

# Water on Earth

# Who needs water?

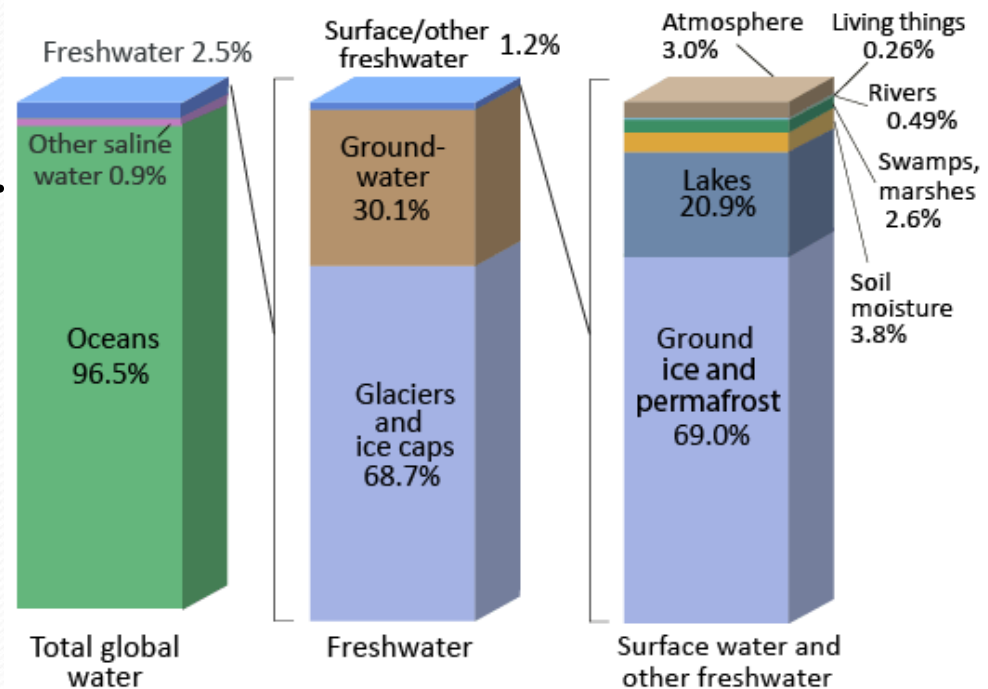
- All living things need water
- Human uses include:
  - Drinking water
  - Recreation
  - Food
  - Agriculture
  - Hydroelectric Energy



# What is the distribution of water on Earth?

- Most of Earth's water is salt water—96.5%
- Only 2.5% is fresh water.

## Where is Earth's Water?



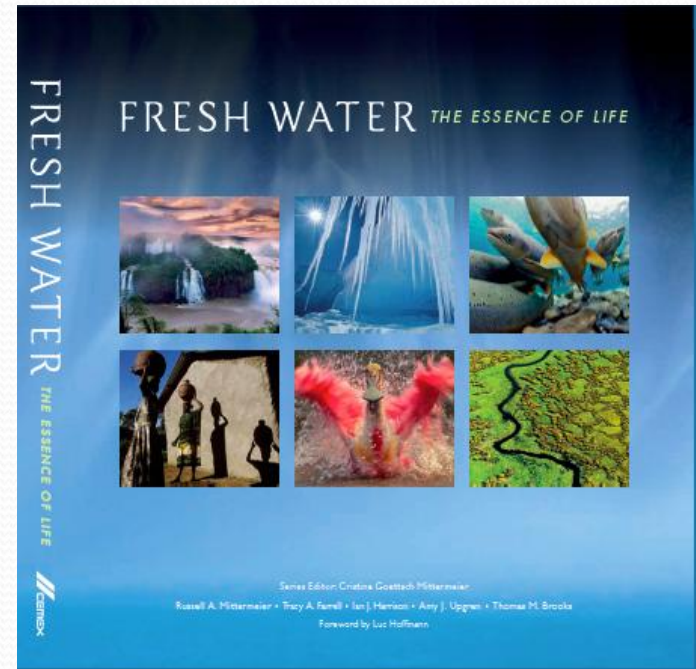
Source: Igor Shiklomanov's chapter "World fresh water resources" in Peter H. Gleick (editor), 1993, *Water in Crisis: A Guide to the World's Fresh Water Resources*.

NOTE: Numbers are rounded, so percent summations may not add to 100.



# How is Earth's fresh water divided?

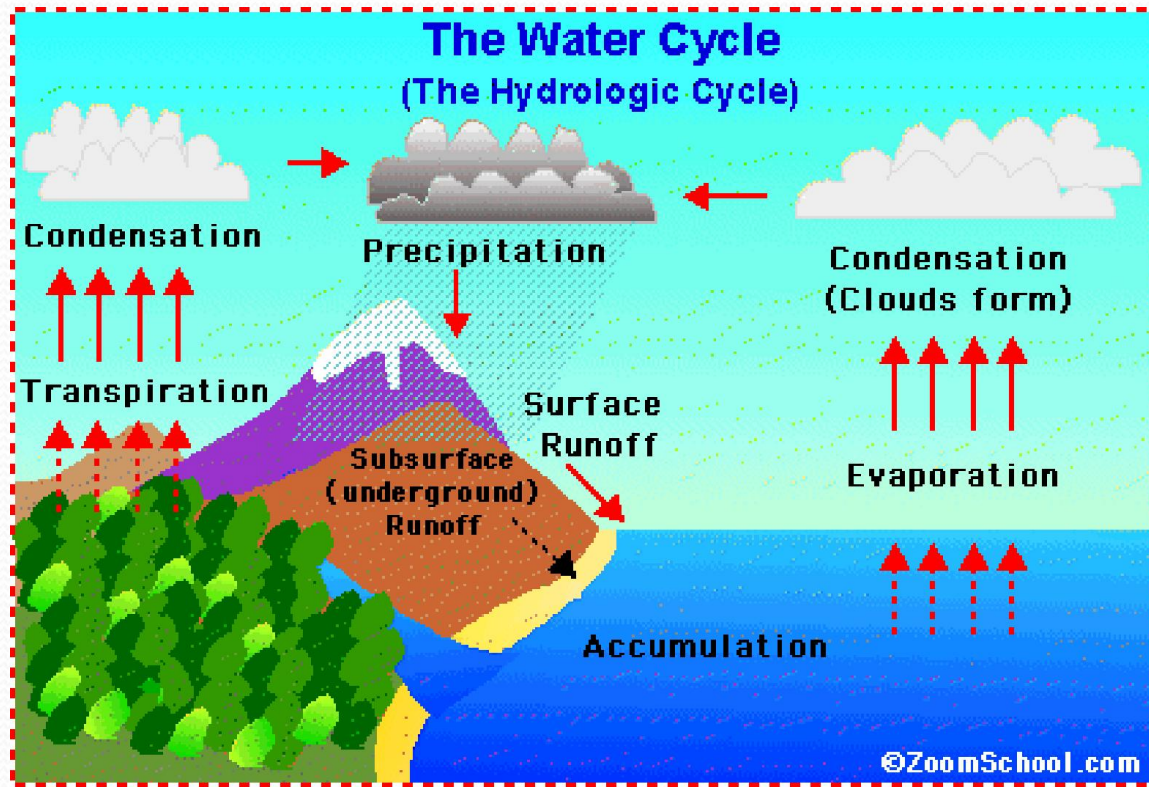
- Most fresh water on Earth is found as ice – 68.7%
- Groundwater - 30.1%
- Lakes – 0.26%
- Rivers – 0.006%
- Water vapor – 0.04%





# How does water move on Earth?

- Water moves on Earth through the continuous process of the **water cycle**.
- **Water Cycle** – the circulation of Earth's water





# Evaporation/ Transpiration

(liquid → gas)

- Evaporation: water from bodies of water is turned to vapor and rises into the atmosphere
- Transpiration: water from plants is turned into water vapor & rises into the atmosphere



# Condensation

Gas  $\rightarrow$  liquid. Where warm and cold air collide and form water droplets

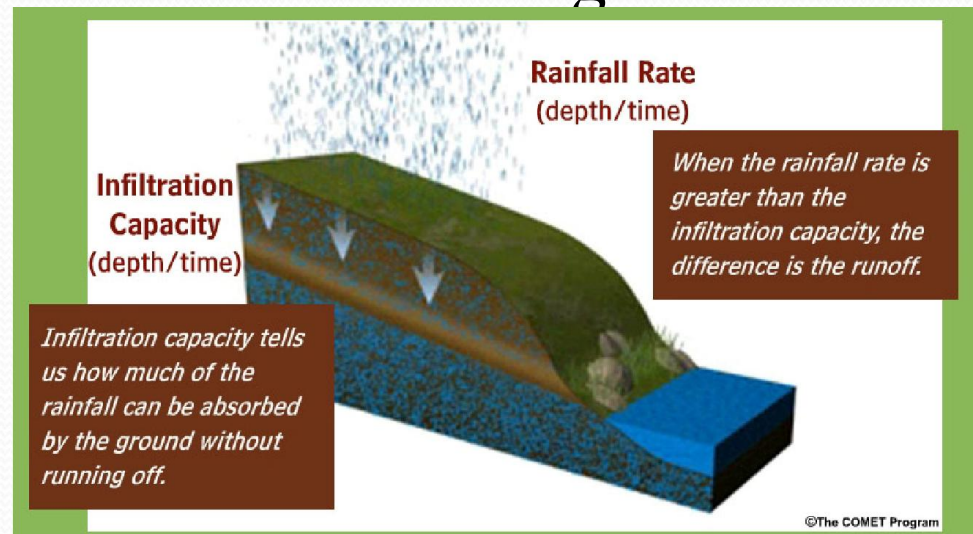




# Precipitation



- Water droplets in the clouds become too heavy and begin to fall in the form of precipitation (snow, rain, sleet, hail)
- A decrease in precipitation decreases the amount of infiltration of water into the ground
- **Infiltration** – process by which water on the ground surface enters the soil
  - Infiltration recharges groundwater supplies





# Groundwater Flow and Discharge

- Vast amounts of water are unseen underground.
- This water can move through the water cycle several ways:
  1. Transpiration by plants
  2. Move into surface water like streams
  3. Move or storage in the ground

