2014 Regional Snapshot

How good is the scientific understanding of the causes and consequences of climate change?

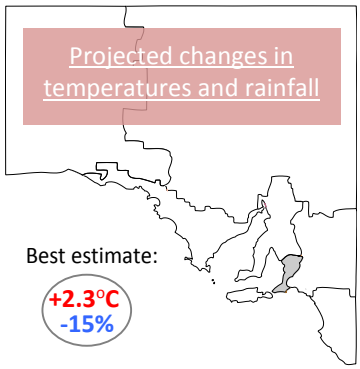
In 2012–13, Australia experienced its hottest summer, hottest month, hottest day and longest heatwave. In the same year, atmospheric carbon approached 400 parts per million – 40 per cent higher than 100 years ago and a level not seen for millions of years.

In the Adelaide and Mount Lofty Ranges NRM region, average temperatures are projected to increase by 1.3–2.8 degrees Celsius by 2070 (map on right). We can also expect longer and hotter heat-waves, which will result in increased heat-related illness, hospital admittance and mortality rates.

Rainfall is projected to decrease in the region by 0–30 per cent by 2070 (map on right). Without careful planning this will affect our drinking water supplies and our primary industries. Increasing temperatures and decreasing rainfall are likely to degrade the habitats of some native plants and animals and improve conditions for some pest animals and weeds.

Sea levels around the Adelaide and Mount Lofty Ranges NRM region have been rising by almost 5 millimetres each year. By 2100, sea levels could be 1.1 metres higher than in 1990. Port Adelaide Enfield and Charles Sturt area alone estimates that 14,000–24,000 residential buildings, 550–1300 commercial and industrial buildings and over 300km of roads would be at risk of inundation.

This report summarises research by the Australian Bureau of Meteorology, the Government of South Australia, the Australian Government and the Intergovernmental Panel on Climate Change. The views of the South Australian public are addressed in a separate report.



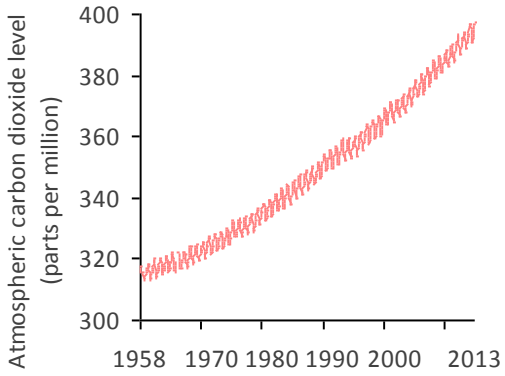
State target

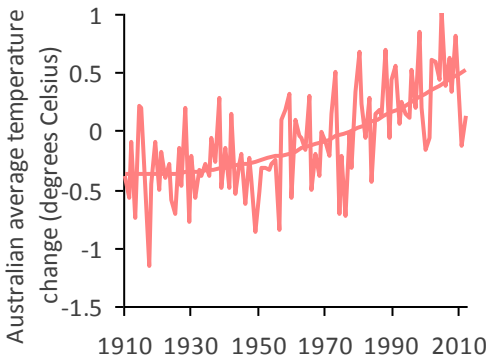
Improve capacity of individuals and community to respond to climate change

Trend (1990–2013)	Getting better	Scientific understanding of the causes and the projected impacts of climate change is improving

Scientific understanding of climate change is improving, and increased data is resulting in increased certainty in projections of changes and impacts.

Observations of rising atmospheric carbon and temperatures contribute to improving the understanding climate change (graphs on right).





Where we are at (2013)	Good	Research is focused on understanding the consequences of climate change to help us plan and adapt

The warming of the climate is unequivocal and human influence on the climate system is clear. Research is currently focused on improving our understanding of the consequences of climate change to help plan for potential impacts and help us adapt.

Policies, such as those under the Climate Change Adaptation Framework, are being developed to help South Australians prepare for the projected changes to our climate.

Reliability of information	★★★★★	Excellent

Further information: Technical information for this report, Bureau of Meteorology data and information on Climate Change

This report is a work in progress. As resource monitoring improves, so too will our ability to describe trends in condition.

Government of South Australia