

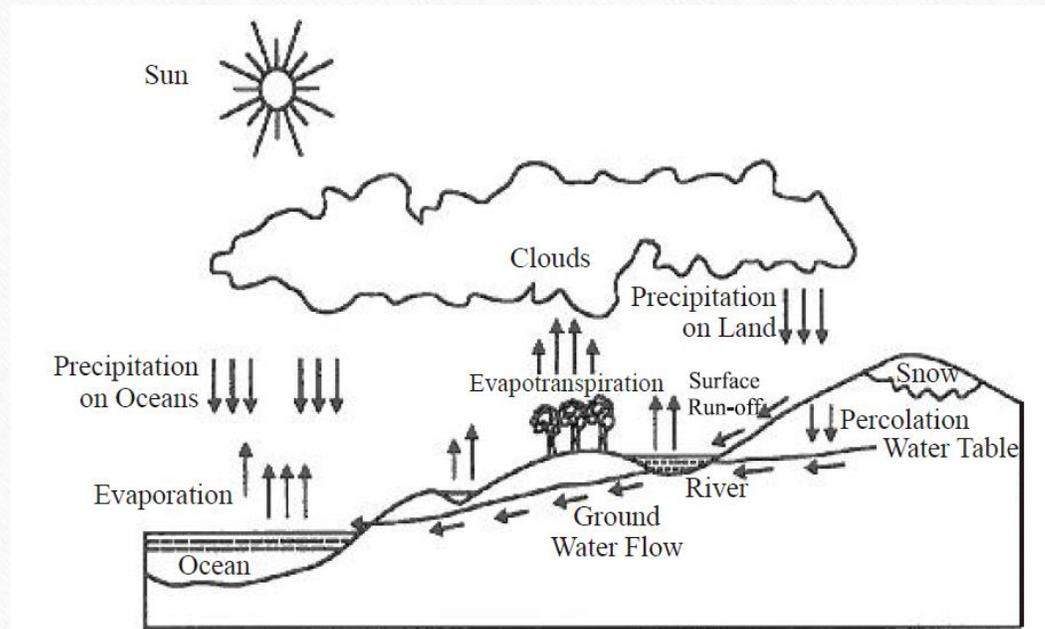
# **WATER POLLUTION and CONTROL**

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- Water is essential for the existence of all life forms.
  - In addition to household uses, water is vital for agriculture, industry, fishery and tourism etc.
  - Increasing population, urbanisation and industrialisation has led to the decreased availability of water. The quality of water used is also being deteriorated as it is getting more and more polluted.

Taken from <http://www.nios.ac.in/media/documents/313courseE/L34.pdf>

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- Three fourths of our planet earth's surface is covered by water.
  - Most (about 97%) of the water on earth is present in the seas and oceans. The remaining 3% is fresh water; 75% of which is locked up in the polar ice caps and in glaciers and quite deep under the earth's surface as underground water.
  - The fresh water, which we can use, comes to us from two sources:
    - i) Surface water
    - ii) Ground water

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- **(i) Surface Water:** Rain and snow are good natural resources of fresh water. It is estimated that of all the precipitation falls on the earth, about one-third is absorbed by the plants and another one-third accumulates in soil and the remaining one third runs off the surface into streams and rivers.
  - This part of precipitation, which runs off to form streams, rivers and lakes, is called the **surface** water.



**Fig. 34.1:** A schematical representation of Hydrological cycle

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- **(ii) Ground Water:** The part of precipitation that seeps into the ground as a result of gravity and fills the pores between soil particles and rocks under it is called **ground water**.
  - The water bearing layers of soil and rocks are called **aquifers**.

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A large amount of water is discharged back after domestic and industrial usage. This is contaminated with domestic waste and industrial effluents which is called **pollution** and the contaminants are called the **pollutants**.

**Water pollution may be defined as the contamination of streams, lakes, seas, underground water or oceans by substances, which are harmful for living organisms.**

## Water Pollution Parameters

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- **i) Physical parameters.**
- Colour,
- Odour,
- Turbidity,
- Taste,
- Temperature,
- Electrical conductivity

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**ii) Chemical parameters:** These include the amount of;

- carbonates,
- sulphates,
- chlorides,
- fluorides,
- nitrates,
- metal ions.

### **iii) Biological parameters:**

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The biological parameters include matter like algae, fungi, viruses, protozoa and bacteria. The life forms present in water are affected to a good extent by the presence of pollutants.