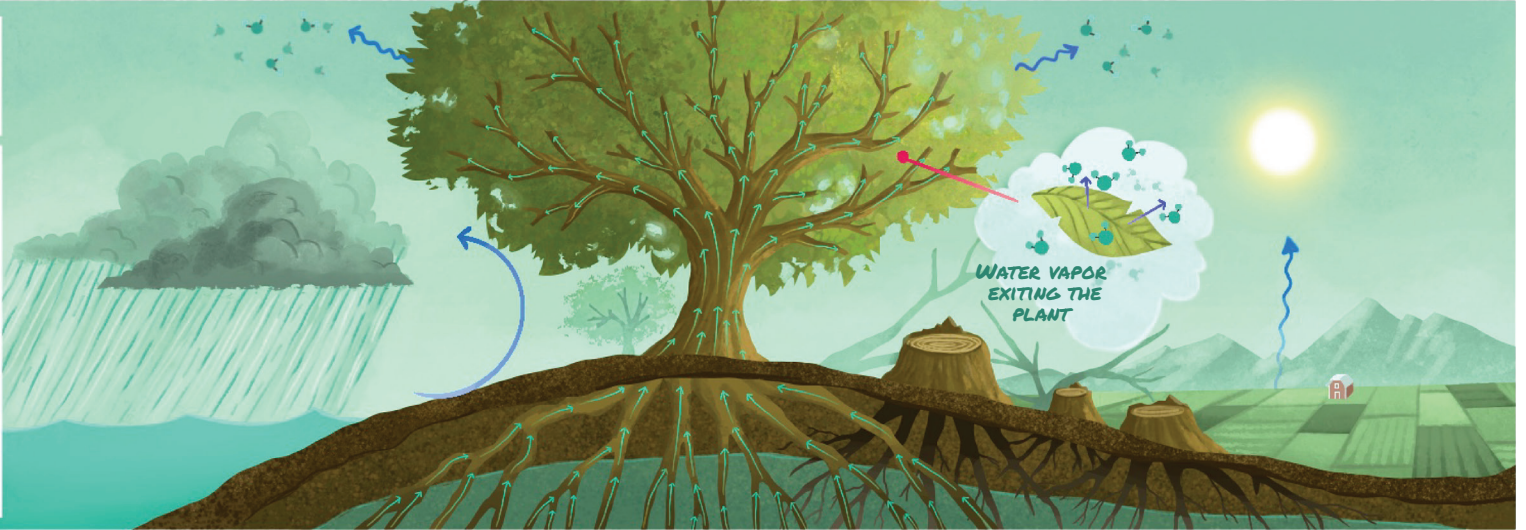
Liquid water can turn into water vapor even if it is not boiling. **Evaporation** can happen when the surface of the water is heated by the sun's energy. This energy causes some water molecules to float off as water vapor. Humans also cause **evaporation** when we heat water. **Evaporation** occurs over oceans, lakes, and rivers, and even from soil.



Transpiration



A plant's roots take up liquid water from the soil, then that water moves through the plant and **evaporates** from the leaves as water vapor. This process is called **transpiration** and is responsible for about 10% of the water vapor in the atmosphere. When humans change the number, location, and types of plants on Earth, we change how much and where water vapor enters the atmosphere.



Condensation



Clouds are made of tiny droplets of liquid water that are small enough to float around in the atmosphere. These droplets form when water vapor changes from a gas to a liquid by **condensing** around particles of ice, ash, dust, pollen, or manufactured particles like silver iodide (AgI). Clouds disappear as water droplets absorb the sun's energy and **evaporate** back into a gas.



Precipitation



As water vapor moves through the atmosphere on air currents, it can cool, **condense**, and fall to earth as **precipitation**. Larger water droplets **precipitate** as rain. When water vapor freezes onto airborne particles like dust or pollen, ice crystals can form and combine and **precipitate** as snow. Hail falls when water droplets lifted by air currents freeze, combine, then drop to earth.



Infiltration



Water can soak into, or **infiltrate**, soil, and then percolate, or move deeper underground. During **infiltration**, some nutrients, metals, and salts filter out naturally, but other chemicals may stay dissolved in the water. Water can collect in cracks and pores in rock layers, forming aquifers. When humans pump this aquifer water out, it can take many years to be replenished.

