250 - 500 mm 10 - 20 in 1000 - 1500 mm 40 - 60 in over 2000 mm over 80 in

WATER CYCLE

The water cycle, also known as the hydrological cycle, is the circulation of water between the different compartments or reservoirs of the Earth's Hydrosphere, involving changes in the physical state of water between liquid, solid, and gaseous phases. The water cycle is powered by the sun's energy and the Earth's gravity.

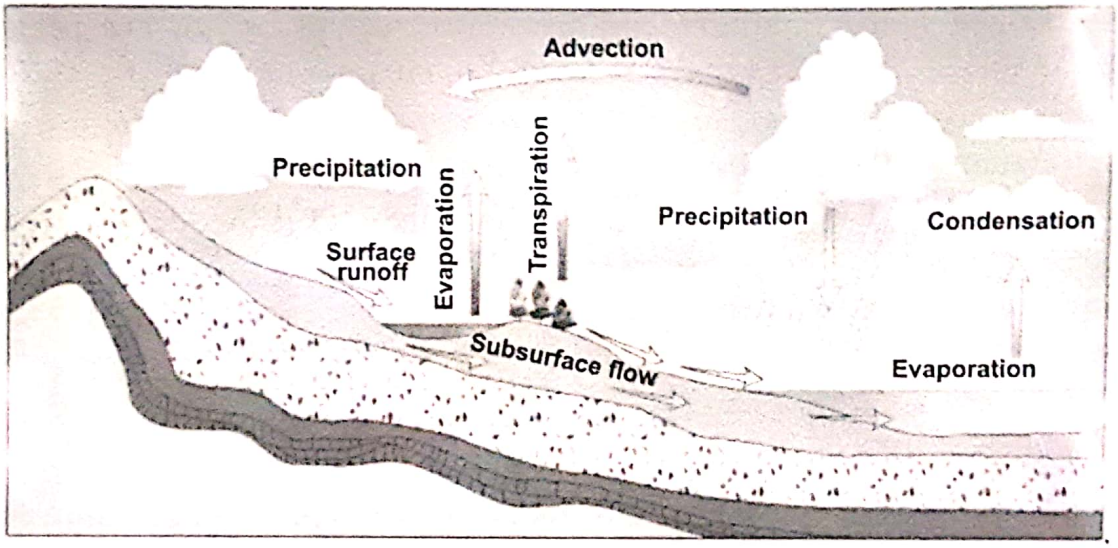

Figure: The Earth's water cycle involves the following main physical processes

Evaporation	Is the transfer of water from bodies of surface water into the atmosphere. This transfer involves a change in the physical state of water from liquid to gaseous phases, powered mainly by the solar radiation. 90% of atmospheric water comes from evaporation.
Evapo-transpiration	Is the transfer of water from living beings into the atmosphere. This transfer involves a change in the physical state of water from liquid to gaseous phases, powered mainly by the solar radiation and the heat released by the metabolism of the living beings. 10% of atmospheric water comes from evapotranspiration.
Reaching of Dew Point Temperature	The dew point temperature is the temperature at which the air must become cooled to in order to become completely saturated with water vapour. If the air is cooled to the dew point temperature, it will become saturated and condensation will begin to take place.
Condensation	It takes place when water vapour in the air accumulates to form liquid water droplets in clouds and fog.
Advection	The movement of water — in solid, liquid, or vapour states — through the atmosphere. Without advection, water that evaporated over the oceans could not precipitate over land.
Precipitation	Is atmospheric moisture that has previously condensed (or solidified), falling to the surface of the Earth. This happens mostly as rainfall, but also as snow, hail or fog.
Surface runoff	Includes the variety of ways by which land surface water moves down-slope to the oceans. Much of the precipitated water evaporates before reaching the ocean or infiltrates into the soil.
Infiltration	Is the transition of land surface water into the ground. The infiltration rate depends on soil or rock permeability. Infiltrated water may become part of the soil moisture or accumulate in aquifers: in this case, it is called groundwater.
Groundwater flow	Includes the movement of groundwater in aquifers. Aquifers tend to move slowly, so the water may return as surface water (into rivers, lagoons, oceans or through springs) after thousands of years in some cases. Water returns to the land surface at lower elevation than where it infiltrated.
Absorption	Are the ways in which soil moisture or surface water is taken in by living beings.

VOLUME OF WATER STORED IN THE WATER CYCLE'S RESERVOIRS

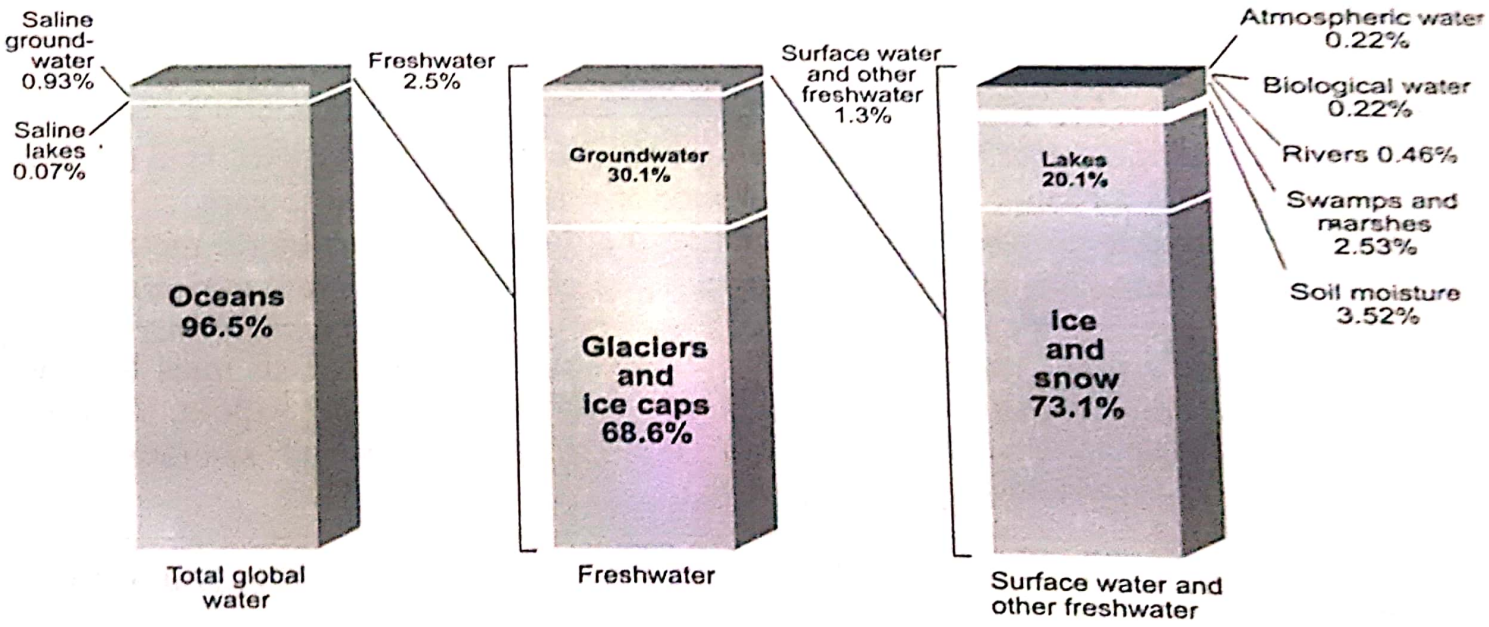

Figure: Distribution of earth's water