

# Blue gold below our feet



National Centre for  
**Groundwater  
Research and Training**

A new initiative of Flinders University and CSIRO will comprehensively map the aquifers below the Adelaide Plains region. This project is funded by the Goyder Institute for Water Research, and will involve the South Australian Department for Environment, Water and Natural Resources, and the National Centre for Groundwater Research and Training.

## BACKGROUND

Groundwater systems are affected both by natural processes and human activity, and require careful management to ensure that they remain healthy and able to continue to support local communities and ecosystems.

A number of industries rely on a steady supply of Adelaide's groundwater, while householders with shallow bores also use groundwater.

Over the next 40 years, greater Adelaide's population expected to nearly double to two million, and inflows to the Mt Lofty Ranges reservoirs (the second source of water for Adelaide after the River Murray) are predicted to reduce by 40% due to climate change.

This means that in the future, Adelaide's groundwater will come under increased pressure, while becoming an even more critical resource, economically, environmentally, and socially.

As well as being important as a direct source of water, Adelaide's aquifers will increasingly be relied upon for storage of recycled stormwater over winter for use in summer.

All of this points to the fact that we will need a good understanding of our groundwater. However, surprisingly little is currently known about the aquifers beneath the Adelaide Plains.



Little is known about how much water flows from the hills to the plains, how much water moves between different aquifers, how much water flows out to sea. Information is not available to confirm how much of Adelaide's groundwater is fresh, and how much is saline, nor even how much water is below Adelaide in total.

## THE PROJECT

A new project underway between researchers at Flinders University and CSIRO aims to tackle this knowledge gap.

In a \$3 million undertaking, around 18 researchers will build on existing knowledge to thoroughly assess Adelaide's groundwater resources, and the impacts of current and future extraction, and climate change.

In particular, the project will focus on some of the gaps of previous studies, including flow across faults, leakage

between aquifers, and seawater intrusion.

The project will explore Adelaide's groundwater from Light River in the North to Sellicks Beach in the south, and from the Mount Lofty Ranges to the sea. It will deliver a complex model of Adelaide's aquifers which will be capable of simulating future impacts on Adelaide's groundwater resources, such as future population growth, sea level rise, climate change, increased managed aquifer recharge and increased groundwater use in times of drought.

This project contributes to the South Australian Government's Water for Good plan for the greater Adelaide region.



## Want to know more?

This project is led by Professor Okke Batelaan, Strategic Professor in Hydrogeology at Flinders University, and a chief investigator for the NCGRT. For more information on this project, he can be contacted by email: [okke.batelaan@flinders.edu.au](mailto:okke.batelaan@flinders.edu.au)

To learn more about the NCGRT's research, visit: [www.groundwater.com.au](http://www.groundwater.com.au)

