Climate

Temperature

South Australia's
Environmental trend and condition report card 2018

STATEWIDE

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) variability and change trend maps. These are based on observed temperature data from BoM monitoring stations across Australia.

The average annual temperature across the state is now approximately 0.8 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 South East Natural Resources Management (NRM) Region have seen the lowest increases (top figure).

The highest rate of increase in temperature is observed in the South Australian Arid Lands (SAAL) NRM Region, adding up to 1.5 °C to mean annual temperatures over the past 47 years in what was already the warmest part of South Australia.

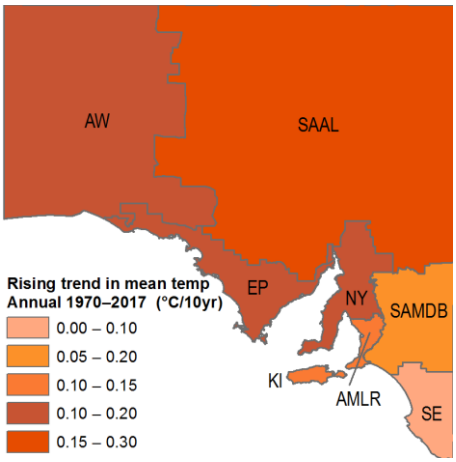
Condition

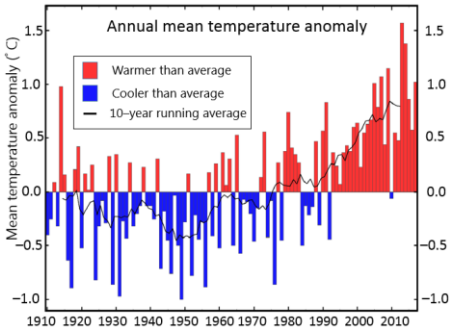
The condition is rated as fair. Overall changes in temperature across South Australia since the 1970s have been manageable.

Communities and industries, 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 1977–2007. Since 1992, South Australia has experienced only one year with a mean temperature below the mean annual temperature of 1961–1990 (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, they must either adapt, migrate, transform or decline.

What are the pressures?

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?

BoM and other science agencies use a range of air, land and marine sensors to track climatic trends across Australia. BoM's Australian Climate Observations Reference Network – Surface Air Temperature dataset is based on a network of more than 100 stations.

The BoM's biennial State of the Climate report draws on the latest monitoring, science and projection information to describe variability and changes in Australia's climate (including temperature), and how it is likely to change in the future.

For further information see: technical information

Government of South Australia