

# FACT SHEET

## Groundwater



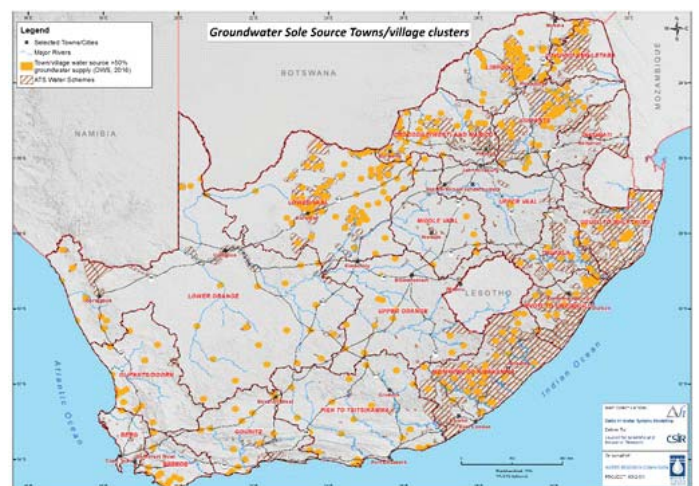
Groundwater is the world's second most abundant fresh water source behind the ice caps and glaciers. It accounts for some **30.1%** of the Earth's freshwater reserves whilst surface water sources such as lakes, rivers and reservoirs only account for about 1.2%. **Velocities of groundwater flow generally are low and are orders of magnitude less than velocities of streamflow.**

A velocity of 1 meter per day or greater is a high rate of movement for ground water, and groundwater velocities can be as low as 1 meter per year or 1 meter per decade. In contrast, velocities of streamflow generally are measured in meters per second. A velocity of 1 meter per second equals about 86 kilometres per day.

The word **aquifer** refers to rock or sediment that contains water and allows it to flow relatively easily. When people drill in search of water, they are actually searching for an aquifer from which they can readily pump water.

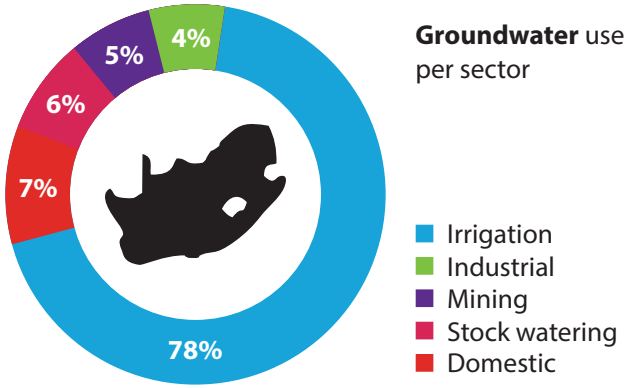
Total volume of available renewable groundwater is estimated to be between 10 500 million m<sup>3</sup>/annum (7 500 million m<sup>3</sup>/annum under drought conditions). Current use is estimated between 2 000 – 4 000 million m<sup>3</sup>/annum.

South Africa is a predominantly hard rock groundwater system only contributing about **15%** of the total bulk water supply. However, it is a sole source for many towns in South Africa (see map).

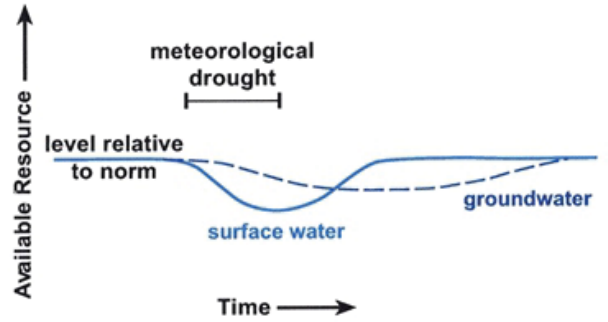


7.5% of the water used in the City of Tshwane comes from groundwater.

**Groundwater use in South Africa per sector:**



Groundwater is an excellent buffer resource during short-term drought periods (see figure below).

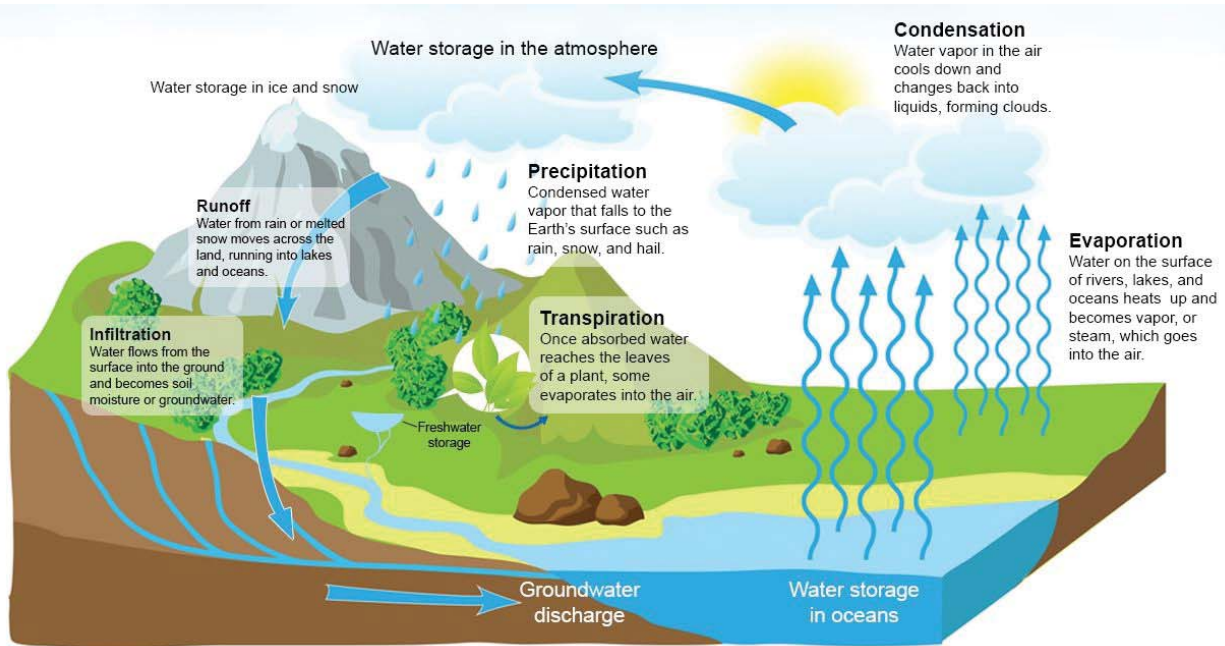


**Myths**

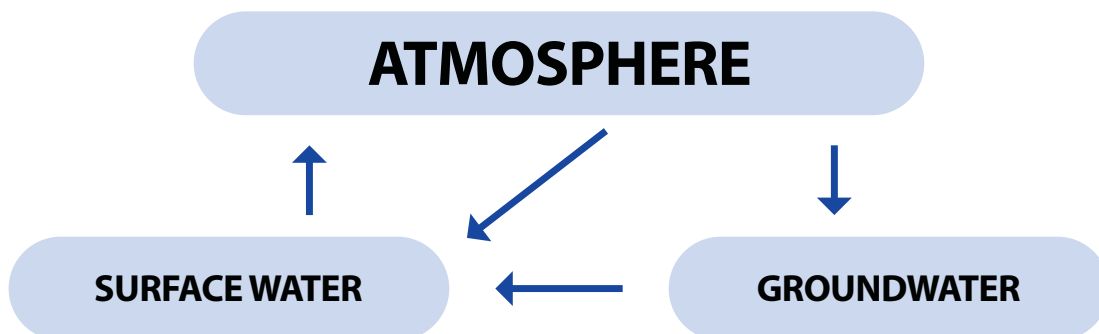
- Groundwater flows in underground rivers and streams.
- Groundwater is not always pure.
- Groundwater and surface water are not linked.

**Water is in compartments – boundaries:**

- Boundaries aren't real.
- Groundwater is always flowing to surface water.



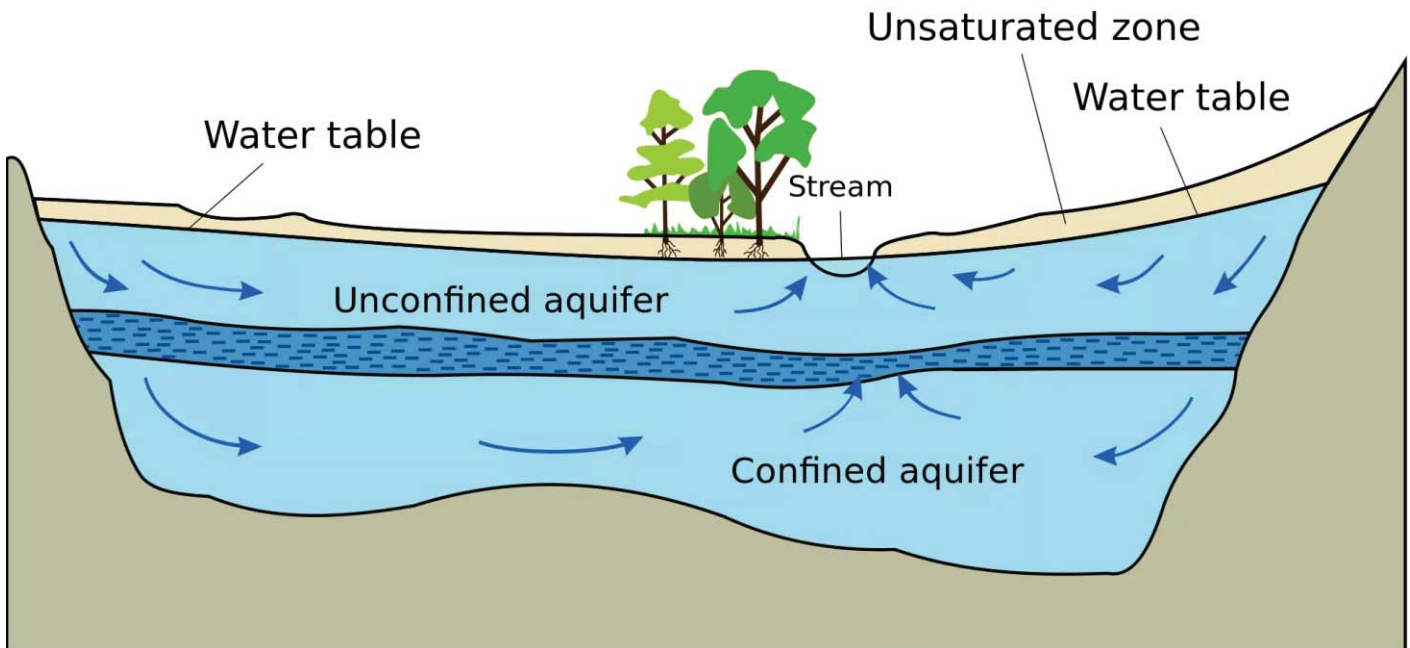
**Compartments are convenient**



**Boundaries are perception, not reality**



**A single resource – NO boundaries**



Groundwater – Storage and Distribution

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