

Water level and salinity



South Australia's environmental trend and condition report cards 2023

Water | Groundwater



STATE

Trend

The statewide 5-year trends in groundwater salinity are generally stable, and water level trends are variable.

Rainfall patterns strongly influence water levels and salinity of most groundwater resources, however rainfall can be highly variable in both time and space.

For example, in the last 5 years, annual rainfall across the state (when compared to the 1900 to 2022 average) was generally below-average in 2018 and 2019, near-average in 2020 and 2021, and above-average in 2022. Rainfall has also varied spatially across the 19 actively managed groundwater areas in South Australia.

Although 11 of the 19 groundwater areas showed overall stable or rising 5-year trends in water levels and stable or decreasing salinity (top figure, blue areas), some areas experienced declining trends in water levels. Declining water levels in some groundwater management areas are associated with lower aquifer recharge and/or increased use (extraction) of groundwater.

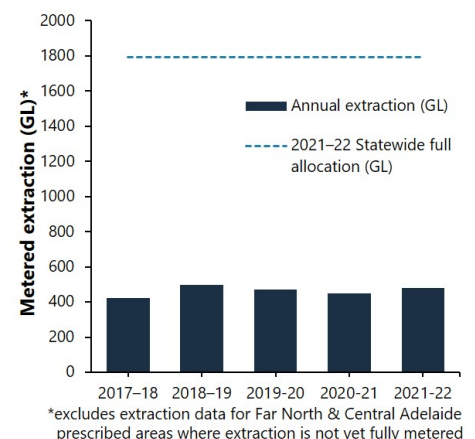
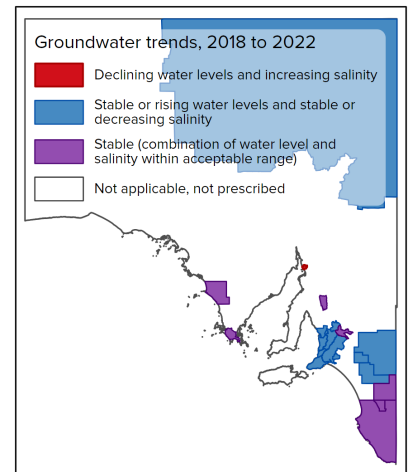
Condition

The overall condition of statewide groundwater resources is good.

This assessment is based on observations of long-term groundwater levels, salinity and metered use and the ability of the resource to meet environmental, social and economic expectations now and into the future.

Over the past 5 years, metered groundwater extractions were less than 28% of the volume allocated. In individual regions, metered use ranged from 5% to 53% of the 2021–22 allocation volume (bottom figure).

The salinity of South Australia's groundwater resources is generally stable, and water level trends are variable.



Why is groundwater level and salinity important?

Groundwater is the largest freshwater resource in South Australia. Groundwater is vital for our town water supplies and sustains a range of ecosystems. It also provides for agriculture, mining and manufacturing industries.

Sustainable water management and planning is vital to our long-term water security (both quality and quantity), the environment and the economy.

What are the drivers?

The state's groundwater resources are affected by climate, weather and water-use patterns.

Rainfall patterns, including wet–dry cycles over the short to medium term and climate change over the longer term, influence groundwater recharge. Rainfall patterns also influence demand, with more water required during hotter or drier periods. The combination of these factors means that groundwater levels can decline during dry periods. Declining groundwater levels can lead to a higher risk of increasing salinity.

What is being done?

Key groundwater resources are managed under the *Landscape South Australia Act 2019* through water allocation plans. These plans provide the framework for sustainable management of water resources by considering the competing environmental, social and economic demands for water. They aim to strike the balance between improving resource condition and permitting extraction for consumptive use. Water allocation plans are periodically reviewed and updated.

For further information see: [technical information](#)



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