



## Tiwi Groundwater

### What is groundwater?

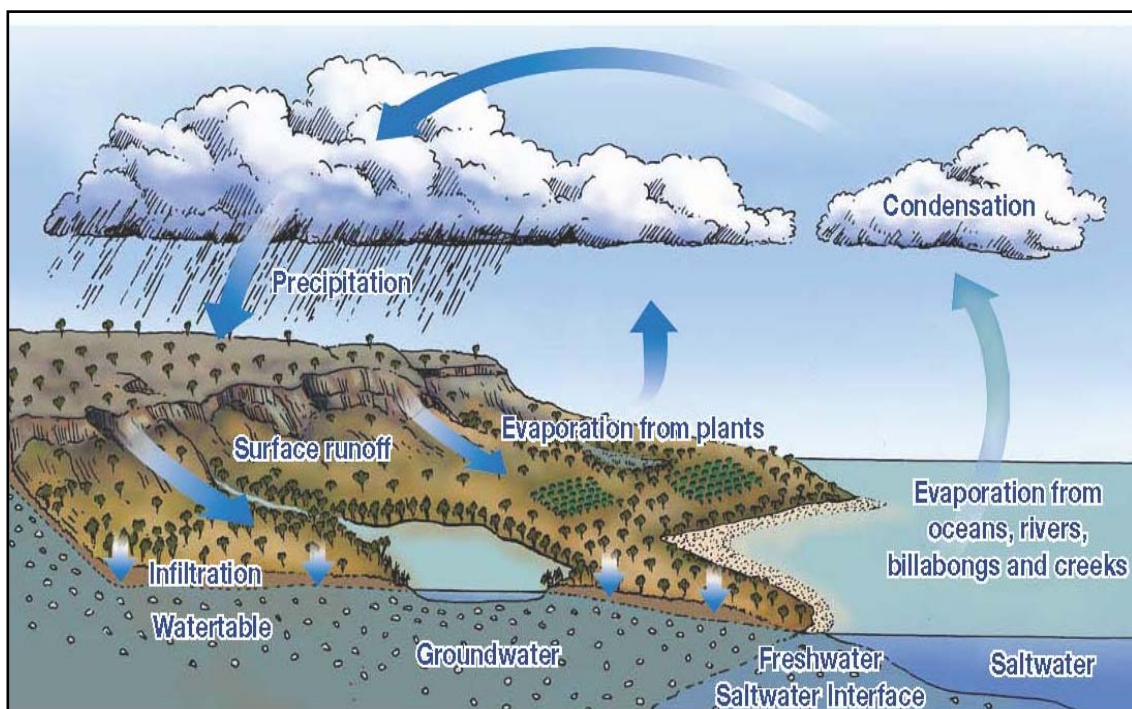
Groundwater is a valuable resource. It can be found beneath most land and is the most available freshwater on earth. Because it is hidden from our view it tends to be somewhat mysterious. Yet millions of people depend on groundwater as a source of water for drinking, irrigating, stock use and many other uses.

Many people think groundwater is stored in vast underground lakes or is flowing in underground rivers. In fact, groundwater is the water that fills the spaces and cracks between soil particles, rock, sand and gravel. Geological formations made up of gravel, sand, sandstone or fractured rock capable of storing and yielding large quantities of water are called aquifers.

### Where does it come from?

Like all water on earth, groundwater originates from rainfall or snow. Water that is not used by vegetation filters through the soil until it reaches the saturated zone. This process is called groundwater recharge. Significant recharge can be expected only during rainy periods.

The water table will fall or rise depending on seasonal and annual variations in rainfall/recharge. The greatest changes will be observed during prolonged droughts or periods of heavy rainfall. In many areas recharge from rainfall may be sufficient to maintain groundwater levels. However in some areas of dry climate with low rainfall and hence low recharge, groundwater can be used more rapidly than it is being replaced which may cause the aquifer to run dry.



A diagram of the water cycle

## Pressures and Contamination

Just because groundwater is underground doesn't mean it's safe from pollution. Like surface water, groundwater quality can change over time, although generally these changes are much slower taking years before contamination from a distance source reaches water supply bores.

Land use changes and unsustainable extraction of groundwater can often have a significant impact on groundwater quality, as minerals and salts become less diluted and more concentrated. Contaminated groundwater can cause serious health problems in people and animals that come into contact with it. Groundwater pollution is very serious due to the great difficulty and costs involved in cleaning up polluted aquifers and prevention is the best defence.

## Management

Even though ground water on the Tiwi Islands is in good condition, water is not in endless supply and we must ensure that the health of rivers and groundwater reserves are maintained for future generations to come.

The Tiwi Land Council and Territory Government have partnered to achieve a sustainable balance so that we can continue to enjoy the benefits that derive from managed rivers and groundwater resources.

The preparation and implementation of the Tiwi Water Resource Strategy is a mechanism to ensure that water is equitably managed between human needs and the environment.

The Tiwi Islands Water Resource Strategy will provide a framework for how ground and surface water will be managed, will draw on the findings from the Tiwi Islands Water Study conducted in 2003, and endeavour to meet the objectives identified in the Tiwi Islands Regional Natural Resource Management Strategy for freshwater resources.

## For more information

Speak to your local Tiwi Ranger or contact:

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