

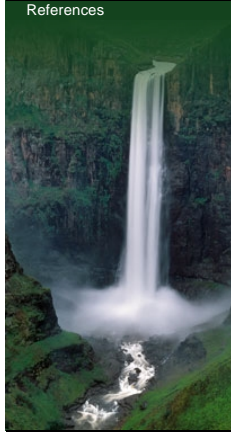
Orange-Senqu River Awareness Kit

[THE RIVER
BASIN](#)[PEOPLE AND
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The River Basin

[Ecology and Biodiversity:](#)

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Ecology

The greek word 'oikos' refers to home or place of habitation, 'logia' means 'the study of'. The German zoologist and philosopher Ernst Haeckel was the first to combine the two words in 1873 to create the word 'Ökologie'. In English this is ecology and means the study of where organisms live and how they interact with our environment.

In scientific terms ecology can be defined as a branch of biology that deals with the distribution, abundance and interactions of living organisms at the level of communities, populations, and ecosystems, as well as at the global scale.

The spatial distribution and abundance of an organism is largely determined by the abiotic or physiochemical factors of its environment. Abiotic factors are: geological factors such as the chemical nature of the bedrock; climatic factors such as temperature and sunlight; hydrological factors such as streamflow; or the availability of nutrients and levels of pollution in the environment. Through a history of evolution, organisms have adapted to fill a certain niche and to function optimally under a specific set of abiotic conditions. This evolutionary process of adaptation is also true for biotic interactions. Species have evolved to survive optimally in their niche and are adapted to obtain nutrients, reproduce and defend themselves against predators.



The Orange-Senqu River basin is home to a unique array of biodiversity.

Source: Vogel 2009
(click to enlarge)

Ecology is a complex study even at small scales and for the purposes of this River Awareness Kit we will focus on only one type of ecosystem - the aquatic ecosystem - and the organisms found within this system.

[Next: Aquatic Ecology](#)

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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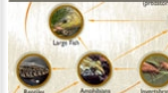
Water Cycle



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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