28. Hydrosphere – basic features

Hydrosphere includes all the water in oceans, seas, rivers, glaciers, permanent snow cover, in soils, rocks and atmosphere.

Hydrology is a science studying water of land mass. **Oceanography** studies oceans and seas. **Hydrogeography** studies the distribution of water and interactions between water and other spheres of the Earth.

Majority of water on the Earth is salty and only *2.53%* of total water reserves are created by *freshwater*/drinking water.
The more developed the civilization, the greater the demands for quality and amount of water supplies in the world.
One person consumes approx. 250-500 l of water every day. However, water consumption is greater in agriculture and industry.

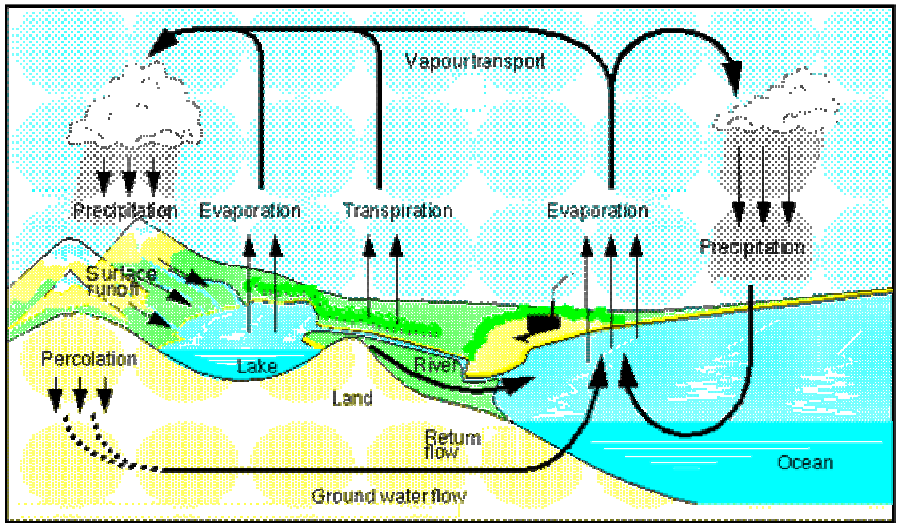
Human activity	Water demand
Shop employees	100-200 l
Milk production (100 l)	400-600 l
Beer production (100 l)	1,000-2,000 l
Gasoline (1 tonne)	60,000-90,000 l
Paper (1 tonne)	120,000-190,000 l

Why planet Earth and not planet Ocean?
The area of the Earth covered by water is greater than area created by land mass. Really, water covers more than 2/3 of the total Earth´s surface area.
But the name Earth is valid due to these arguments:

- Total volume of the world ocean is 1,380 mil. km^3 = 0.13% of the Earth´s volume.
- Average depth of the world ocean is 3,730 m = 0.0006 of the Earth´s semi-diameter.
- Density of rocks is approx. 5.5x greater than density of water = water creates only 0.023% of the Earth´s weight.

Water cycle
= water evaporation, transportation of water vapour, condensation of water vapour, precipitation formation, surface and sub-surface run-off. **Draw the water cycle!**
= change of matter and energy

- e.g. the formation of ocean currents is a result of matter and energy change between oceans and atmosphere
- e.g. many minerals and salts come from land mass directly to oceans



Keywords
hydrosphere, ocean, sea, river, glacier, permanent snow cover, freshwater, drinking water, volume, evaporation, condensation, precipitation, surface run-off, sub-surface run-off