

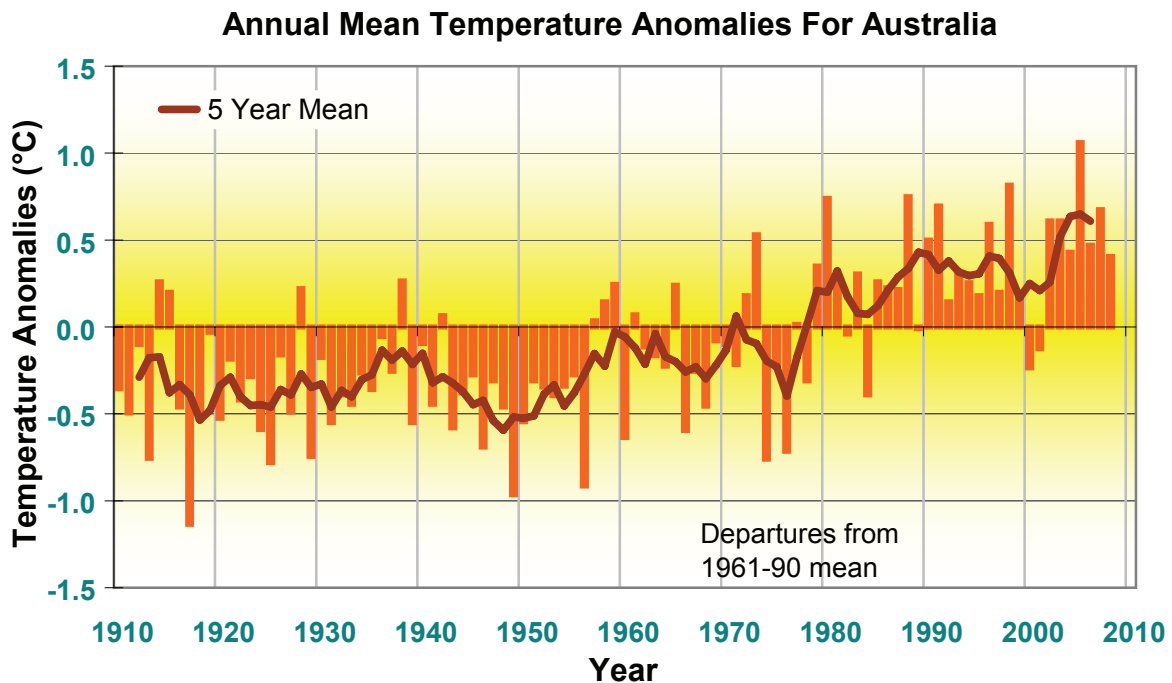
1. Overview

A warmer than average year

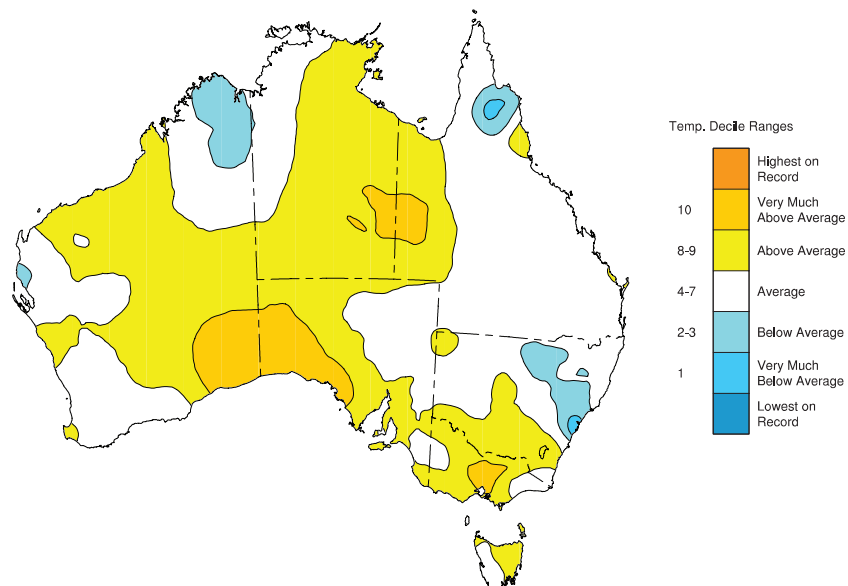
Data collected by the Bureau of Meteorology indicate that, overall, Australia's annual mean temperature for 2008 was 0.41°C above the standard 1961-90 average, making it the nation's fourteenth warmest year since comparable records began in 1910.

Most regions were warmer than average, apart from Queensland, northeast NSW and the Kimberley in WA. Particularly high temperatures were recorded across inland WA and the NT in January, as well as western Victoria and southern SA in March, with a record-breaking heatwave during the first half of the month. Conversely, cool temperatures were recorded in southeast Australia during February and again in April, across most of the country in August, and across the southwest during November.

Australia's mean temperature for 2008 was slightly lower than that recorded for the previous six years, partly due to a La Niña event that developed in late 2007 and continued into early 2008. Despite the cooling effect of La Niña, Australia has now recorded seven consecutive warmer-than-average years. In line with the rest of the globe, Australia has experienced a background warming of about 0.9°C over the last century.



(Above) Australian annual mean temperature anomalies (from 1961-90 average) since 1910 and (below) 2008 mean temperatures compared against historical temperature records.

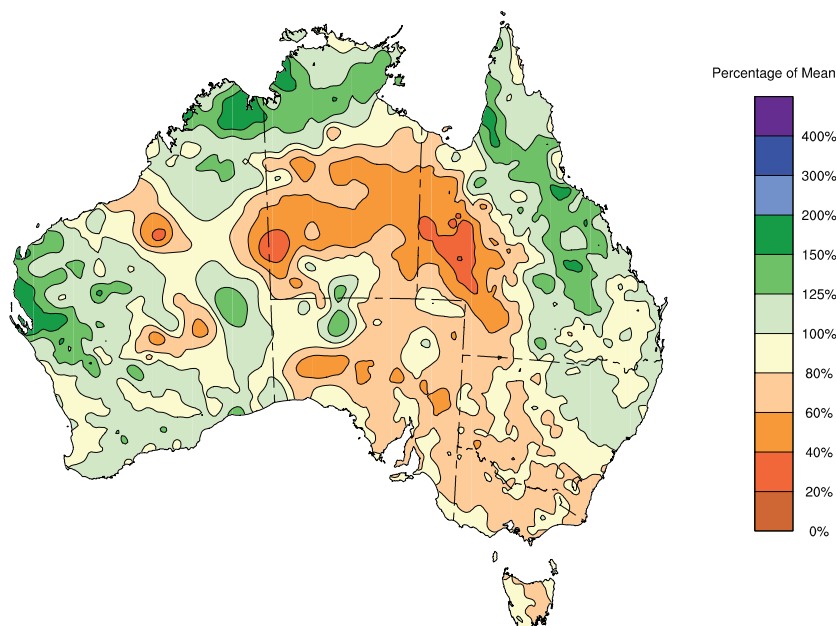
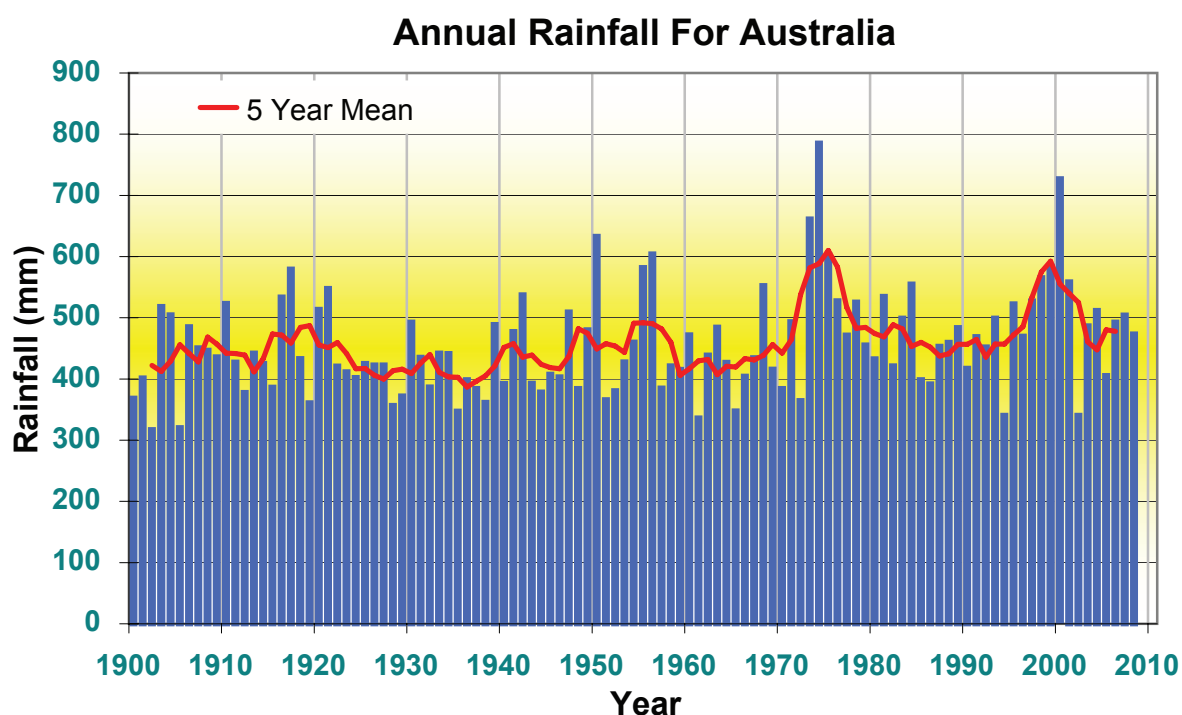


On 16th December 2008, the World Meteorological Organization (WMO) indicated that the global mean temperature was also higher than normal during 2008 (about 0.31°C above average), making 2008 the globe's tenth warmest year on record. It is now 23 years since the globe has experienced a cooler than average year.

Some useful rain but many miss out

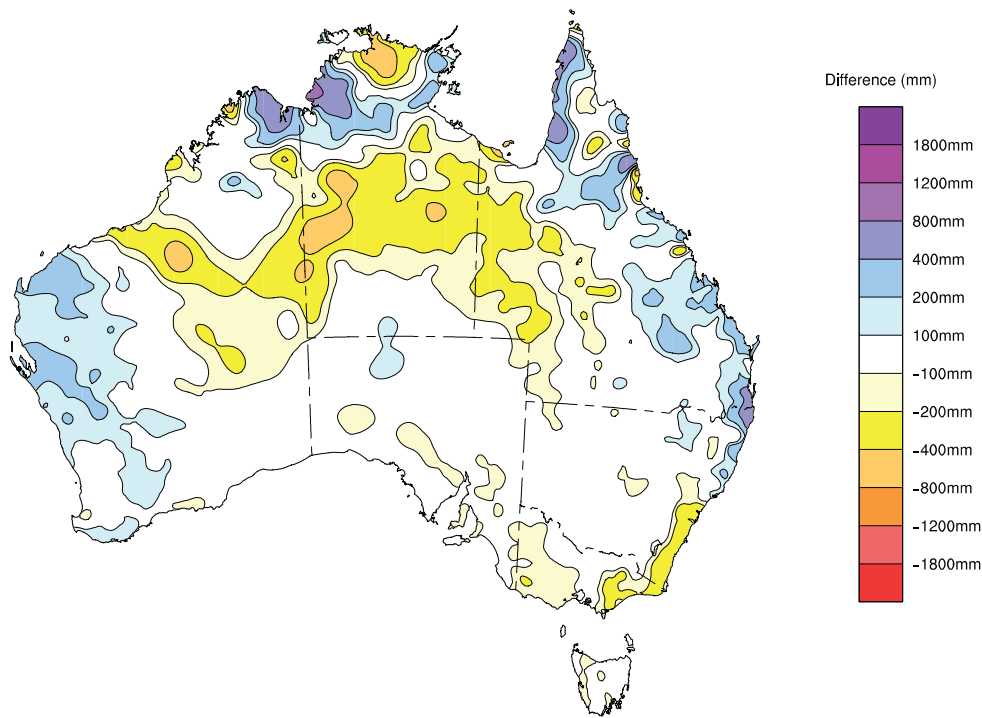
Based on the latest data, the overall Australian mean rainfall total for 2008 was 474 mm, very close to the long-term average of 472 mm. The La Niña conditions that developed during 2007 resulted in a wet start to 2008 across the Top End and most of eastern Australia. However, the event weakened during autumn and much-anticipated autumn rains generally failed. It was the second driest autumn on record across southern Australia. Winter rains were mixed, while spring opened with well-below average September-October rains across most of the southeast.

Lack of rainfall during 2008 exacerbated the long dry spell in the southeast (including Tasmania). Across much of Victoria and adjacent areas of eastern SA and southern NSW rainfall has been below average for most of the past twelve years. Accumulated deficits in southeastern Australia now amount to more than one year's average rainfall since 1997, making it one of the most severe hydrological droughts in the nation's history. Inflows into the Murray-Darling Basin (MDB) have been close to historic minimums for well over a year.



2008 rainfall compared with the 1961-1990 annual average.

Compared with 2007, 2008 was wetter along the east coast north of about Newcastle (NSW), over much of the north of the NT and the adjacent northern Kimberley, as well as the west of WA. The year was much drier in a wide band across the tropics from the interior of WA across central NT to central Queensland. In addition 2008 was drier than 2007 across much of Victoria, especially the east, which was part of a band of significantly lower falls extending along the NSW coast and tablelands to near Sydney. Averaged over the MDB, 2008 rainfall was about 23 mm lower than in 2007.



This map shows the difference between the 2008 and 2007 annual rainfall totals. The areas shaded blue and purple were wetter in 2008, while those shaded in yellow and orange were drier.

Capital city statistics (inside back cover) show that nearly all had warmer than average days (Sydney was right on average), although departures from average were all less than 1°C; Melbourne's +0.9°C was the highest. Minima at the capitals were evenly split between being warmer or cooler than normal, with the largest anomaly being 0.6°C below average at Brisbane. The temperature extremes for the year were 42.1°C at Adelaide on 10th January and -5.3°C at Canberra on 19th August. In Sydney, the temperature reached 35.0°C only once – and that was in October! The only centres that were wetter than average were Darwin and Brisbane, but Perth was just 12 mm short of its normal. For the third successive year Melbourne's annual rainfall was ranked in the driest 10% of the record (decile 1); Hobart was also in decile 1 in 2008. On the other hand, Darwin was the wettest capital in both relative (decile 9) and absolute terms (1963 mm), while Adelaide (402 mm) was the driest. Sydney recorded the most rain days (143) and Canberra had the fewest (91).

	Rainfall (mm)			Maximum Temperature (°C)			Minimum Temperature (°C)		
	2008 total	Normal	Rank (of 109)	2008 anomaly	Normal	Rank (of 99)	2008 anomaly	Normal	Rank (of 99)
Australia	474	472	69 th	+0.52	28.55	87 th	+0.29	15.07	80 th
New South Wales/A.C.T.	523	566	56 th	+0.30	23.91	66 th	+0.11	10.75	70 th
Northern Territory	537	548	65 th	+0.88	31.88	90 th	+0.64	18.45	86 th
Queensland	670	630	72 nd	+0.18	29.86	52 nd	+0.16	16.57	72 nd
South Australia	188	236	38 th	+0.74	26.71	89 th	+0.34	12.20	79 th
Tasmania	990	1168	18 th	+0.15	14.71	72 nd	+0.11	5.99	80 th
Victoria	504	654	15 th	+0.58	19.86	89 th	+0.26	8.34	83 rd
Western Australia	385	352	76 th	+0.55	29.27	87 th	+0.24	15.66	81 st

Summary of 2008 mean rainfall and temperatures for Australia and States/Territories. Normal values are calculated using 1961-90 averages. Ranks are from highest to lowest. Mean annual temperatures can be calculated from the average of mean maximum and mean minimum temperatures.