

# Orange-Senqu River Awareness Kit


[THE RIVER  
BASIN](#)
[PEOPLE AND  
THE RIVER](#)
[GOVERNANCE](#)
[RESOURCE MANAGEMENT](#)

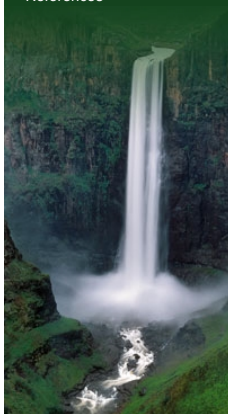
## The River Basin


[Hydrology:](#)

### Water Cycle



- Introduction
- ▶ Geography
- ▶ Climate and Weather
- ▼ **Hydrology**
- Principles of Hydrology
- ▶ **Water Cycle**
- Surface Water
- Groundwater
- SW/GW Interactions
- Water Balance
- Hydrology of the Orange-Senqu River Basin
- ▶ Water Quality
- ▶ Ecology and Biodiversity
- References

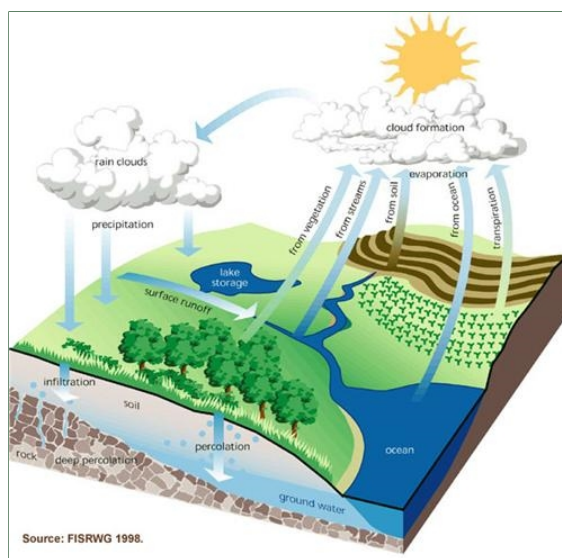


#### Feedback

- [send a general website comment](#)
- [report a specific problem with this page](#)

The water cycle, or the hydrological cycle, is the continuous movement of water on or below the earth's surface, and between the earth and the atmosphere. Surface water is the water on the earth's surface; ground water is the water beneath the earth's surface; and **atmospheric water** is water vapor (WSC 2006).

The hydrological cycle is driven by the processes of evaporation, transpiration, and condensation of water vapor in the atmosphere, leading to precipitation and the subsequent movement of surface water and groundwater on earth. Precipitation, in the form of rain, snow, hail and sleet, is how the water in the atmosphere reaches the surface of the earth.



Source: FISRWG 1998.

#### The Hydrologic (Water) Cycle.

Source: Federal Interagency Stream Restoration Working Group 1998  
( click to enlarge )

To see an animated version of this diagram, please refer to the [Water Cycle Interactive Component](#).

After reaching the earth's surface, the water can:

- **Percolate** through or **filter** into the soil to become soil water
- Seep further down to **replenish** groundwater
- Accumulate as water in lakes, wetlands or oceans, or as snow or ice as in glaciers and ice shelves
- **Run-off** downstream as surface water through streams, rivers, lakes and wetlands
- **Evaporate** from soil and water surfaces, or **transpire** from vegetation (collectively known as **evapotranspiration**) to become atmospheric water (water vapor)
- Once it reaches the atmosphere, it cools and **condenses**, becoming available for **precipitation**, thereby completing the hydrological cycle

Groundwater recharge is when the water percolates down to the [groundwater](#) table. This is a process that often remains ignored, but is an essential component of the water cycle, as it replenishes groundwater resources, allowing for their continued use. To learn more about groundwater and recharge in the Orange-Senqu River Basin, please refer to the [Groundwater](#) section of the [Hydrology of the Orange-Senqu River Basin](#).

Water that falls on the earth's surface, and does not evaporate or become absorbed into the ground is known **run off**. [Surface water](#) run-off follows gravity, flowing downhill to collect in lakes and other waterbodies. This is the water that we see on a daily basis and is most readily available for use in the water cycle.

The surface of standing and flowing water in the water cycle is exposed to the atmosphere. In warm, dry conditions, a portion of this water can evaporate, rising up into the atmosphere as water vapour and forming clouds, and falling back to earth as [precipitation](#).

[Next: Surface Water](#) ▶



**Basin Map**

Explore the sub-basins of the Orange-Senqu River

[enter](#) ▶

**Video Tour**

Tour video scenes along the Orange-Senqu River related to the River Basin

[enter](#) ▶

**Geography Maps**

Investigate land cover and terrestrial ecoregions in the basin

[enter](#) ▶

**Water Cycle**

Examine how the hydrologic cycle moves water through and around the earth

[enter](#) ▶

**Food Web**

Explore the interactions of living organisms in aquatic environments

[enter](#) ▶