

# Overview of water resource assessment in South Africa: Current state and future challenges

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## **Abstract**

This paper reviews the progress made in the assessment of water resources in South Africa over the past 60 years by examining 5 major studies that were undertaken in this period. These studies illustrate how the exponential growth in computer power and the concomitant development of highly sophisticated tools have changed the manner in which our water resources have been appraised, allowing us to deal with more and more complex issues, including: water quality, surface water/groundwater interaction and the reduction in runoff due to afforestation and alien vegetation. However, the main concern today is the serious decline in hydrological monitoring in recent times. It is imperative that this decline be addressed, especially if we are to deal effectively with problems related to climate cycles and climate change, together with the deterioration in water quality.

**Keywords:** rainfall, streamflow, water resources, water quality, land use, climate cycles, climate change