

Temperature



Climate

South Australia's environmental trend and condition report cards 2023



Trend
Getting worse



Condition
Fair



Reliability
Good

STATE

Trend

Average annual temperatures across South Australia have been increasing since the 1970s, with the highest rates of increase in the north of the state.

This assessment uses Bureau of Meteorology Australian variability and change trend maps. These are based on observed temperature data from Bureau monitoring stations distributed across Australia.

Mean annual temperature, averaged across South Australia is now approximately 1.1 degrees Celsius (°C) warmer than in the 1970s.

The increase in annual average temperature has been variable, such that the coolest parts of the state in the Limestone Coast (LC) region have seen the lowest increases (top figure).

The highest rate of increase in temperature is observed in the South Australian Arid Lands (SAAL) region, where mean annual temperatures in some areas have increased by up to 1.5°C over the past 50 years in what was already the warmest part of South Australia.

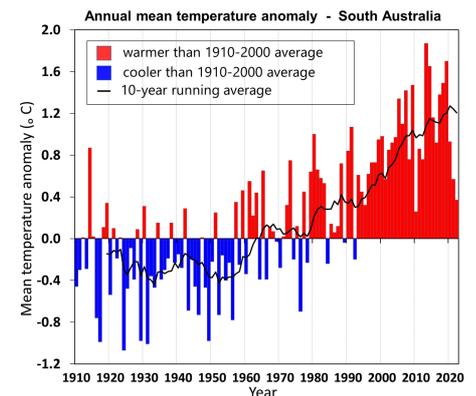
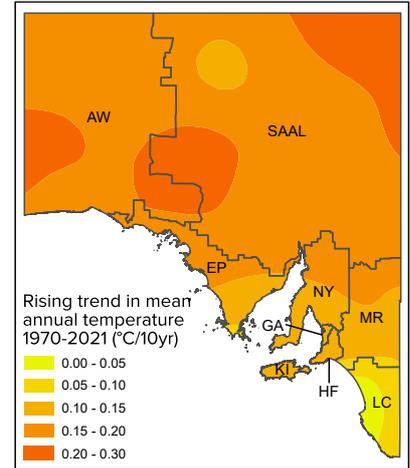
Condition

The condition is rated as fair. Overall, changes in temperature across South Australia since the 1970s have been manageable.

In the 30 years from 1993–2022, South Australia has not experienced any years with a mean temperature below the mean annual temperature of the 20th century (bottom figure).

The hot and arid north-east of South Australia now experiences a higher frequency of very hot daytime and nighttime temperatures during summer. In Adelaide, the average frequency of days reaching 40°C in the 10 years from 2013–2022 has been 5.1 days per year. This is nearly 3 times the frequency of 40°C days in the preceding 40 years.

Average annual temperatures have increased across South Australia, particularly in the arid north-east.



Why is temperature important?

Climate affects almost every part of our lives. Communities, industries, landscapes and ecosystems all develop with a tolerance for a range of climate variation. If the climate changes beyond that range of tolerance, then they must either adapt, migrate, transform or decline.

One example of the impact of a rise in average temperatures is an increase in the occurrence of severe heatwaves. This has important implications for human health, food production and biodiversity.

What are the drivers?

According to the Australian Academy of Science, "Earth's climate has changed over the past century. The atmosphere and oceans have warmed, sea levels have risen, and glaciers and ice sheets have decreased in size. The best available evidence indicates that greenhouse gas emissions from human activities are the main cause. Continuing increases in greenhouse gases will produce further warming and other changes in Earth's physical environment and ecosystems."

What is being done?

The Government of South Australia supports a wide range of initiatives to reduce greenhouse gas emissions and help the state to adapt to the changing climate. These include supporting renewable energy generation and storage, carbon sequestration, land use planning reforms, climate related hazard risk reduction, coastal protection, greening to cool urban environments, circular economy initiatives, and regional adaptation projects. The government provides downscaled climate projections information and tools for South Australia.

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



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Government of South Australia