



# Monitoring Australia's Changing Climate

Australia's climate is changing. According to the Bureau of Meteorology's historical records, temperatures have risen, heatwaves become more frequent, and frosts and cold days less common. Rainfall patterns have changed too – the northwest has become wetter, while much of the east and far southwest is now drier.

## A consistent pattern of warming

Since 1910 the average temperature of Australia has risen by about 1°C, with less warming in parts of the southeast and more warming over the continental interior. Overnight temperatures have increased more than daytime temperatures. Annual mean temperatures have been predominantly above average since 1980. There has also been an overall increase in the frequency of hot days and hot nights, and a reduction in the frequency of cold days and cold nights.

## Contrasting changes in rainfall patterns

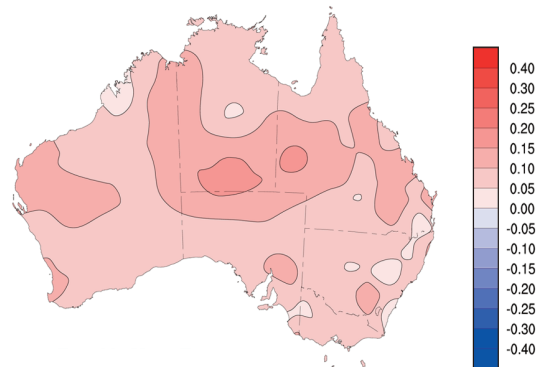
Australian rainfall is highly variable, with rainfall trends sensitive to the period over which they are determined. Rainfall trends from 1900 show weak increases over most of the continent. Trends since 1950 are much stronger, with northwest Australia having seen a large increase in rainfall while the eastern third of Australia and the far southwest have experienced substantial declines over this time.

## Finding a human fingerprint

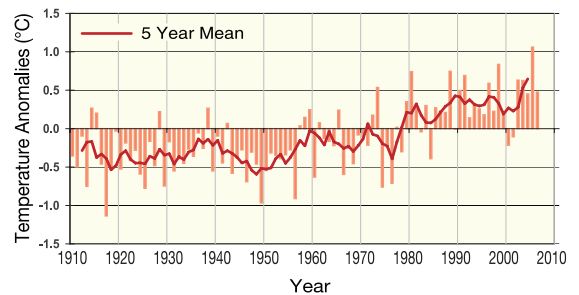
Comparisons between observed and computer simulations of warming in Australia have led scientists to the conclusion that warming over Australia can be largely attributed to the enhanced greenhouse effect. There is also evidence suggesting that some of the rainfall trends in Australia are the result of human factors, but this evidence is less robust than for temperature increases.

Find out more with the Bureau of Meteorology's climate change tracker:

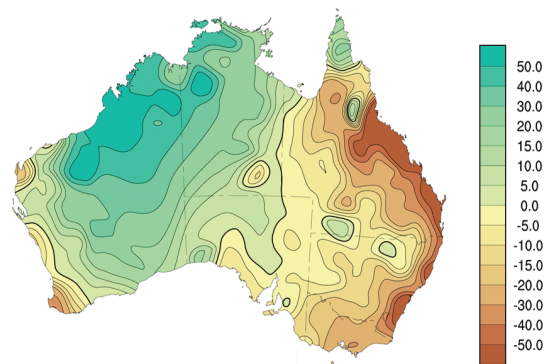
[www.bom.gov.au/climate/change](http://www.bom.gov.au/climate/change)



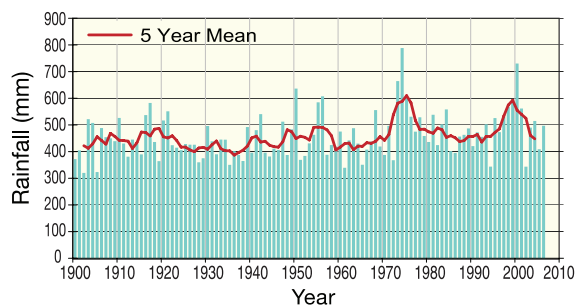
Map of trends in annual mean temperature (°C/10 years), 1910-2006.



Time-series of Australian mean annual temperature anomalies, 1910-2006, with respect to 1961-1990 normal.



Map of trends in annual total rainfall (mm/year), 1950-2006.



Time-series of Australian mean annual rainfall, 1900-2006.