

UTILIZATION OF WATER

- i) Origin of water.
- ii) Forms of water
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- iv) Distribution of water.
- v) Utilization of water.

Origin of water:-

Much of the universe's water may be produced as a byproduct of star formation. When stars are born, their birth is accompanied by a strong outward wind of gas & dust. When this outflow of materials eventually, impacts the surrounding gas, shock waves.

Water has been detected in interstellar clouds within our galaxy, the Milky Way. Water probably exists other galaxies, too, because its components, hydrogen and oxygen are among element in the universe.

Forms of water:-

Water refers only to its liquid form or state, but the substance also solid state, ice and a gas state, water vapour or steam.

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Water Vapour:-

Water Vapour is present in Earth's atmosphere: 0-40% over full atmosphere, typically, 1-4% at Surface.

Liquid Water:-

Present on Earth - 71% of water body, Moon - Small amount of water have been found (in 2008). Earth by the Apollo 15 crew in 1971. NASA reported of molecules by NASA's Moon Mineralogy Mapper, the Indian Space Research Organisation Chandrayaan-1 in Sep (2009).

Water Ice:-

present on glaciers and polar ice caps 2-4% water covers 71% of the Earth's Surface. 1-6% of water below ground in aquifers and 0.001% in the air vapor. Ocean hold 97% of surface water, glaciers & polar ice cap 2-4% and other land surface water, ponds 0.6%. The Earth's water is contained within biological bodies & manufactured products.

Characteristics of Water:-

Physical characteristics:-

Water is made available by the natural hydraulic cycle of the atmospheric-oceanic-terrestrial system. Water renewable withdrawals or use. Water is vital resource human & other animals and plant health. Large-scale withdrawals or transfer of water can change ecological conditions.

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Economic characteristics:-

Water is used in economic activities and hence must be allocated among competing uses. Since water is difficult to measure and identify. It is difficult to subject water to market forces in a market economy, life and economic activities. Over periods that dwarf those considered in conventional cost benefits analysis.

Social characteristics:-

That access to water is a basic human right. That water is social good in that the availability of clean and affordable water improves both individual & social well defined. The public health impact of inadequate water supply and sanitation has serious social & economic consequences for all.

Political characteristics:-

The above physical, economic, social & political characters of water make it a unique resource in which a degree of government involvement is inevitable. The discussion of now turn to the government structures which have been implemented in order to manage and provide this complicated and vital resources.

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Distribution of Water:-

Water covers 71% of the earth's surface. On Earth, it is found mostly in Oceans and other large water bodies, with 6% of water below ground in aquifers and 0.001% in the air as vapour, clouds (formed of solid and liquid water particles suspended in air), and precipitation.

Ocean hold 97% of Surface water, glaciers and polar ice caps 2.4% and land Surface water such as rivers, lakes and ponds 0.6%. A very small amount of the Earth's water is contained within biological bodies and manufactured Products.

Utilization of Water:-

97% of water on the Earth is salt water, leaving only 3% as fresh water of which slightly over two thirds is frozen in glaciers and polar ice caps. The remaining unfrozen fresh water is mainly found as groundwater with only a small fraction present above ground or in the air.

Water resources are used in various ways including direct consumption, agricultural irrigation, fisheries, hydropower, treatment of sewage and industrial effluents, water has sources and supplies, economic, social and political characteristics which make it a unique and challenging natural resource to manage.