**Water resources**

**Water resources**are [natural resources](https://en.wikipedia.org/wiki/Natural_resource) of [water](https://en.wikipedia.org/wiki/Water) that are potentially useful. Uses of water include [agricultural](https://en.wikipedia.org/wiki/Agricultural), [industrial](https://en.wikipedia.org/wiki/Industrial_sector), [household](https://en.wikipedia.org/wiki/Household), [recreational](https://en.wikipedia.org/wiki/Recreational) and [environmental](https://en.wikipedia.org/wiki/Natural_environment) activities. All living things require water to grow and reproduce.

97% of the water on the Earth is salt water and only three percent is [fresh water](https://en.wikipedia.org/wiki/Fresh_water); slightly over two thirds of this is frozen in [glaciers](https://en.wikipedia.org/wiki/Glacier) and [polar](https://en.wikipedia.org/wiki/Polar_climate) [ice caps](https://en.wikipedia.org/wiki/Ice_cap). The remaining unfrozen freshwater is found mainly as groundwater, with only a small fraction present above ground or in the air.

Fresh water is a [renewable resource](https://en.wikipedia.org/wiki/Renewable_resource), yet the world's supply of [groundwater](https://en.wikipedia.org/wiki/Groundwater) is steadily decreasing, with depletion occurring most prominently in Asia, South America and North America, although it is still unclear how much natural renewal balances this usage, and whether [ecosystems](https://en.wikipedia.org/wiki/Ecosystem) are threatened.

**Natural sources of fresh water**

**1-Surface water**

Surface water is water in a river, [lake](https://en.wikipedia.org/wiki/Lake) or fresh water [wetland](https://en.wikipedia.org/wiki/Wetland). Surface water is naturally replenished by [precipitation](https://en.wikipedia.org/wiki/Precipitation_%28meteorology%29) and naturally lost through discharge to the [oceans](https://en.wikipedia.org/wiki/Oceans), [evaporation](https://en.wikipedia.org/wiki/Evaporation), [evapotranspiration](https://en.wikipedia.org/wiki/Evapotranspiration%22%20%5Co%20%22Evapotranspiration) and [groundwater recharge](https://en.wikipedia.org/wiki/Groundwater_recharge).

Although the only natural input to any surface water system is precipitation within its [watershed](https://en.wikipedia.org/wiki/Drainage_basin), the total quantity of water in that system at any given time is also dependent on many other factors. These factors include storage capacity in lakes, wetlands and artificial [reservoirs](https://en.wikipedia.org/wiki/Reservoir_%28water%29), the permeability of the [soil](https://en.wikipedia.org/wiki/Soil) beneath these storage bodies, the [runoff](https://en.wikipedia.org/wiki/Surface_runoff) characteristics of the land in the watershed, the timing of the precipitation and local evaporation rates. All of these factors also affect the proportions of water loss.

### Human activities can have a large and sometimes devastating impact on these factors. Humans often increase storage capacity by constructing reservoirs and decrease it by draining wetlands. Humans often increase runoff quantities and velocities by paving areas and channelizing the stream flow.

###  Under river flow

Throughout the course of a river, the total volume of water transported downstream will often be a combination of the visible free water flow together with a substantial contribution flowing through rocks and sediments that underlie the river and its floodplain called the [hyporheic zone](https://en.wikipedia.org/wiki/Hyporheic_zone%22%20%5Co%20%22Hyporheic%20zone). For many rivers in large valleys, this unseen component of flow may greatly exceed the visible flow. The hyporheic zone often forms a dynamic interface between surface water and groundwater from aquifers, exchanging flow between rivers and aquifers that may be fully charged or depleted. This is especially significant in [karst](https://en.wikipedia.org/wiki/Karst%22%20%5Co%20%22Karst) areas where pot-holes and underground rivers are common.

**Groundwater**

Groundwater is fresh water located in the subsurface [pore](https://en.wikipedia.org/wiki/Porosity) space of soil and [rocks](https://en.wikipedia.org/wiki/Rock_%28geology%29). It is also water that is flowing within [aquifers](https://en.wikipedia.org/wiki/Aquifer) below the [water table](https://en.wikipedia.org/wiki/Water_table). Sometimes it is useful to make a distinction between groundwater that is closely associated with surface water and deep groundwater in an aquifer (sometimes called "[fossil water](https://en.wikipedia.org/wiki/Fossil_water)").

Groundwater can be thought of in the same terms as surface water: inputs, outputs and storage. The critical difference is that due to its slow rate of turnover, groundwater storage is generally much larger (in volume) compared to inputs than it is for surface water. This difference makes it easy for humans to use groundwater unsustainably for a long time without severe consequences. Nevertheless, over the long term the average rate of seepage above a groundwater source is the upper bound for average consumption of water from that source.

The natural input to groundwater is seepage from surface water. The natural outputs from groundwater are [springs](https://en.wikipedia.org/wiki/Spring_%28hydrosphere%29) and seepage to the oceans

**Frozen water**

Several schemes have been proposed to make use of [icebergs](https://en.wikipedia.org/wiki/Iceberg) as a water source, however to date this has only been done for research purposes. [Glacier](https://en.wikipedia.org/wiki/Glacier) runoff is considered to be surface water.

**Questions:**

- Extract a summary and translate it to French.