

## Pretoria's fountains still the cleanest water around

By Geologie/Geology

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*Grootfontein collection chamber*

After 150 years, Pretoria's central business district (CBD) residents are still dependent on the crystal clear waters of the fountains that have sustained the capital since the start of its existence.

A new Water Research Commission (WRC) funded project, led by the University of Pretoria (UP), aims to record the capital city's early water history, and raise awareness of the role groundwater can play in large urban supply.

"Through this project we hope to illustrate the role groundwater can play in meeting not only rural water demands but also urban demands," reports WRC Research Manager, Dr Shafick Adams. "Groundwater development has been placed high on the list of future water supply options for many areas; yet it remains underappreciated by the public and policy-makers alike."

The city of Pretoria was founded in the immediate vicinity of an artesian water source. This source (called the Fountains to this day) is an unusually strong and consistent source (delivering 40 Ml/day) – the only water source for Pretoria from 1855 until 1935. Moreover, it yielded (and still does today) water of extremely good quality.

Pretoria is one of the several cities and towns in South Africa fully or partially dependent on groundwater. Sustaining local communities for hundreds of years, the two springs in the Fountains Valley immediately to the south of the city were certainly the reason why the early white settlers, the Bronkhorst brothers, selected this site to establish their farm and eventually, why the ZAR decided to move its seat of government here. Yet, few Pretoria residents are even aware of the importance of this unobtrusive source, located at Groenkloof.

The Hydrological Heritage Overview project, as the WRC project is known, is recording Pretoria's development around its groundwater sources, including historical abstraction volumes and water quality, where available.

"Pretoria is an excellent example of the use of groundwater for urban water supply," notes project leader Matthys Dippenaar, of UP's Geology Department. "For the people of Pretoria, we hope that this project will create some awareness and appreciation, that they will realise just how important water – in this case groundwater – is in our lives. For fellow scientists, we aim to provide improved access to historical data." The City of Tshwane has graciously agreed to supply all available historical data and maps for inclusion into the project.

The Fountains are not the only groundwater source on which Pretoria is dependent. In general, groundwater makes up about 8% of the city's total water supply. There is also Grootfontein, whose water is pumped to the Rietvlei Water Treatment Works and mixed with treated water from the works. On the other end of the city, Sterkfontein provides water to the residents of Centurion. All of the springs are still providing water of the highest quality, despite developments mushrooming around them and, as a result, do not need treatment prior to reticulation (although chlorine is added to the water before being piped).

With groundwater being usually being a hidden resource, Pretoria's springs offer a rare visual glimpse of the Cinderella of water resources in South Africa. Once the project has been completed, it will be made available to the public as much as possible. The project is expected to be completed in the first quarter of next year.

Anyone with anecdotes, photographs or other information about the fountains, and who would like to share them with the project team can contact Matthys Dippenaar at [Matthys.Dippenaar@up.ac.za](mailto:Matthys.Dippenaar@up.ac.za) or on 012 420 3117.

The study is managed by the WRC Manager, Dr Shafick Adams and he can be contacted on [shaficka@wrc.org.za](mailto:shaficka@wrc.org.za) or 083 268 7945 or 012 330 0340.

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