



Trend  
**Getting worse**



Condition  
**Fair**



Reliability  
**Very good**

### 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 (BOM) Australian variability and change trend maps. These are based on observed temperature data from BOM monitoring stations distributed across Australia.

Mean annual temperature, averaged across the state, is now approximately 1 degree 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 south-east region have had the lowest increases (top figure).

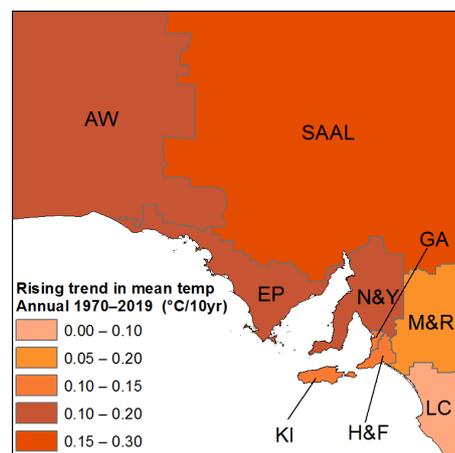
The highest rate of increase in temperature is observed in the South Australian Arid Lands (SAAL) region, adding up to 1.5° C to mean annual temperatures over the past 49 years in what was already the warmest part of South Australia.

### Condition

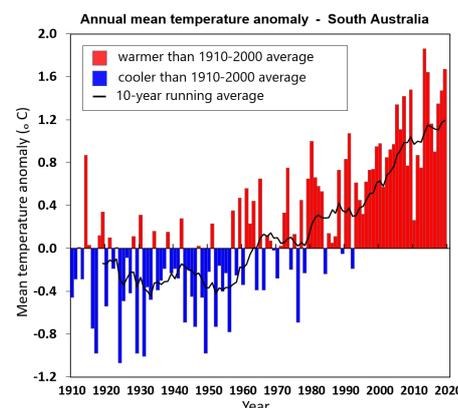
**The condition is rated as fair. Overall, changes in temperature across South Australia since the 1970s have been manageable.**

Parts of the state, particularly in the hot and arid north-east, now experience a higher frequency of very hot daytime and night-time temperatures during summer.

In Adelaide, the frequency of days over 40 °C in the past 10 years has more than doubled compared with the period 1977–2009. Since 1990, South Australia has experienced only one year with a mean temperature below the mean annual temperature of the 20th century (bottom figure).



**Average annual temperatures have increased across the state in the past 40 years, especially in the arid north-east.**



### Why is climate 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 effect of a rise in average temperatures is an increase in the occurrence of severe heatwaves, which are associated with increased mortalities in humans and some fauna species.

### 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 South Australian Government 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, climate change science and information, land-use planning reforms, climate-related hazard risk reduction, coastal protection, greening to cool urban environments, circular economy initiatives, and regional adaptation projects. More information can be found on the Climate Smart South Australia website.

For further information, see [Technical information](#)

