

Rivers: Life-giving veins of the Earth

*Like the veins in a human body, so the rivers of the world criss-cross the Earth's surface.
But instead of blood, these arteries carry life-giving water.*

Rivers come in lots of different shapes and sizes – from large gushing torrents of water to small creeks and streams. Although river water makes up only about 0,2% of all the fresh water on Earth, it plays a very important role in human lives.

People need rivers. Human and economic well-being are directly or indirectly dependent on the goods and services provided by river systems. For example, we obtain drinking water and water for irrigating crops from rivers, we may fish, harvest reeds, have picnics on the riverbanks or perform baptisms in the river pools. Rivers are also important sporting areas (think about the Duzi marathon that is held in the uMngeni River in KwaZulu-Natal every year).

Rivers also help drain rainwater and provide habitats for many species of plants and animals. As they make their way to the sea, rivers help shape the features of the Earth. In many countries, rivers are travel routes for people and provide power for hydroelectric plants.

Just as a tree trunk has a main trunk and many branches, a river system is made up of a main river and all its tributaries, or smaller streams. The point where two

rivers join is called a confluence. Rivers both carve the land and build it up. As rivers flow, they cut into the land. This is called erosion. Rivers cut both down into and across the earth. As rivers cut into the earth, they grind up rocks and churn up small rocks and soil. Over time, rivers change the land they flow over by carving new patterns for themselves.

Unfortunately, the river landscape worldwide is constantly changing due to the construction of dams and weirs for water supply and hydroelectric power generation. Rivers also receive effluent from sewage treatment works and industry, as well as diffuse pollution from, for example, agriculture and urban centres (stormwater runoff from parking lots, roads, etc). All of these activities can have an impact on water quality.

SOUTH AFRICA'S RIVERS

Compared to other countries, South Africa is not endowed with many large rivers. In fact, being among the 30 most water scarce countries in the world, our rivers are rather small. The total runoff from all of South Africa's rivers is about equal to that of the Zambezi River, one of the largest rivers in Africa. Despite this fact, rivers remain our main source of fresh water. In other words, most of the purified water that comes out of

RIVER-RELATED WORDS

Ephemeral river: Rivers that only flow during parts of the year.

Perennial river: Rivers that flow throughout the year.

Riverbed: The bed of a river is the surface upon which it flows.

Riverbank: Riverbank refers to the side of the river.

Runoff: This includes all the water flowing into the river after a rainfall event, as well as groundwater which may feed the river throughout the year.

Headwater: This is where the river starts or its source. The river flows to its mouth (usually towards the sea or other large body of water).

Course: The course of the river is its path, which follows the line of lowest elevation between the source and the end of the stream.

Catchment: Also known as a watershed or a river basin, this refers to the entire land area drained by a river system (or the entire land area that a river gets its water from).

our taps at home as well as the water used to power industries and mines, is sourced from nearby rivers and streams.

Most of South Africa's rivers are ephemeral, which means that they only flow during part of the year, usually during the rainy season. None of our rivers are navigable. Due to the semi-arid nature of most of South Africa, our rivers are vulnerable to overexploitation and modification, which has implications for aquatic ecosystem functioning and biodiversity.

South Africa's largest river is the Orange River, which carries more than 20% of the total river flow of the country.





South Africa's rivers offer some of the most spectacular scenery in the world.

Including the Vaal River (its largest tributary), the Senqu in Lesotho and the Fish River in Namibia (76 000 km²), the Orange River catchment is 682 059 km² in size, covering most of Gauteng

(mining, industry, urban), the Free State (mining, agriculture) and the Northern Cape (agriculture). The river itself is more than 2 000 km long.

Another very important river for the country is the Vaal River, which supports the country's economic heartland. The industrial areas supported from the Vaal River produce more than 50% of South Africa's wealth and more than 80% of the country's electricity requirements – more than 50% of all the electricity generated in Africa. From the Vaal River water is also supplied to some of the largest gold and platinum mines in the world.

Unfortunately, our rivers – just like most of the rivers of the world – are facing tremendous environmental problems. This is so bad that, in some cases, our rivers have become unsuitable for basic uses such as fishing and swimming. When our rivers become polluted, or altered by means of dams built in them, they

can no longer support the ecosystems dependent on them.

Today, less than a third of our rivers are still in a pristine or natural state. Most of rivers have been largely modified. We need to realise that protecting and conserving rivers – our main source of drinking water – is critical for our future survival.



Most of South Africa's rivers are ephemeral, which means they only flow during certain times of the year.

WEB RESOURCES

www.factmonster.com/ipka/A0001779.html for a list of the principal rivers of the world, including name, source, location, outflow and approximate length.
www.waterencyclopedia.com/Re-St/Rivers-Major-World.html for information on the major rivers of the world.
www.dwaf.gov.za/iwqs/rhp/naehmp.asp for information on the environmental health of South Africa's rivers.
<http://geography.howstuffworks.com/terms-and-associations/river4.htm> for basic information on rivers.



Rivers do not only offer us fresh water to drink, they are also places of fun and activity.

THE LONGEST RIVERS IN THE WORLD

River	Country	Kilometres
Nile	Burundi, the Democratic Republic of Congo (DRC), Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda	6 670
Amazon	Brazil	6 404
Chang jiang - Yangtze	China	6 378
Mississippi-Missouri (river system)	US	6 021
Yenisei-Angara (river system)	Russia	5 540

Source: www.waterencyclopedia.com