

Flow regime (zero flow days)



Water | Surface water

South Australia's environmental
trend and condition report cards 2023



Trend
Getting worse



Condition
Good

★ ★ ★ Reliability
★ ★ Fair

STATE

Trend

The trend in flow regime for surface water across South Australia is getting worse.

This assessment uses the number of days of flow per year to describe the flow regime. The number of flowing days is the main variable driving the condition of aquatic ecosystems of South Australian rivers.

The number of flowing days was assessed at 29 key flow monitoring stations across the state in each landscape region, except Alinytjara Wilurara and Green Adelaide, from 1986 to 2021.

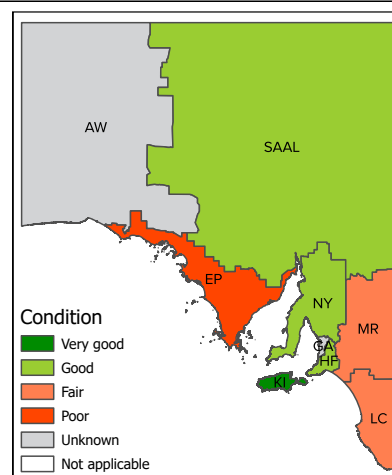
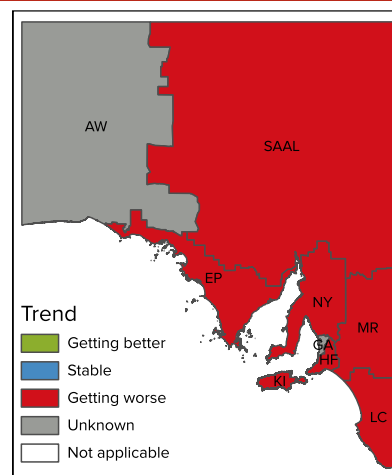
Assessment showed a trend of getting worse at state scale, landscape region scale (top figure), and Prescribed Water Resource Area scale. This suggests that there is a broad scale reason for the decline in the flow regime condition, beyond any local water development pressures (e.g. dams).

Condition

Overall flow regime condition across the state for the 2021–22 water year was assessed as good.

Condition was variable across the state, ranging from poor in Eyre Peninsula, to very good on Kangaroo Island (bottom figure). The generally good conditions have been driven by good rainfall across much of the state in 2021–22. Sites and regions rated as very good included several sites that maintained perennial flow across 2021–22. The lowest number of recorded flow days in 2021–22 was zero days, and 2 sites reported their lowest flow on record.

Despite a long-term declining trend in flow regime, the overall condition was considered good in 2021–22 due to above-average rainfall across much of the state.



Why is flow regime important?

The flow regime of a river is considered to be the main driver of aquatic ecosystem condition. The flow regime covers more than just the number of flowing days, however, the number of flowing days is considered to be the single most important part of the flow regime for seasonal rivers such as those found in South Australia.

Increased flowing days enables more flora and fauna to complete lifecycles, higher biodiversity, and improved water quality.

What are the drivers?

The number of flowing days is mainly influenced by the frequency and duration of water runoff from the surrounding landscape, which is driven by the intensity and duration of rainfall. Less rainfall generally results in less flowing days. Groundwater discharge into rivers via springs also influences flowing days.

In addition to climate, other drivers that result in reduced flow days include capture of runoff in dams and extraction of groundwater.

What is being done?

Areas where water resource development is high are prescribed under the *Landscape South Australia Act 2019* and water allocation plans are developed to ensure equitable sharing of the water resources, including for the environment. In other areas, landscape regions monitor water resources and can implement controls on further water resource development including dams and wells (bores).

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



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