

## A Watery Treasure Under Africa

Aug 6, 2012 By Shreya, Young Editor



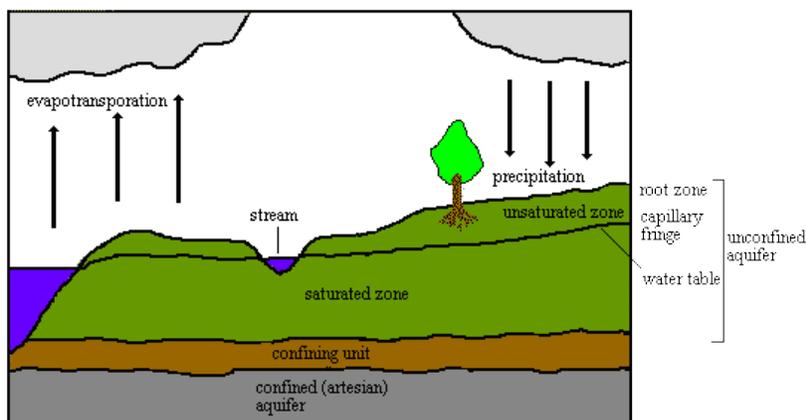
Read through this article, annotating it as you read. Remember to mark only the most important sections, then add a sentence or two next to those sections to explain your thoughts, opinions, or questions.

Many African countries such as Namibia - as you have often heard in the news - suffer from scarcity of water with its people suffering from diseases due to inadequate or contaminated water. 300 million people in Africa do not have access to clean drinking water.

But, their problem may be solved. A team of international scientists have discovered enormous areas of clean drinking water - specifically an aquifer - beneath the surface of Africa.

### Aquifer or Ground Water?

Aquifers and ground water can often be confused with as they are quite similar. Any water below the Earth's surface is called ground water. This water comes from rain, hail, snow, etc. that seeps into the ground and gets below the surface.



Aquifers are a little more complicated. The water from rain or snow can only seep underground if the rocks from the surface have cracks and pores to allow the water to penetrate. The water goes deeper and deeper until it reaches an area that is saturated

with water. This area is called the saturated zone. An aquifer is a layer of rock in the saturated zone which is porous and permeable and allows water to move easily.

There are two kinds of aquifers – unconfined and confined. Unconfined aquifers are only partially filled with water. The partially empty aquifer is compensated through percolation of water during the time of rain. Confined aquifers are aquifers that are totally filled with water and are separated from the surface by an impermeable layer of rock. These kinds of aquifers are slowly recharged as it takes a very long time for water to penetrate the layer of rock overlying it. Water from aquifers can be extracted through wells.

### **The 10,000 Year Old Aquifer**

Groundwater in Africa; Courtesy British Geological Survey

The African nation of Namibia is covered by two deserts – the Namib desert and the Kalahari desert. Being part of the desert, salinity of water is a main problem in water supply. That was until scientists discovered a huge aquifer with clean, sweet and drinkable water under a layer of salty water.

The water is said to be 10,000 years old. But, that doesn't mean it is not drinkable. In fact, it is cleaner than many other sources.

The resource is so big that it can provide water for the 800,000 people in the north of the country for about 400 years at the rate at which it is being used today. This could lead to great development in Namibia, especially in agriculture.

Before the discovery, Namibia's water supply was brought from two rivers. The water was mainly required for everyday activities such as bathing, washing clothes and most importantly – drinking. This restricted development in agriculture. This resource can provide much more water for irrigations in the farms of Namibia. The source can also provide water during times of drought for 15 years!

While all this is good news, scientists fear unauthorized drilling which could threaten the water's quality as it is beneath a layer of salty water.

