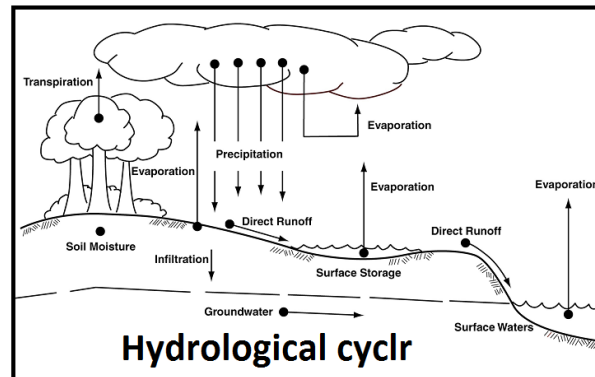


WATER RESOURCES

water, a substance composed of the chemical elements hydrogen and oxygen and existing in gaseous, liquid, and solid states. It is one of the most plentiful and essential of compounds. A tasteless and odourless liquid at room temperature, it has the important ability to dissolve many other substances.



Water is the most abundant, inexhaustible renewable resource. **Marine Water-** It include 99% area of hydrosphere, includes sea and ocean.

(a) **Fresh Water-** It include water without salts or salts presents in permissible limits, Only 1% of fresh water is present for human consumption in the form of lakes, ponds and river.

Uses od surface and ground water

1. **Consumptive use:** In such uses, water is completely utilized and cannot be reused. Ex: Domestic, industrial and irrigation.
2. **Non-consumptive use:** In such uses, water is not completely utilized and is reused Ex: Hydropower plant
3. **Other uses:**
 - a. **Domestic uses-** Water is used for domestic purposes like drinking, bathing, cooking, washing. etc.
 - b. **Commercial uses-** Water is used in commercial establishments like hotels, theaters, educational institutions, offices, etc.
 - c. **Agriculture uses-** Almost 60-70% of fresh water is used for irrigation.
 - d. **Industrial uses-** 20-30% of water is used for industrial operations by refineries, iron & steel industries, paper & pulp industries, etc.

e. **Control global warming-**

f. **Control pollution-** Water plays a key role in sculpting the earth's surface, moderating climate and diluting pollutants.

Over utilization of surface and ground water- Water shapes the earth's surface and regulates our climate. Overuse of groundwater for drinking, irrigation and domestic purposes has resulted in rapid depletion of groundwater in various regions leading to lowering of water table and drying of wells.

a. Agriculture

b. Urban population

c. Industrial uses

d. Urban construction-

e. Deforestation

f. Effects of over uses of water

g. Drought

h. Hydrological cycle effects

i. Deforestation

j. Desertification

k. Food problem

l. Loss of wild life

m. Loss of biodiversity

n. Water related diseases

o. Global warming

p. Habitat damage, affecting both terrestrial and aquatic wildlife

Conservation of water-

a. By applying 3R pattern

i. Reduce

ii. Reuse

iii. Recycle

b. Dam

c. Rain water harvesting in urban area

- d. Sprinkling irrigation in agriculture
- e. **Dams** – Many dams and their associated reservoirs supply additional water in times of drought.
- f. **Cloud seeding** – a form of intentional weather modification to induce rainfall. This remains a hotly debated topic, as the United States National Research Council released a report in 2004 stating that to date, there is still no convincing scientific proof of the efficacy of intentional weather modification.
- g. **Desalination** – Sea water for irrigation or consumption.
- h. **Drought monitoring** – Continuous observation of rainfall levels and comparisons with current usage levels can help prevent man-made drought.