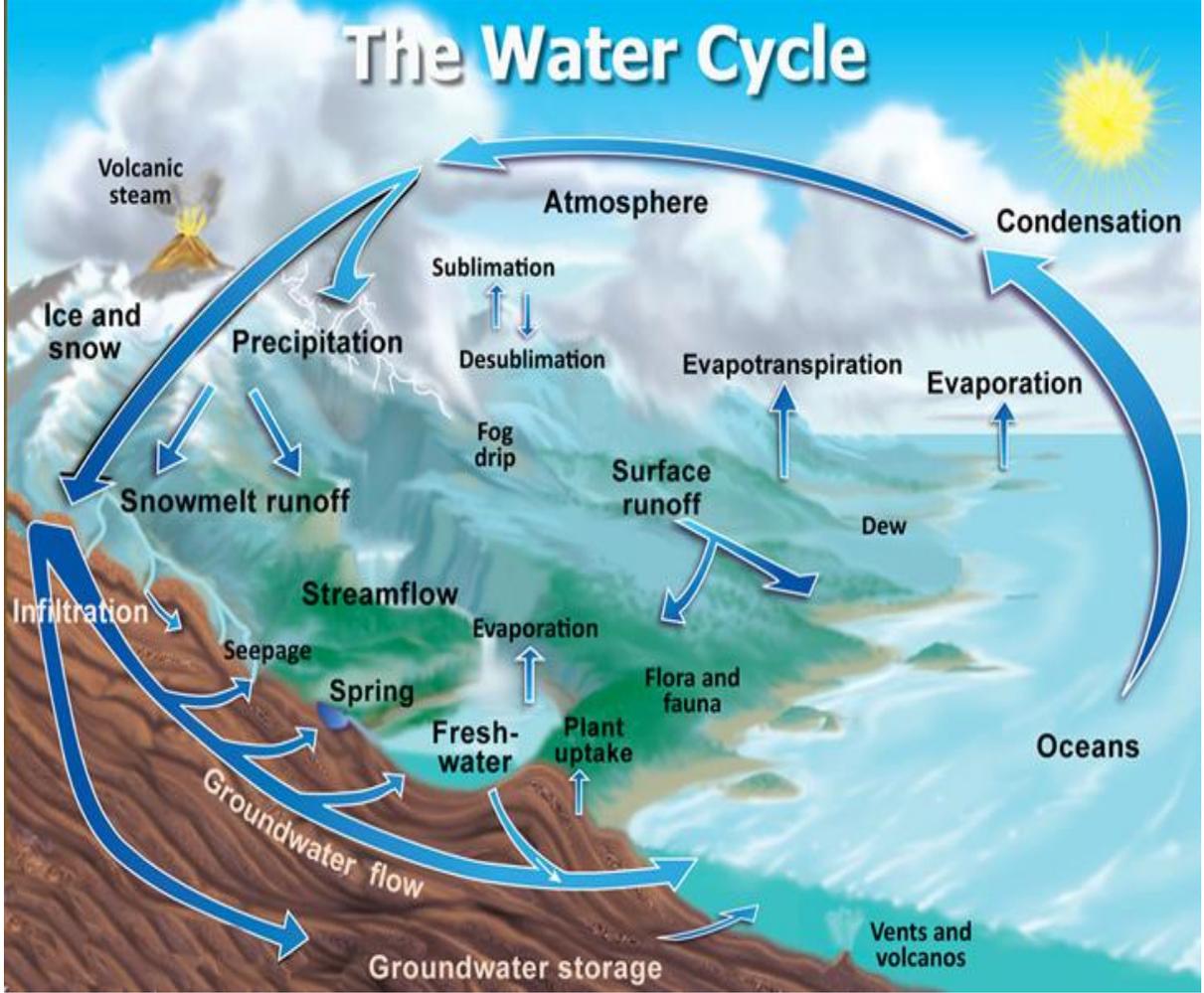
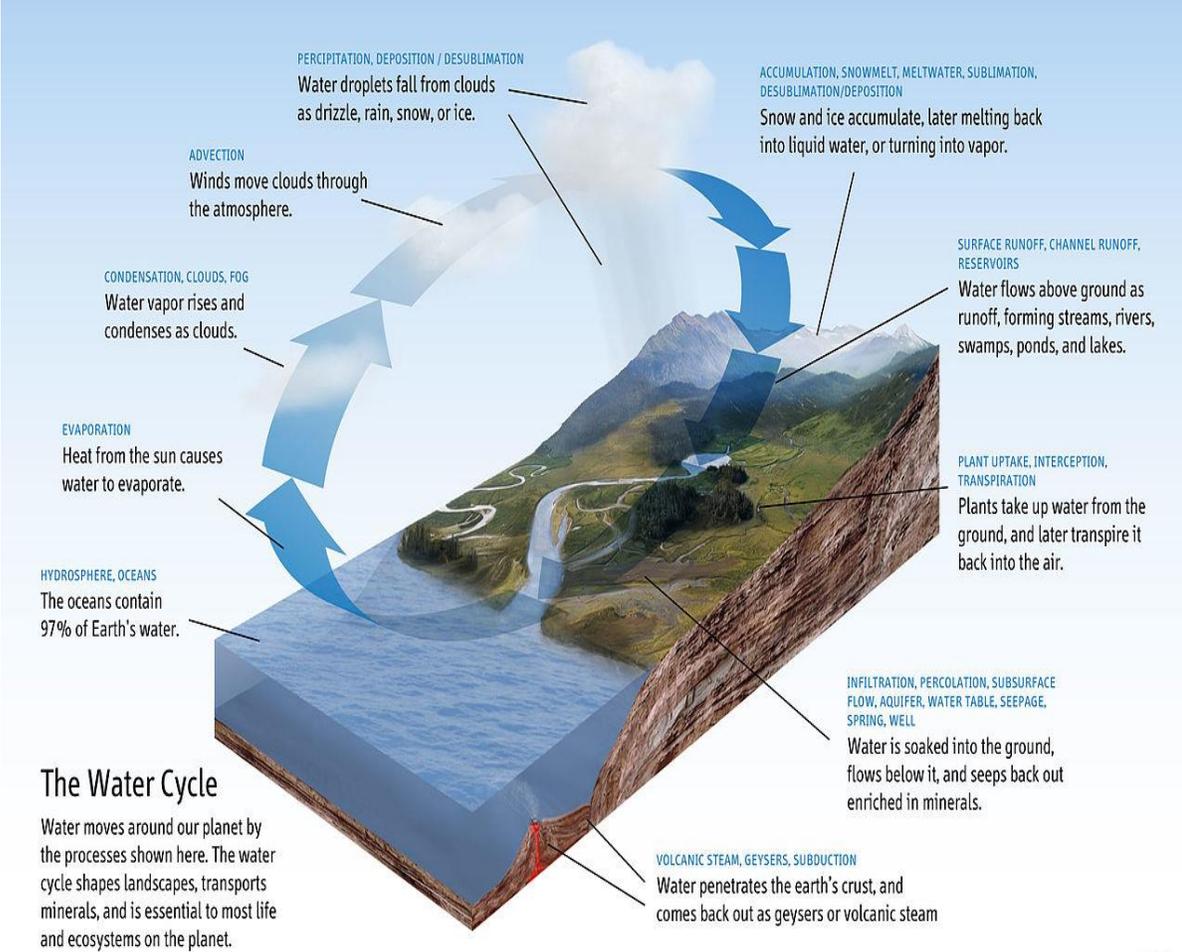


Chapter-4

Hydrological cycle

- The water cycle, also known as the hydrologic cycle or the hydrological cycle, describes the continuous movement of water on, above and below the surface of the Earth.
- The mass of water on Earth remains fairly constant overtime but the partitioning of the water into the major reservoirs of ice, fresh water, saline water and atmospheric water is variable depending on a wide range of climatic variables. The water moves from one reservoir to another, such as from river to ocean, or from the ocean to the atmosphere, by the physical processes of evaporation, condensation, precipitation, infiltration, surface runoff, and subsurface flow. In doing so, the water goes through different forms like liquid, solid (ice) and vapour.

Diagrams showing hydrological cycle



Water Cycle v1.11 (2018) was created by Ehsan Jafar. Contact info at ehsan@atlas.com

Precipitation

- Precipitation is water released from clouds in the form of rain, sleet, snow, or hail etc. Most precipitation falls as rain.
- Some common forms of precipitations are such as follows-
 1. Rain.
 2. Snow.
 3. Hail.
 4. Fog.
 5. Glaze.
 6. Dew.
 7. Sleet.

Rain

- Rain is the most common type of precipitation in our atmosphere. Rain is liquid droplets fall to the surface of the Earth. There are two different forms of rain, they are showers and drizzles.
- Showers are heavy, large drops of rain and usually only last a period of time.
- Drizzles however usually last longer and are made up of smaller droplets of water.



Snow

➤ Snow is the second most common precipitation in the North East. Snow forms when water vapour turns directly into ice without ever passing through a liquid state. This happens as water condenses around an ice crystal.



Hail

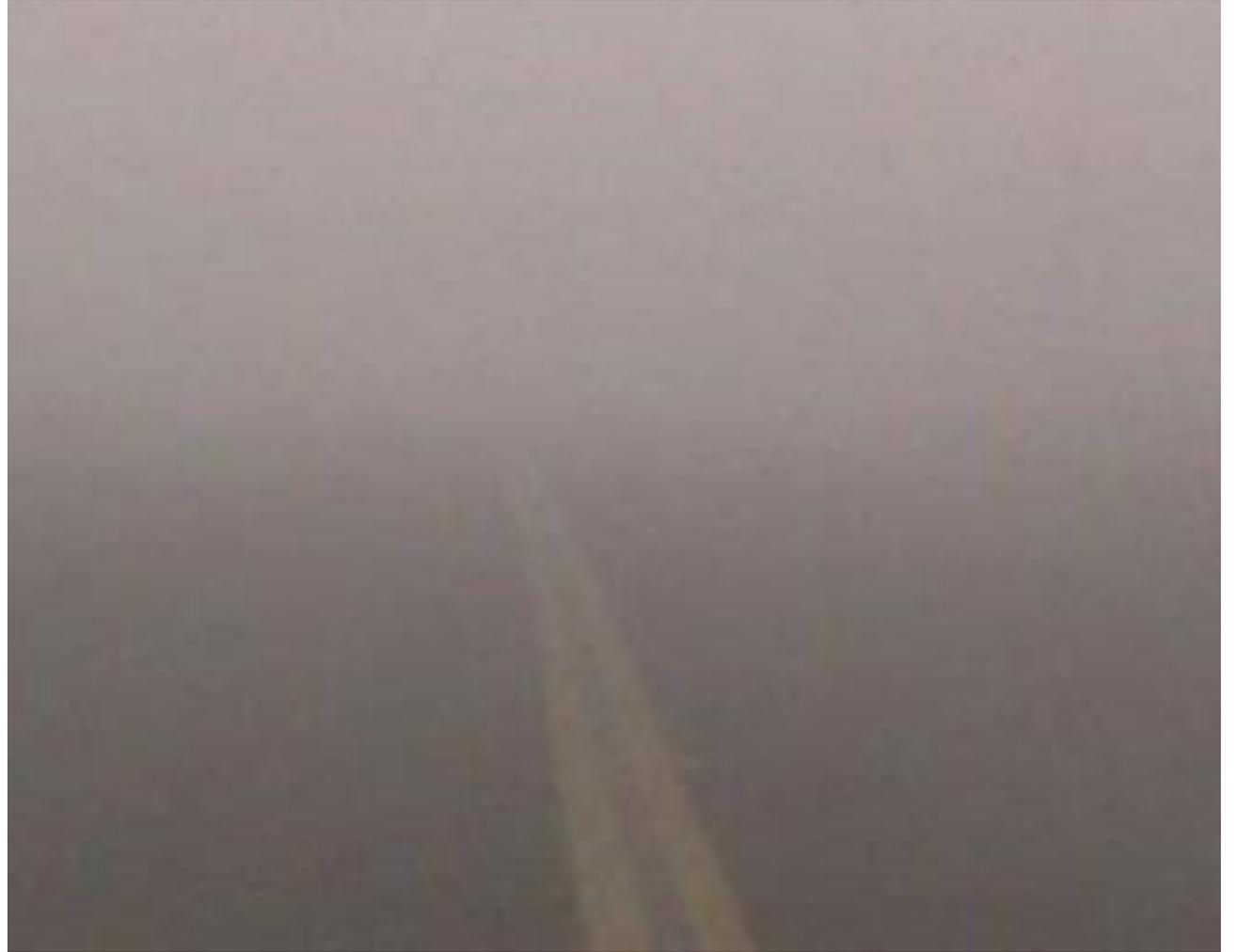
- Hail is created when moisture and wind are together. Inside the cumulonimbus clouds ice crystals form, and begin to fall towards the surface of Earth.
- When this starts to happen wind gusts start to pick up the ice crystals pushing them up high into the clouds.
- As they start to fall down again they continue to grow in size. A wind gust might catch the hail stone again which will push it back up into the cloud.
- This whole process gets repeated several times before the hail stone becomes so big that it is too heavy for the wind to carry so it must fall towards Earth.



Fog

-There is really no difference between fog and the clouds that are high in the sky. In simple terms fog is; a cloud that has formed near the surface of the Earth. There are four main types of fog,

- radiation fog
- advection fog
- upslope fog
- evaporation fog



Glaze

➤ Glaze is the ice coating, generally clear and smooth, formed on exposed surfaces by the freezing of supercooled water deposited by rain or drizzle.



Dew

- The small drops of water which can be found on cool surfaces like grass in the morning.
- This is the result of atmospheric vapour condensing on the surface in the colder night air.
- Dew Point is the temperature in which condensation starts to take place or when dew is created.



Sleet

- Sleet consists of transparent, globular, solid grains of ice formed by the freezing of raindrops.

