

# South Africa (RSA)

**Capital city:** Cape Town (legislative) / Pretoria (administrative) / Bloemfontein (judicial)  
**Inhabitants:** 57.8 Million

## INSTITUTIONAL SETTING AND PURPOSE

The institution in charge of groundwater management in Republic of South Africa (RSA) is the Department of Water Affairs and Forestry (DWA). The DWA has delegated most of the monitoring tasks to its regional offices. Regional offices are set up in all the provinces of RSA, but some of them lack capacity to complete all the delegated tasks.

The objectives of the groundwater monitoring plan are to identify spatial and temporal trends, and to understand the causes and effects of groundwater changes in affected areas. The plan includes the monitoring of groundwater levels and its quality.

## CHARACTERISTICS OF THE NETWORK

Groundwater levels are monitored monthly at approximately 1,800 monitoring points. Piezometric levels are measured manually with water level dippers. The Department of Water and Sanitation (DWS) makes use of (detailed) field forms developed by an in-house Groundwater Field Monitoring Committee.

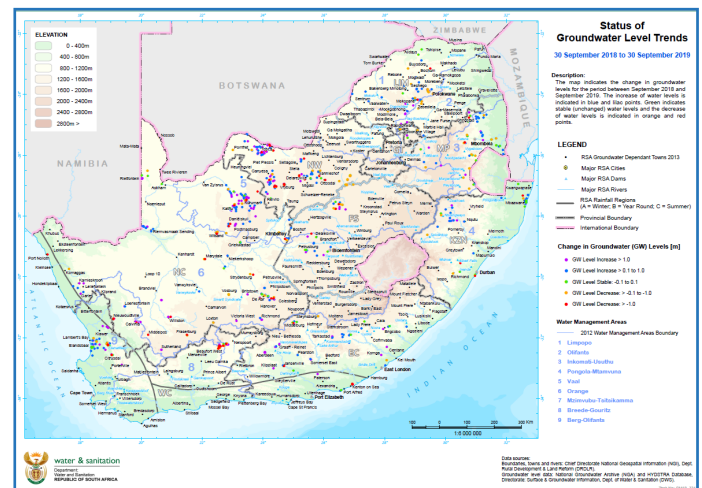
Standard operation procedures (SOP) are applied as a data quality control to ensure proper data collection. Two main procedures are: standard for Geosite description, and standards for capturing groundwater data.

## PROCESSING AND DISSEMINATION

DWS produces annual Groundwater Level Maps, Figure 1. Currently three maps are available on the website of the DWS indicating the difference of groundwater levels between Septembers of 2017 to 2018, of 2018 to 2019 and of 2017 to 2019.

Data are stored in the National Groundwater Archive (NGA), which is a centralized database with a web interface. Everyone with an interest in groundwater can register to search, capture and store data. Only one value of water level per month is stored in the NGA; larger time-series are stored separately in a Hydstra database.

The databases can be accessed from inside and outside the department and are accessible for registered users. However, not all data are online and detailed water level time series must be requested.



**Figure 1 - Difference in groundwater levels September 2018 to September 2019. Source: DWA**

## Sources

- **Department of Water and Sanitation (DWS). Groundwater level maps 2017-2019** - <http://www.dwa.gov.za/Groundwater/maps/gwlevelmaps.aspx>;
- **DWS. The National Groundwater Archive (NGA)** - <http://www.dwa.gov.za/groundwater/nga.aspx>;
- **Feedback from the Department of Water Affairs and Forestry** - received on 05-10-2020;
- **IGRAC, 2013. Groundwater Monitoring in the SADC Region, 2013. Overview prepared for the Stockholm World Water Week** - [https://www.un-igrac.org/sites/default/files/resources/files/Report\\_Groundwater%20Monitoring%20in%20SADC%20region.pdf](https://www.un-igrac.org/sites/default/files/resources/files/Report_Groundwater%20Monitoring%20in%20SADC%20region.pdf); and
- **SADC Country visits - 2017.**