

A watershed is an area of land that drains into a common water body.

An ocean current is the movement of seawater in a certain direction.

Ocean circulation is the combined effect of all the currents that move across the oceans.

The cryosphere consists of all the frozen water on the Earth's surface.

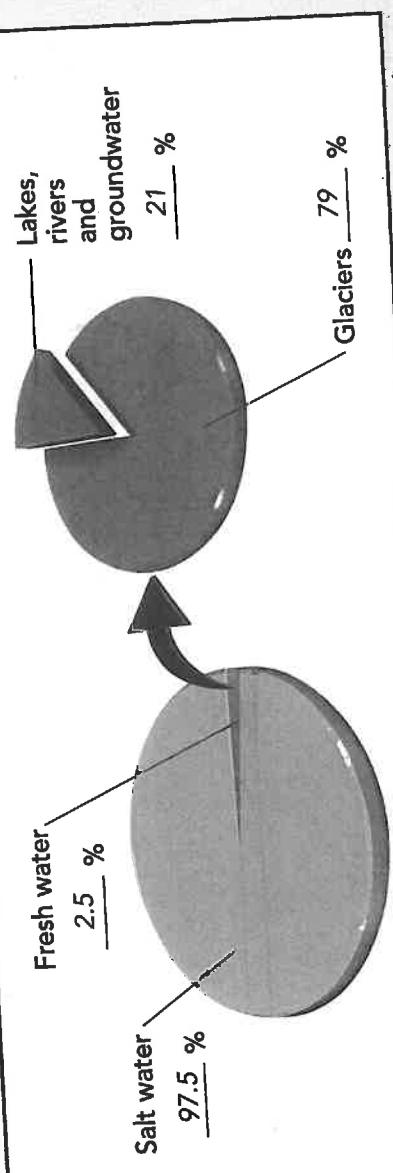
Pack ice is composed of the ice floating on the oceans near the North and South Poles.

A glacier is a mass of ice on land, formed by compressed snow.

Hydraulic power (hydropower) is the energy that can be derived from moving water.

A hydroelectric dam converts a river's hydraulic energy into electrical power.

Distribution of water on Earth



Factors affecting how water flows within a watershed

- | | |
|---------------------|---|
| • <u>Topography</u> | • <u>Vegetation</u> |
| • <u>Geology</u> | • <u>Agricultural, industrial and urban development</u> |
| • <u>Climate</u> | |

Important parameters in the study of oceans

Parameter	Factors influencing these parameters
<i>Water temperature</i>	<ul style="list-style-type: none"> • <u>Depth</u> • <u>The seasons</u> • <u>Latitude</u>
<i>Salinity</i>	<ul style="list-style-type: none"> • <u>Heat and drought</u> • <u>Melting pack ice and glaciers</u> • _____

Ocean currents

Ocean current	Characteristics
<i>Surface currents</i>	<u>Mostly wind-driven, they move horizontally.</u>
<i>Subsurface currents</i>	<u>Mostly due to variations in density.</u>
<i>Thermohaline circulation</i>	<u>Huge "conveyor belt" formed by surface and subsurface currents that moves water all around the world.</u>

Hydraulic power

Moving water	Facilities for transforming it into electricity
<ul style="list-style-type: none"> • <u>Waterfalls</u> • <u>Rivers</u> 	• <u>Hydroelectric dams</u>
<ul style="list-style-type: none"> • <u>Waves</u> • <u>Ocean currents</u> 	• <u>Underwater turbines</u>

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Sources of pollution

Source of pollution	Characteristic
Point source	Pollution can be traced to a well-defined site.
Non-point source	It is difficult to pinpoint the exact origin of the pollution, which is spread over a broad area.

Thermal pollution and the concentration of oxygen in water

Increase in water temperature = Decrease in the concentration of oxygen (O_2) dissolved in the water.

Stages of eutrophication caused by farming activities

- Pesticides and fertilizers, particularly the phosphorous they contain, promote algae growth.
- The bacteria decompose dead algae. They consume large amounts of oxygen during the decomposition process.
- The concentration of oxygen starts to fall.
- Fish and other living organisms die from the lack of oxygen.

