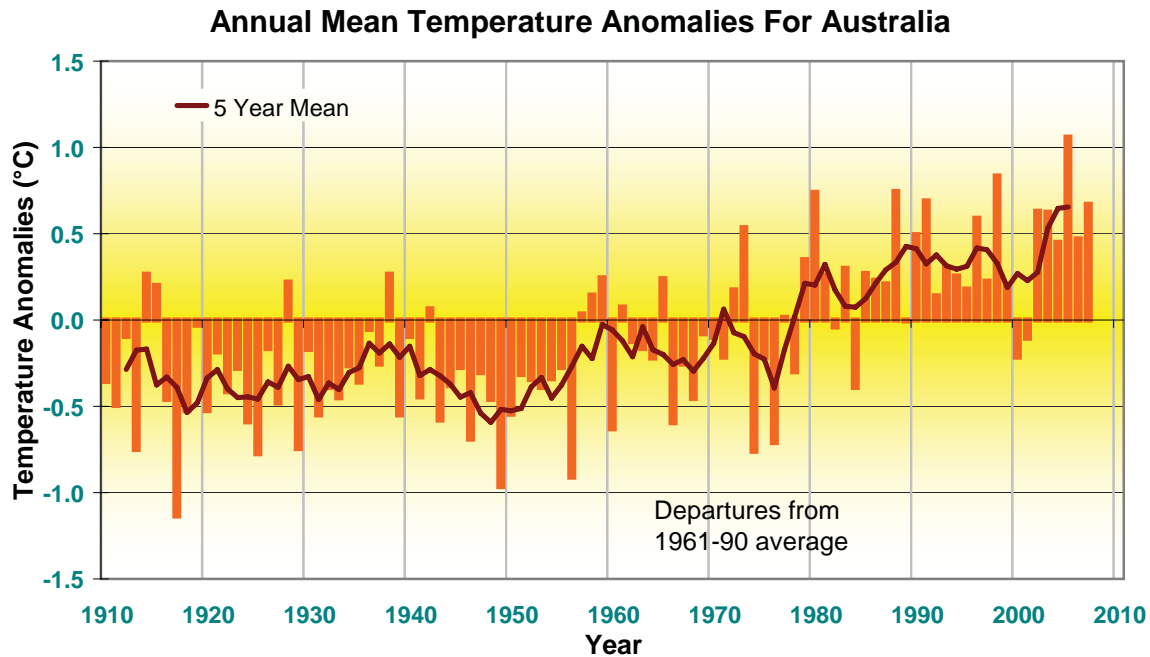


# 1. Overview

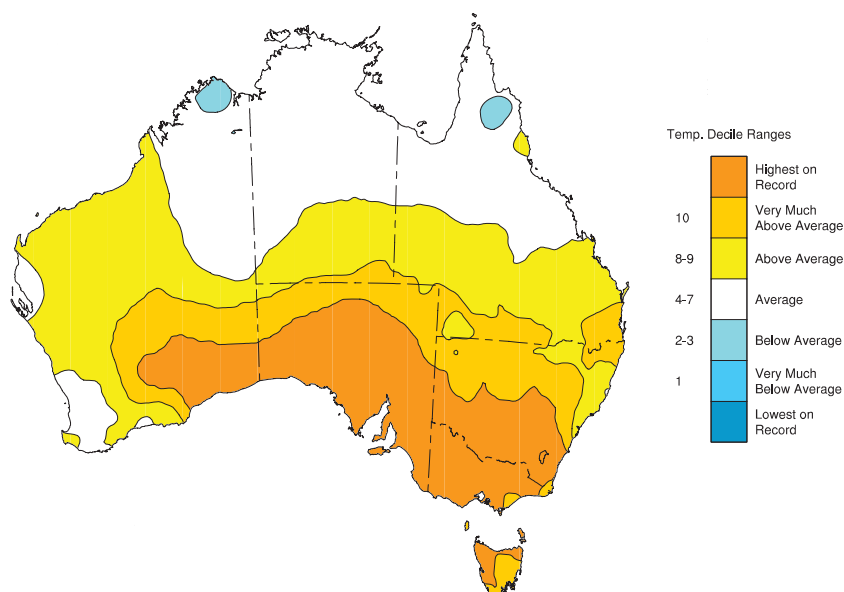
## Record warmth across the south

Data collected by the Bureau of Meteorology indicate that Australia's annual mean temperature for 2007 was 0.67°C above the standard 1961-90 average, making it the nation's sixth warmest year since comparable records began in 1910. Mean temperatures were above average across Australia during every month except June and December.

Cool temperatures during June were a result of highly unusual heavy rains over northern Australia, and a series of low pressure systems, including one which caused extensive flooding around Newcastle. Record high temperatures were observed in the west during February, in the east during May, and across parts of the south during November. Overall, annual mean temperatures were close to average across the north, while most of the south recorded its warmest year on record. The Murray-Darling Basin, South Australia, New South Wales and Victoria each recorded their warmest year on record.



(Above) Australian annual mean temperature anomalies (from 1961-90 average) since 1910 and (below) 2007 mean temperatures compared against historical temperature records.



2007 Mean Temperature Deciles

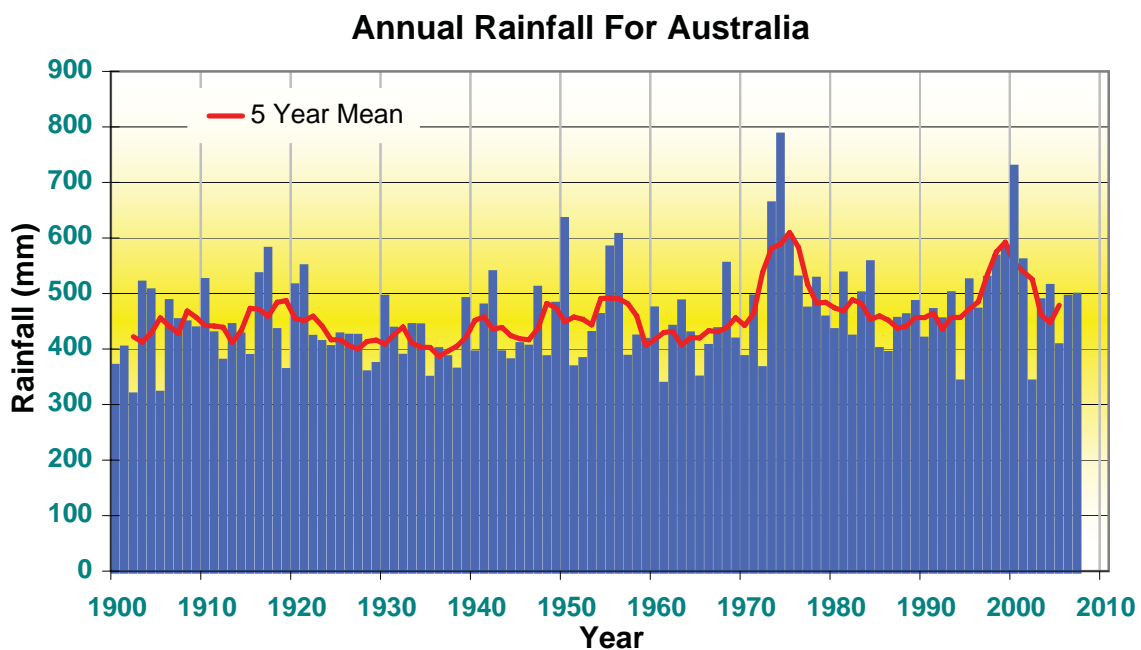
In sixteen of the past eighteen years, Australia's annual mean temperature has been higher than normal. This pattern is not surprising, given that Australia's climate is warming in line with the rest of the globe. The World Meteorological Organization (WMO) stated on 13<sup>th</sup> December 2007 that the global mean temperature for 2007 was about 0.41°C above average, making 2007 the globe's seventh warmest year since records commenced in 1850.

There is an overwhelming view from climate scientists contributing to the assessments of the Intergovernmental Panel on Climate Change (IPCC) that most of the global and Australian warming over the last 50 years is directly attributable to human emissions of greenhouse gases.

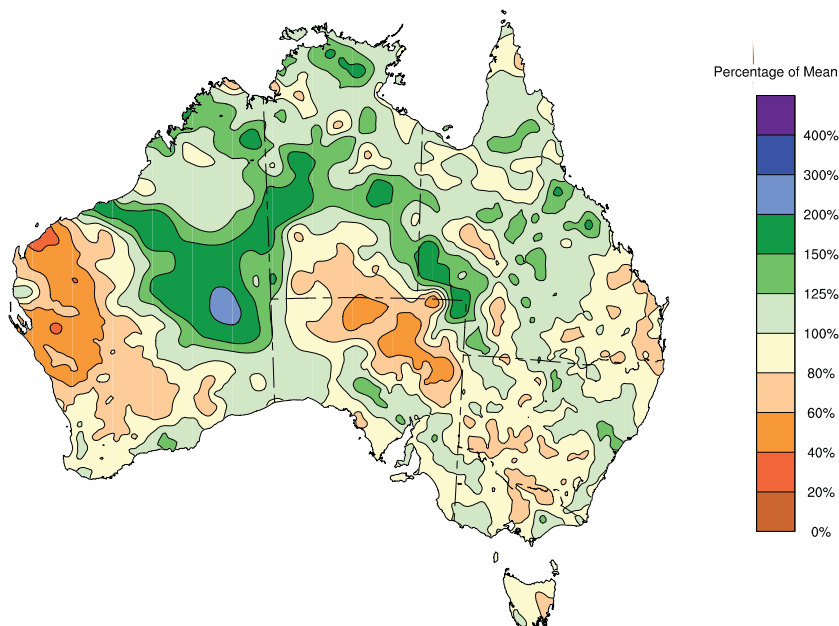
## A late-developing La Niña fails to deliver

Based on preliminary data, the Australian mean rainfall total for 2007 was 497 mm, slightly more than the long-term average of 472 mm. La Niña conditions developed in the tropical Pacific Ocean during 2007. Such conditions are usually, but not always, associated with above-average rainfall across much of Australia. However, the 2007 La Niña event was slow to develop and its influence during winter and spring was confounded by a counter influence from the Indian Ocean.

Despite some promising rains during the first half of the year, July to October was particularly dry across the south, with widespread above-average rainfall not returning until November. Overall, rainfall was average to above average across northern and central Australia and average to below average in the southwest, with mixed outcomes in the southeast. Patchy rainfall across southern Australia meant that long-term droughts persisted in the far southwest and in the southeast, including the Murray-Darling Basin, all of Victoria and northern Tasmania.

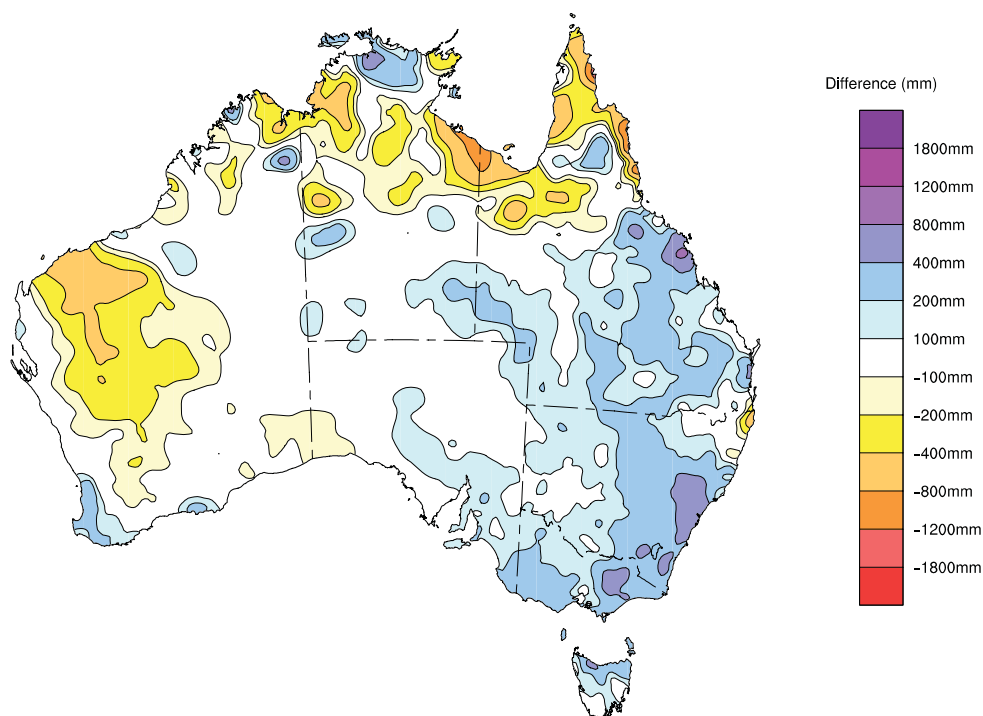


(Above) Australian annual mean rainfall (mm) since 1900 and (below) 2007 rainfall compared against historical rainfall records.



2007 rainfall compared with the 1961-1990 annual average.

Southeastern Australia has been deprived of the equivalent of an average year's rainfall over the past eleven years, making the current drought one of Australia's most severe on record; comparable with the Federation drought in terms of rainfall deficiencies. However, the latest drought is notable for its record high temperatures and record low inflows to water storages. Compared with 2006, 2007 was wetter over most of eastern Australia, with much of the Murray-Darling Basin receiving between 200 and 800 mm more rain. In contrast, far north Queensland was generally drier than the previous year, as was much of the northern NT, together parts of WA (most notably northwestern and inland areas).



*This map shows the difference between the 2007 and 2006 annual rainfall totals. The areas shaded blue and purple were wetter in 2007, while those shaded in yellow and orange were drier.*

Capital city statistics (inside back cover) show that nearly all had warmer than average days (Perth was right on average). Both Adelaide and Melbourne had their highest annual mean maxima on record. Minima at the capitals also tended to be warmer than normal; slight negative anomalies at Perth and Darwin were the exceptions. Melbourne also had its highest annual mean minimum on record, making 2007 by far the warmest year recorded there. Record warm nights also contributed to Canberra having its warmest annual mean temperature on record; the fourth successive year that the national capital has re-set this record! The temperature extremes for the year were 44.2°C at Perth on 26<sup>th</sup> December (Perth's hottest-ever December day) and -4.7°C at Canberra on 17<sup>th</sup> July. Darwin and Sydney were the only wetter than average centres; Sydney significantly so, being in decile 9. In contrast Brisbane's and Melbourne's annual rainfall amounts were ranked in the driest 10% of the record (decile 1), although Brisbane had the highest number of rain days (139). In absolute terms Darwin was the wettest centre (1808 mm), while Melbourne was the driest (449 mm).

	Rainfall (mm)			Maximum Temperature (°C)			Minimum Temperature (°C)		
	2007 total	Normal	Rank (of 108)	2007 anomaly	Normal	Rank (of 98)	2007 anomaly	Normal	Rank (of 98)
Australia	497	472	30 <sup>th</sup>	+0.73	28.55	5 <sup>th</sup>	+0.61	15.07	5 <sup>th</sup>
New South Wales/A.C.T.	543	566	44 <sup>th</sup>	+1.15	23.91	8 <sup>th</sup>	+1.11	10.75	2 <sup>nd</sup>
Northern Territory	643	548	17 <sup>th</sup>	+0.39	31.88	26 <sup>th</sup>	+0.55	18.45	14 <sup>th</sup>
Queensland	656	630	40 <sup>th</sup>	+0.23	29.86	41 <sup>st</sup>	+0.73	16.57	9 <sup>th</sup>
South Australia	215	236	51 <sup>st</sup>	+1.36	26.71	2 <sup>nd</sup>	+0.81	12.20	2 <sup>nd</sup>
Tasmania	1042	1168	80 <sup>th</sup>	+0.85	14.71	3 <sup>rd</sup>	+0.70	5.99	2 <sup>nd</sup>
Victoria	612	654	67 <sup>th</sup>	+1.35	19.86	1 <sup>st</sup>	+1.01	8.34	1 <sup>st</sup>
Western Australia	382	352	34 <sup>th</sup>	+0.82	29.27	6 <sup>th</sup>	+0.28	15.66	15 <sup>th</sup>

*Summary of 2007 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.*