

Orange-Senqu River Awareness Kit


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The River Basin

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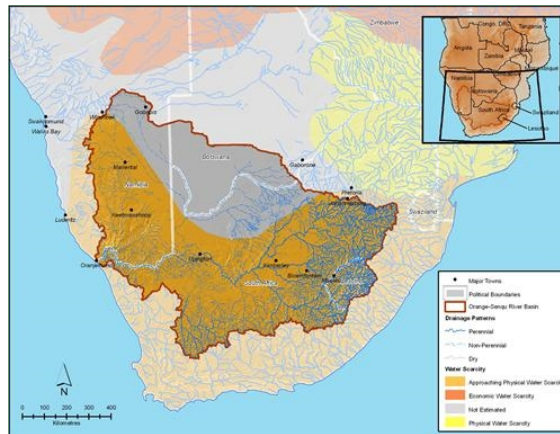
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Climate and Weather: Climate of the Orange-Senqu River Basin: **Water Scarcity in the Orange-Senqu River Basin**

Due to increasingly high demands on water for agricultural and industrial use, the water resources of the Orange-Senqu River basin are already at a critical stage (UNEP 2009). Options for addressing this include investing in water infrastructure, markets, credit, agricultural technology and extension services. However, the Orange-Senqu River system is reaching hydrological 'closure', a state where obtaining more water becomes increasingly expensive and produces diminishing returns.

As can be seen from the map below (from the [World Water Assessment Programme World Water Development Report 3](#) [7]), although data is not available for the ephemeral river basins the northern portion of the Orange-Senqu River basin, the majority of the basin is in fact approaching physical water scarcity.



Water scarcity in southern Africa.

Source: Hatfield 2009, after World Water Assessment Programme (2009)
(click to enlarge)

If supply and/or demand for water resources in the Orange-Senqu River basin are not addressed soon, water scarcity will become an ever larger constraint to sustainable development in the region.

In many extremely water scarce regions of the Orange-Senqu River basin, groundwater plays an important role for water supply. Here, [groundwater recharge](#) is key to water availability and water scarcity. Groundwater recharge is defined as the amount of water that is added to the groundwater table. Recharge is normally considered in terms of the amount of water falling as precipitation that reaches an aquifer, however it also includes water entering from an adjacent aquifer, from surface water sources or injection of water into an aquifer (artificial recharge). The map below depicts the average annual recharge (mm) for the Orange-Senqu River basin.



Estimated mean annual groundwater recharge for the Orange-Senqu River basin.

Source: UNEP 2009, after Vegter 1995 and Gabaake 1997
(click to enlarge)

[Next: Drought in the Orange-Senqu Basin](#)

Interactive

Basin Map



Explore the sub-basins of the Orange-Senqu River

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Video Tour



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

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Geography Maps



Investigate land cover and terrestrial ecoregions in the basin

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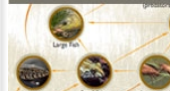
Water Cycle



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

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Food Web



Explore the interactions of living organisms in aquatic environments

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