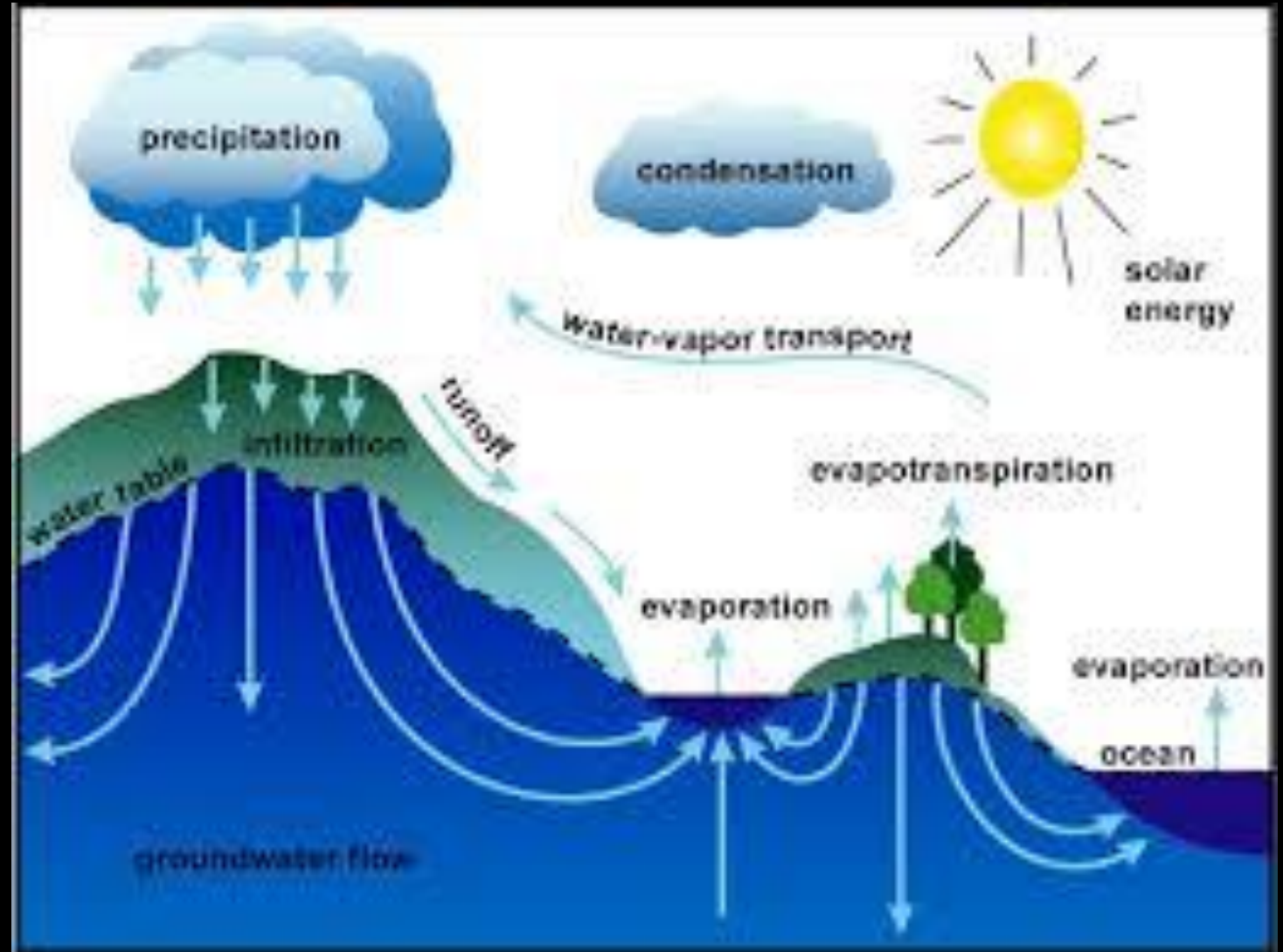
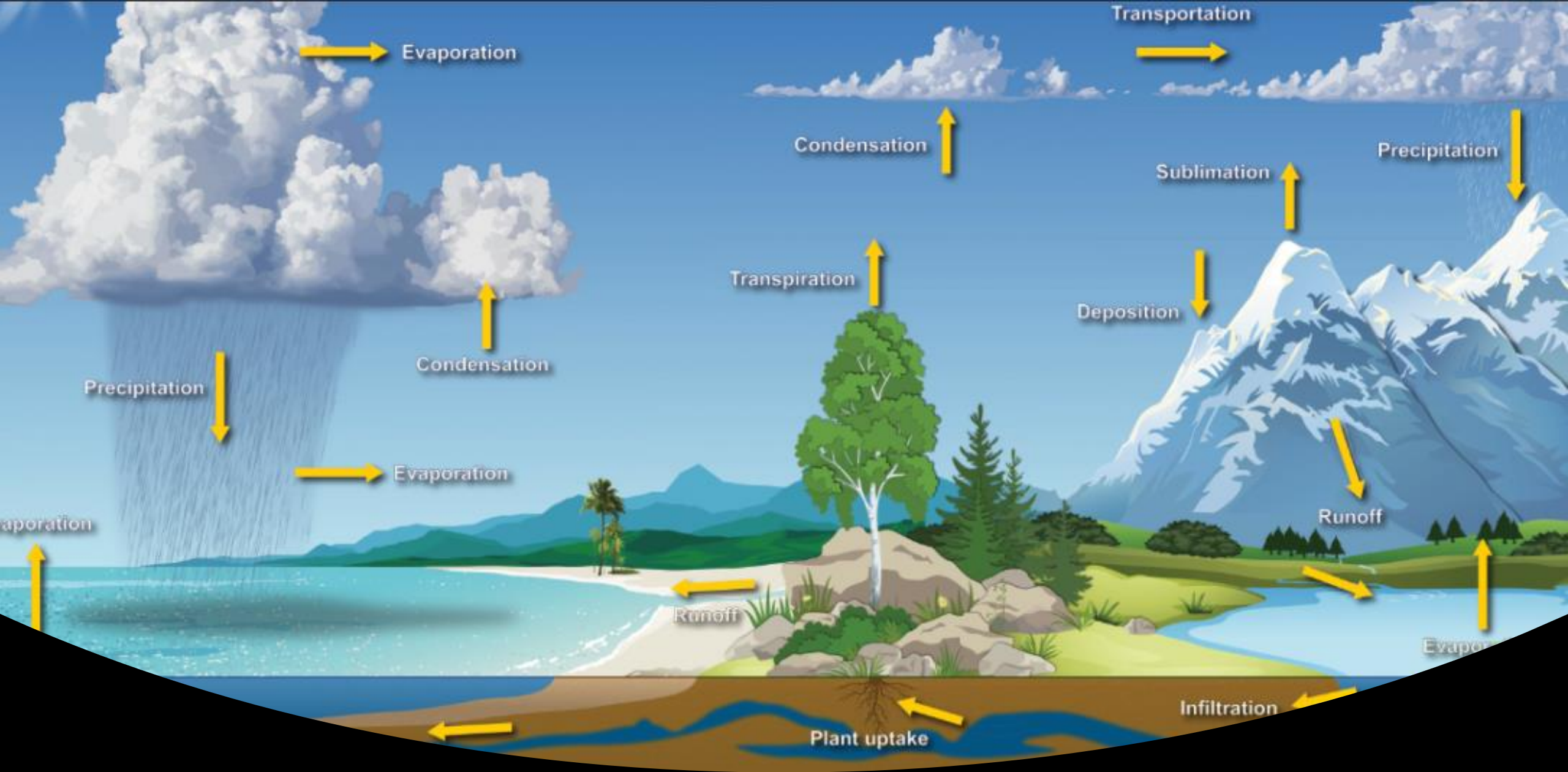


# Presentation on WATER CYCLE

---

Submitted by: Dr. Monica Singh  
Chauhan(Guest Lecture)  
Class: B.Sc. Life Science Sem: II  
Paper name: Plant Ecology and  
Taxonomy  
DDU College (Department of  
Botany)





# The water cycle on Earth

Water is [essential](#) to life on Earth. In its three phases (solid, liquid, and gas), water ties together the major parts of the Earth's climate system — air, clouds, the ocean, lakes, vegetation, [snowpack](#), and [glaciersoffsite link](#).

The water cycle shows the continuous movement of water within the Earth and atmosphere. It is a complex system that includes many different processes. Liquid water evaporates into water vapor, condenses to form clouds, and precipitates back to earth in the form of rain and snow. Water in different phases moves through the atmosphere (transportation). Liquid water flows across land (runoff), into the ground (infiltration and percolation), and through the ground (groundwater). Groundwater moves into plants (plant uptake) and evaporates from plants into the atmosphere (transpiration). Solid ice and snow can turn directly into gas (sublimation). The opposite can also take place when water vapor becomes solid (deposition).

# Water and climate change

Climate change is affecting where, when, and how much water is available. Extreme weather events such as droughts and heavy precipitation, which are expected to increase as climate changes, can impact water resources. A lack of adequate water supplies, flooding, or degraded water quality impacts civilization — now and throughout history. These challenges can affect the economy, energy production and use, human health, transportation, agriculture, national security, natural ecosystems, and recreation.

## Water, society, and ecology

Water influences the intensity of climate variability and change. It is the key part of extreme events such as drought and floods. Its abundance and timely delivery are critical for meeting the needs of society and ecosystems.

Humans use water for drinking, industrial applications, irrigating agriculture, hydropower, waste disposal, and recreation. It is important that water sources are protected both for human uses and ecosystem health. In many areas, water supplies are being depleted because of population growth, pollution, and development.

These stresses have been made worse by climate variations and changes that affect the hydrologic cycle.



# Human Activities that Impact the Water Cycle



- Use of toxic chemicals in agriculture and manufacturing and runoff from chemical fertilizers and pesticides can pollute surface water or seep into the ground to contaminate groundwater
- Clear-cutting forests reduces the amount of water plants return to the atmosphere by transpiration.



# Effects of the Water cycle

## Geosphere -

- Can create structures in the ground (Grand Canyon)
  - erosion
  - deposition
- Cleans the water cycle in marshes and wetlands
- Causes nutrients to diffuse into trees and plants
- Can have minerals dissolve into water.
  - can be bad because of runoff and contamination
- Can even create land structures (Tufa)



# The Geosphere

## *Erosion*

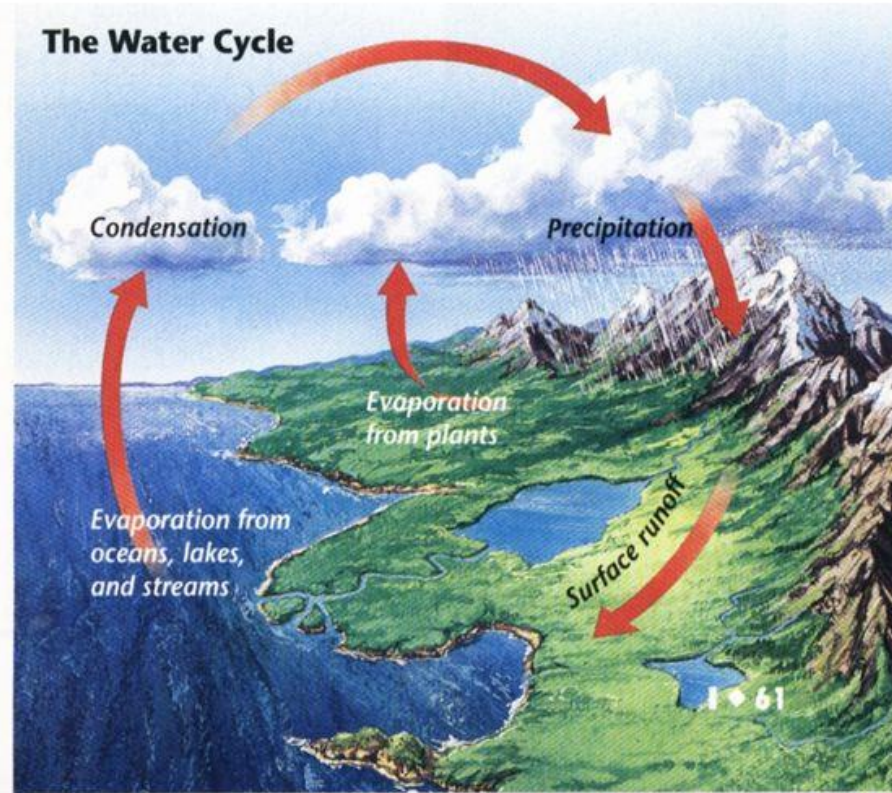
- Rocks on the surface are changed by wind, running water, and weather.
- **Erosion** is the removal and transport of weathered surface materials.
- Over long periods of time, erosion can wear away entire mountains and produce spectacular landforms.





# The Hydrosphere

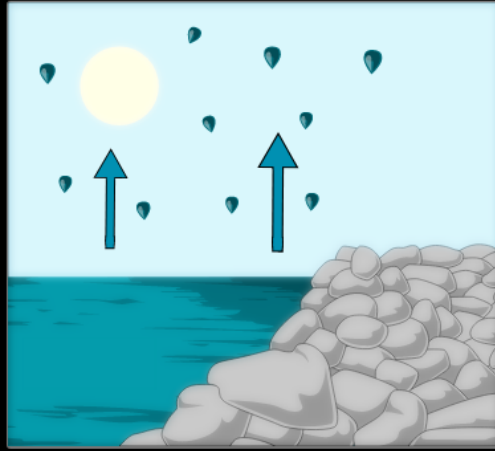
## *The Water Cycle*



### Think-Pair- Share

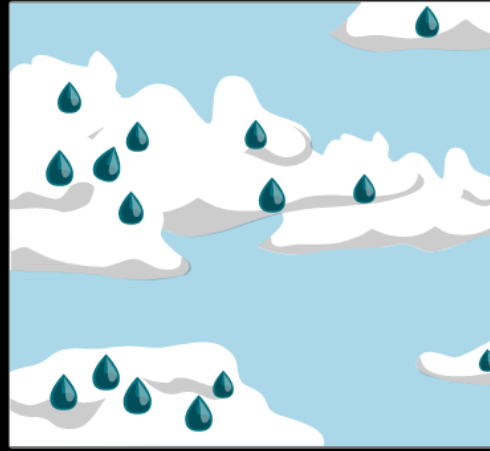
How are all of Earth's spheres (geosphere, atmosphere, hydrosphere, and biosphere) connected by the water cycle?

## Evaporation



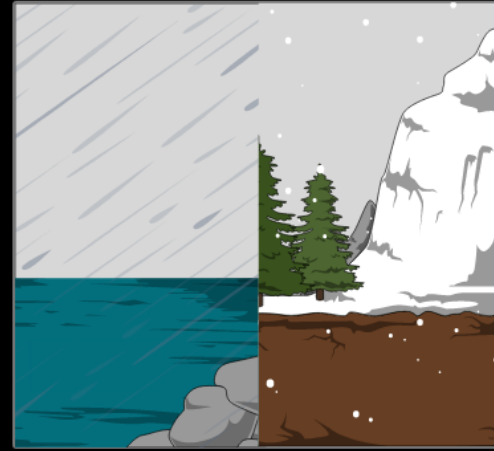
The Sun is heating the ocean water causing it to evaporate.

## Condensation



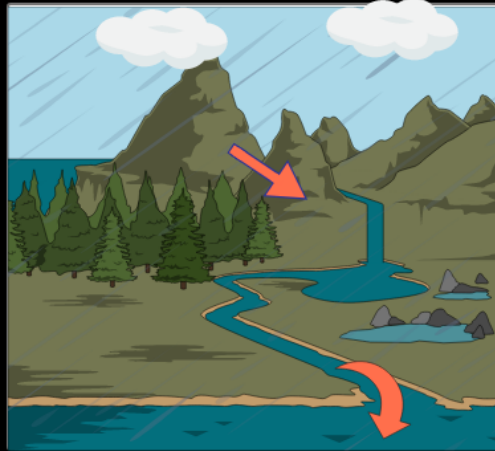
Water droplets are condensing together to form in to clouds

## Precipitation



The clouds have been holding water in them long enough to where they fall to the ground.

## Runoff



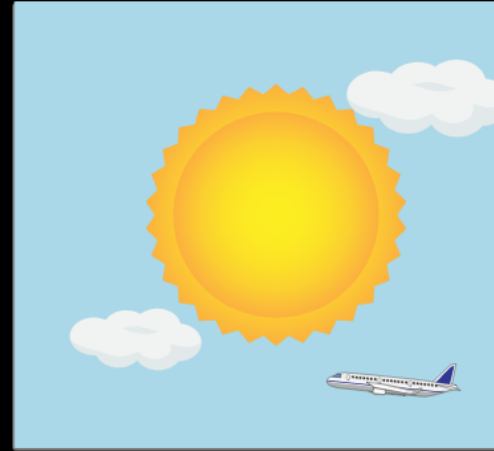
The Sun's heat also makes water that are in plants evaporate as well. In a term called transpiration.

## Transpiration



As water precipitates on to ground, not all of it can be absorbed by Earth so the water collects back into the ocean, lakes streams, or any other body of water.

## The Sun



The Sun plays an important role in the Water Cycle because if water never evaporates, then it will never condense and then precipitate down to the ground therefore the Water Cycle will never happen.