29th February: Severe tropical cyclone Monty off the northwest coast of Western Australia. This storm had maximum sustained winds of 95 knots (176 km/h) and crossed the coast on 1st March near Mardie station. The image was captured by a NASA polar orbiting satellite.
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Drought, Dust and Deluge serves as both an exciting read and an historical record of the meteorological events that shaped the perception of Australian Weather and Climate. Beautifully illustrated, with fascinating facts, figures, diagrams and photos, Drought, Dust and Deluge is the perfect gift for any weather or nature enthusiast! Call (03) 9669 4312 to order a copy or visit: <www.bom.gov.au/climate/environment/drought-dust-deluge.shtml>.

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1. Overview

Australia in 2004 again experienced warmer than normal conditions across most of the country. Preliminary data indicate that the all-Australian annual mean temperature for 2004 was 0.45°C above the 1961-90 long-term average, making it the tenth warmest year since 1910, when reliable Australia-wide climate records became available. Daytime temperatures contributed more of the anomalous warmth than overnight temperatures: the annual mean maximum temperature was 0.51°C above normal (tenth highest), and the mean minimum temperature 0.39°C above normal (eleventh highest). The annual values were boosted by several extensive warm spells, including an exceptional two-week heat-wave during February, which affected a large proportion of the continent and resulted in many new temperature records, and warm periods in eastern Australia during September and October.

Australian mean temperatures are calculated from a country-wide network of about 100 high-quality, mostly rural, observing stations that have been corrected for any artificial discontinuities caused by changes in instrumentation and location. Many of these sites are included in Australia's contribution to the Global Climate Observing System - a comprehensive, world-wide network of meteorological stations for monitoring long-term climate trends and variability.

The general rise in Australian temperatures during the second half of the 20th century is in line with global warming trends. According to a preliminary estimate released by the World Meteorological Organization (WMO) on 15th December 2004, the global mean temperature for 2004 was about 0.44°C above normal, making it the fourth warmest year since records commenced in 1861.
Preliminary data indicate that the average rainfall throughout Australia for 2004 was 513 mm, which is higher than the long-term average of 472 mm, and above the 2003 value of 487 mm. Rainfall patterns were far from uniform, however, with much of the western half of the country (apart from southwest WA) receiving above average rainfall for the year. Some parts of the interior of WA recorded more than twice their long-term average, while at the other extreme several patches in Queensland, NSW, SA, the NT and western WA registered annual totals between 40 and 60% of average. The northern wet season was particularly active during January to March, with heavy rains occasionally associated with flooding, particularly in inland Queensland and northern New South Wales around mid-January, and in the Northern Territory in February and March.

Despite good rainfall throughout southeast Australia in November and December, the annual totals across this region were mostly below normal. Consequently, 2004 rainfall has failed to alleviate the long-term deficiencies characterising rainfall patterns over much of southeast Australia in recent years. Some recording stations have now experienced an unprecedented eight consecutive years of below average rainfall.
In comparison with 2003, the main differences were situated in the north of the country with much of Queensland and northern WA having a wetter year in 2004, while large parts of the northern NT received less rain than the very wet year of 2003. Australia's area-averaged rainfall is calculated from a network of around 5000 rainfall stations, most of which are staffed by volunteer observers.

Observations averaged over the total area of each State reveal that, when compared to normal, Western Australia was the wettest State, while Victoria was the driest. New South Wales had the highest departures from normal daytime temperatures and South Australia had the highest departures from normal overnight temperatures in 2004.

Capital city statistics (inside back cover) show that, with the exception of Hobart and Perth, all recorded maximum temperatures above the long term average. Sydney had its warmest year on record, although the greatest departure from average occurred in Brisbane. The driest capital was Canberra where only 435 mm of rain fell on 84 days, whereas in Darwin nearly 1800 mm fell on 112 days. Hobart registered the highest number of rain days with 146.

<table>
<thead>
<tr>
<th></th>
<th>Rainfall (mm)</th>
<th>Maximum Temperature (°C)</th>
<th>Minimum Temperature (°C)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>2004 total</td>
<td>Normal</td>
<td>Rank (of 105)</td>
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<tr>
<td>Australia</td>
<td>513</td>
<td>472</td>
<td>25th</td>
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<tr>
<td>New South Wales/A.C.T.</td>
<td>499</td>
<td>566</td>
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<td>Northern Territory</td>
<td>644</td>
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<td>Queensland</td>
<td>624</td>
<td>630</td>
<td>48th</td>
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<tr>
<td>South Australia</td>
<td>216</td>
<td>236</td>
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<tr>
<td>Tasmania</td>
<td>1226</td>
<td>1168</td>
<td>32nd</td>
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<tr>
<td>Victoria</td>
<td>582</td>
<td>654</td>
<td>74th</td>
</tr>
<tr>
<td>Western Australia</td>
<td>464</td>
<td>352</td>
<td>12th</td>
</tr>
</tbody>
</table>

Summary of 2004 mean rainfall and temperatures for Australia and States/Territories. Normal values are calculated using 1961-90 averages. Ranks are from highest to lowest.

This map shows the difference between the 2004 and 2003 annual rainfall totals. The areas shaded blue and purple were wetter in 2004, while those shaded in yellow and orange were drier.
Positive departures outweighed negative ones in all months except May, and were especially widespread in April, June and October. Areas of negative anomalies were more common in the north and/or west of the country, and along the southern coast. The strongest positive departures occurred in February (NSW, SA) and October (WA), while the peak negative anomalies occurred in each of January (WA, SA, Vic.), February (NT, WA) and March (WA). October and May were the most anomalously warm and cool months respectively with Australia-wide anomalies of +2.1°C and –0.3°C.
3. Monthly minimum temperatures - January to December 2004

Warmer than average conditions were more prominent than negative departures, but not to the same extent as with maximum temperatures. The Australia-wide anomaly was positive in each month with the exception of May, August and September, all of which had patches with the strongest negative departure of −4 to −5°C. The highest positive departure of +3 to +4°C occurred in several months. Averaged over Australia, the peak positive and negative departures were +1.2°C in October and −0.5°C in August.
Minimum Temperature: Departures from average (°C)
(Based on a 30 year mean calculated from 1961-1990)
4. Monthly distribution of rainfall deciles - January to December 2004

The period from January to May was characterized by large areas with above to very much above, and in some cases record rainfall, particularly in northern and central parts. Large regions in Queensland and/or NSW recorded below to very much below average monthly falls between March and August, and also in October. A similar situation prevailed in southwest WA between April and October, except for the months of June and August. Falls were generally below average in the southeast of the continent from January to May, but average to above average thereafter, except in October.
Monthly distribution of Rainfall deciles
(Based on a 105 year climatology of gridded fields from 1900-2004)
5. Monthly rainfall totals - January to December 2004

Heavy monsoon falls dominated the north of the country from January to March, and to a lesser extent in December. The highest monthly amounts exceeded 800 mm in February and especially in March when the area between Tully and Cooktown received saturating rains. Western Tasmania recorded totals over 400 mm between May and July, while parts of the southeast Queensland and NSW coasts had over 300 mm in February, March, October and November. As is typical of the "dry season", rainfall across northern and/or central Australia was below 1 mm between June and September.
Monthly rainfall totals (mm)

July
August
September
October
November
December

1 5 10 25 50 100 200 300 400 600 800
Distribution of 2004 Annual Rainfall Deciles (based on a 105 year climatology of gridded fields from 1900-2004)

Distribution of 2004 Annual Rainfall Totals
6. Significant Events

Heatwaves: Very hot weather affected far southwest Queensland, northern SA and the far northwest corner of NSW during the first week of January. The mercury climbed to 45°C or higher on six days at Birdsville, with a January record 48.5°C set on both the 5th and 6th. Oodnadatta equalled an Australian record (later broken in February), with minimum temperatures remaining above 30°C on seven consecutive nights (1st to 7th).

An exceptional heatwave affected much of eastern to central Australia for the fortnight from the 9th to 22nd February. The spatial and temporal extent of the heatwave was greater than that of any other February heatwave on record, and ranked among the top five Australian heatwaves for any month, being just short of the January 1939 event but comparable with those of January 2001, January 1982, and December 1972/January 1973.

Record February temperatures were set at more than 100 stations in SA, NSW, southern Queensland and northern Victoria. New state February records were established in NSW (48.5°C at Ivanhoe on 15th) and Victoria (46.7°C at Ouyen on 14th), while the SA record (47.9°C at Marree on 16th) was equalled. February records were set at Adelaide (44.3°C on 14th) and Brisbane (41.7°C on 22nd), which were the highest temperatures in any month in these two cities since 1939 and 1940 respectively. Overnight temperatures were also very high in many places, with Oodnadatta setting a new Australian record by failing to drop below 30°C on nine consecutive nights between the 12th and 20th.

In some areas the length of the heatwave exceeded that of the record Australian heat event of January 1939. New all-time records for consecutive days of heat include 17 days over 30°C at Adelaide, 16 days over 35°C at Snowtown, 16 days over 40°C at Wilcannia, 7 days over 35°C at Bathurst and 12 days over 35°C at Wagga Wagga.

Two notable spring heatwaves occurred in eastern Australia, one from the 27th to 29th September, and one from the 11th to 13th October. The September event mostly affected inland NSW, with a state record for September set on the 29th (39.6°C at Wanaaring). The October event was more widespread, with monthly records set at 34 locations in NSW, Victoria and SA. This included a Sydney October record of 38.2°C on the 13th, and a Victorian state record of 40.2°C at both Mildura and Walpeup on the 12th. This was the third state monthly record set in Victoria in a 13-month period.

Drought: There were two main episodes of short-term drought in 2004. Firstly, the effects hot and dry weather in January and February across inland southeastern Australia were compounded by a failure of the autumn rains. By the end of May, 5-month rainfall deficiencies were widespread in northern Victoria, southern NSW and southern SA, with several small patches of lowest on record falls. This marked the peak of the deficiencies, which thereafter dwindled slowly in intensity and extent as near-average rain fell across the area in both winter and spring. One exception was the ACT and adjacent areas in NSW where conditions continued to worsen during winter. For example, Canberra's January to July total of only 106 mm, was 69% below the long-term average and the second lowest on record for the period. Deficiencies were finally removed by the end of the year in this region.

The second, and arguably more severe event, began in April and affected the east coast and ranges from the NSW/Victoria border northwards to central Queensland (including the Central Highlands), and parts of WA's southwest corner. Winter rainfall was particularly suppressed in Queensland, with decile 1 falls covering much of the eastern half the state. This resulted in a winter state-wide average rainfall of only 13.9 mm, the fifth driest on record since 1900. By the end of September, record low 6-month totals had occurred in two areas of the NSW coast; in the far north approaching the Queensland border and in the district around Gosford. Relief came to NSW and the far southeast of Queensland during October. Heavy rains with local flooding fell in the third week, with the central and mid-north coasts being hardest hit. The heaviest falls for the period from the 15th to 21st October were 384 mm at Bowra Sugarloaf, 348 mm at Old Bar and 333 mm at Tweed Heads. Further good falls in November and December removed most of the remaining deficiencies in Queensland, but WA remained affected.
Gold Coast.

Floods: Widespread flooding occurred across inland Queensland and parts of northern NSW in mid-January. Falls for the week from the 11th to 17th January exceeded 100 mm over a broad belt extending from Mt Isa to southeast Queensland and into northern inland NSW. Some places recorded over 300 mm and major flooding occurred in ten western Queensland river basins, as well as on the Gwydir River in NSW. The Gregory River (southern Gulf) reached its highest level on record and the Bulloo, downstream of Quilpie, reached its highest level since the early 1970s.

Torrential rain and subsequent flooding affected northeast Tasmania from the 28th to 30th January. Falls in the 100-300 mm range were commonplace with Gray receiving 486 mm, the second highest 3-day total on record for Tasmania. This led to major flooding in the South Esk basin, the failure of a dam near St. Helens, many road closures, and significant damage to oyster beds in Georges Bay (near St. Helens) as a result of flood inflows into the bay.

An active period in the monsoon between mid-February and early March caused unusually prolonged flooding in the northern part of the NT. The main road link between the NT and WA was cut at the Victoria River crossing for most of the three-week period. The worst flooding occurred around 4th March, as the remnants of tropical cyclone Evan moved over the Katherine area. Rain totalling 579 mm fell at Tindal, near Katherine, between 15th February and 3rd March, contributing about a quarter to its record wet-season (Oct-Apr) total of 2196 mm. This was more than double the average rainfall for the season and well in excess of the previous highest of 1405 mm recorded in 1997/98. The floods around Katherine were thought to be the highest in more than 100 years.

A low-pressure system of tropical origin moved across the coast of southern Queensland and northern NSW on 5th - 6th March, accompanied by high winds and very heavy rain that produced significant local flooding. Rainfall totals for the 24 hours exceeded 300 mm at a number of locations. Three deaths were attributed to flash flooding, and significant damage to trees and buildings, and widespread power outages occurred on both days. One person was killed by lightning at Gympie. Southern NT, 18th & 19th February: Long-lived squall lines affected large areas of the Alice Springs district from late afternoon on the 18th until early morning on the 19th causing flash flooding and severe wind gusts. A wind gust of 137 km/h was recorded at Kulgera. Eastern NSW, late October: The most significant event affected Muswellbrook on the afternoon of the 24th, with hail up to 9 cm in diameter. Significant damage occurred in the Muswellbrook district, with losses estimated at $10 million. Southeast Queensland, early November: Flash floods occurred on several days in association with heavy thunderstorms. Two people drowned in a car in a flooded creek near Biggenden, west of Bundaberg, on the 5th. At Gold Coast Seaway, storms produced 150 mm on the 7th followed by 147 mm on the 8th. Eastern Australia, 5th to 14th December: An unusually widespread and prolonged thundery period, with severe thunderstorms occurring over significant parts of the region on most days. Thunder was reported in Canberra on eight of the nine days from the 5th to 13th. Particularly damaging storms, with flash flooding, large hail, or both, occurred in Clermont (Qld) on the 6th, Murray Bridge (SA) on the 11th, and metropolitan Sydney and Brisbane on the 13th. Very heavy rain fell on the Gold Coast on the 8th, with 242 mm at Miami and 209 mm at Tweed Heads. Three deaths were attributed to flash flooding, and significant hail damage occurred to some fruit crops in NSW and Victoria. Narrabri West had 159 mm on the 10th, the highest daily fall in 74 years of records.

Severe Local Storms: There were many outbreaks of severe storms during the year, far too numerous to detail here. The more significant events are discussed in the following text, or shown on the map. Southeast Queensland, 24th to 31st January: A very stormy week, the worst days being the 28th and 30th. There was widespread damage to trees and buildings, and widespread power outages occurred on both days. One person was killed by lightning at Gympie. Southern NT, 18th & 19th February: Long-lived squall lines affected large areas of the Alice Springs district from late afternoon on the 18th until early morning on the 19th causing flash flooding and severe wind gusts. A wind gust of 137 km/h was recorded at Kulgera. Eastern NSW, late October: The most significant event affected Muswellbrook on the afternoon of the 24th, with hail up to 9 cm in diameter. Significant damage occurred in the Muswellbrook district, with losses estimated at $10 million. Southeast Queensland, early November: Flash floods occurred on several days in association with heavy thunderstorms. Two people drowned in a car in a flooded creek near Biggenden, west of Bundaberg, on the 5th. At Gold Coast Seaway, storms produced 150 mm on the 7th followed by 147 mm on the 8th. Eastern Australia, 5th to 14th December: An unusually widespread and prolonged thundery period, with severe thunderstorms occurring over significant parts of the region on most days. Thunder was reported in Canberra on eight of the nine days from the 5th to 13th. Particularly damaging storms, with flash flooding, large hail, or both, occurred in Clermont (Qld) on the 6th, Murray Bridge (SA) on the 11th, and metropolitan Sydney and Brisbane on the 13th. Very heavy rain fell on the Gold Coast on the 8th, with 242 mm at Miami and 209 mm at Tweed Heads. Three deaths were attributed to flash flooding, and significant hail damage occurred to some fruit crops in NSW and Victoria. Narrabri West had 159 mm on the 10th, the highest daily fall in 74 years of records.
A. Very dry April to Sept. along east coast and in southwest WA.
B. Canberra: Second driest January to July on record; only 106 mm (31% of average).
C. Drought eased/broken by heavy monsoon rains in Jan. Mt Isa (C1) had all-time high daily fall of 198 mm on the 15th. Quilpie (C2), had 175 mm in 12 hours on the 16th.

G. Heatwave in first week of January in central to inland eastern Australia. At Birdsville (G1) the temperature reached 45°C on 6 days, including a record 48.5°C on the 5th & 6th.

H. Record February heatwave in SA, NSW, southern Qld and northern Vic. Max. temps 5 to 10°C above average from the 9th to 22nd. State records for Feb. were set at Ouyen (H1), 46.7°C on the 14th, & Ivanhoe (H2), 48.5°C on the 15th. The SA record was equalled at Marree (H3), 47.9°C on the 16th.

I. Southern WA: widespread sub-zero temperatures on 11th & 12th Sept., including –4.5°C at Kellerberrin (I1), the second lowest ever in WA for Sept.

M. Southeast Queensland: Eight days with severe thunderstorms from the 24th to 31st Jan.

N. Moruya: High School closed for four days after severe hail damage on 2nd February.

O. Gunbower, 8th February: possible tornado - severe wind damage to trees & buildings. A 5 tonne truck was pushed 20 m into a channel.

P. Northern Rivers (NSW), 18th March: Severe thunderstorms with funnel clouds & winds over 100 km/h. A Murwillumbah storm spotter reported 89 mm in 20 mins.

Q. Central Arnhem Plateau, 25th March: A slow-moving thunderstorm gave 134 mm in 2 hours.

D. Gray: 486 mm 28th - 30th January was the second highest 3-day fall for any month in Tasmania.
E. Very dry from Jan. to May in southeastern Australia.
F. Unseasonably heavy rain in May/early June in far north of NT & WA: Gove Peninsula (F1), 19th May - Yirrkala (284 mm) & Airport (187 mm) were 2nd & 3rd highest daily falls respectively for any month; Darwin (F2), 2nd June - 49 mm broke old monthly record of 41 mm (1973).

J. Wanaaring: NSW September record of 39.6°C set on the 29th.
K. Unseasonably hot air moved across southeast and southern Australia from the 10th to 13th Oct. Victorian October record of 40.2°C set at Mildura (K1) & Walpeup (K2) on the 12th; October record of 38.2°C recorded in Sydney (K3) on the 13th.
L. Darwin: Record high Nov. temperature of 37.3°C on the 28th.

R. Southern Tasmania, 25th March: Severe wind gusts - 5 locations had gusts over 130 km/h. The highest was 178 km/h at Droughty Hill (R1).
S. Margaret River, 6th July: A tornado uproots trees, brings down power lines and blows over a 6 tonne container.
T. Mt Wellington, 21st August: Wind gust of 193 km/h, the second strongest recorded in Tasmania.
U. Kulgera, 29th September: Severe thunderstorm with golfball-sized hail & a tornado or funnel cloud. Winds estimated at 150 km/h.
V. Taroom, 27th October: Severe hailstorm with stones as large as tennis balls.
W. Severe thunderstorms widespread in east Aust. from 5th to 14th December.
7. Australian temperature and rainfall extremes for the year 2004
(Temperatures in degrees Celsius, rainfall in millimetres)

(Daily minimum temperatures & daily rainfall are for the 24 hours ending at 9 am on the date shown, daily maximum

<western-australia>
- **Highest daily maximum temperature**: 48.2°C at Nyang Station on 1st January and at Mandora on 19th December
- **Lowest daily minimum temperature**: −4.9°C at Eyre on 21st June
- **Highest average maximum temperature**: 35.7°C at Fitzroy Crossing
- **Lowest average minimum temperature**: 8.1°C at Collie East
- **Highest daily rainfall**: 526mm at Nifty Copper Mine on 28th March
- **Highest yearly rainfall**: 1492mm at Kuri Bay
</western-australia>

<northern-territory>
- **Highest daily maximum temperature**: 46.3°C at Jervois on 5th January and at Rabbit Flat on 6th December
- **Lowest daily minimum temperature**: −4.2°C at Alice Springs on 21st July
- **Highest average maximum temperature**: 34.8°C at Timber Creek
- **Lowest average minimum temperature**: 13.8°C at Alice Springs
- **Highest daily rainfall**: 313mm at Groote Eylandt on 2nd March
- **Highest yearly rainfall**: 1928mm at Karama
</northern-territory>

<south-australia>
- **Highest daily maximum temperature**: 48.0°C at Marree on 2nd January
- **Lowest daily minimum temperature**: −5.0°C at Yunta on 21st July
- **Highest average maximum temperature**: 29.8°C at Oodnadatta
- **Lowest average minimum temperature**: 7.3°C at Yongala
- **Highest daily rainfall**: 76mm at Wilpena Pound on 8th December
- **Highest yearly rainfall**: 1348mm at Piccadilly
</south-australia>

<queensland>
- **Highest daily maximum temperature**: 48.5°C at Birdsville on 5th and 6th January
- **Lowest daily minimum temperature**: −7.0°C at Warwick on 30th June
- **Highest average maximum temperature**: 33.9°C at Julia Creek
- **Lowest average minimum temperature**: 8.6°C at Applethorpe
- **Highest daily rainfall**: 448mm at Mourilyan Harbour on 20th March
- **Highest yearly rainfall**: 8013mm at Bellenden Ker Top Station
</queensland>

<new-south-wales>
- **Highest daily maximum temperature**: 48.5°C at Ivanhoe on 15th February
- **Lowest daily minimum temperature**: −19.0°C at Charlotte Pass on 16th August
- **Highest average maximum temperature**: 28.3°C at Tibooburra
- **Lowest average minimum temperature**: 0.8°C at Thredbo Top Station
- **Highest daily rainfall**: 352mm at Mount Numinbah on 6th March
- **Highest yearly rainfall**: 2236mm at Tomewin
</new-south-wales>

<victoria>
- **Highest daily maximum temperature**: 46.7°C at Ouyen on 14th February
- **Lowest daily minimum temperature**: −8.8°C at Mt Hotham on 18th July
- **Highest average maximum temperature**: 24.4°C at Mildura
- **Lowest average minimum temperature**: 1.6°C at Mt Hotham
- **Highest daily rainfall**: 154mm at Lindenow on 24th April
- **Highest yearly rainfall**: 2236mm at Tomewin
</victoria>

<tasmania>
- **Highest daily maximum temperature**: 35.0°C at Campania on 20th January
- **Lowest daily minimum temperature**: −9.1°C at Launceston on 16th August
- **Highest average maximum temperature**: 18.0°C at Launceston
- **Lowest average minimum temperature**: 0.8°C at Mt Wellington
- **Highest daily rainfall**: 237mm at Gray on 29th January
- **Highest yearly rainfall**: 3693mm at Mount Read
</tasmania>

<australia>
- **Highest average temperature**: 29.0°C at Wyndham
- **Lowest average temperature**: 4.1°C at Mount Wellington
</australia>

* The average temperature is the mean of the mean maximum and minimum temperature.
### Capital City Temperatures and Rainfall Summary for 2004

<table>
<thead>
<tr>
<th>City</th>
<th>Highest Temperature Date</th>
<th>Lowest Temperature Date</th>
<th>Average Maximum Long-term Average Anomaly</th>
<th>Average Minimum Long-term Average Anomaly</th>
<th>Rainfall (mm) &amp; no. rain days</th>
<th>Long-term Average (mm) Decile Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perth</td>
<td>41.5 17th Feb. &amp; 14th Dec.</td>
<td>0.4 26th July</td>
<td>24.5</td>
<td>12.6</td>
<td>637.0 on 108 days</td>
<td>819</td>
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<tr>
<td>Darwin</td>
<td>37.3 28th November</td>
<td>13.3 20th June</td>
<td>32.1</td>
<td>22.9</td>
<td>1778.2 on 112 days</td>
<td>1705.5</td>
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<td>Adelaide</td>
<td>44.3 14th February</td>
<td>2.9 15th August</td>
<td>22.6</td>
<td>12.2</td>
<td>580.2 on 134 days</td>
<td>565.0</td>
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<td>Brisbane</td>
<td>41.7 22nd February</td>
<td>3.6 8th August</td>
<td>27.2</td>
<td>16.2</td>
<td>1056.6 on 97 days</td>
<td>1217.7</td>
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<tr>
<td>Sydney</td>
<td>40.0 1st December</td>
<td>5.9 18th July</td>
<td>23.4 #</td>
<td>14.7</td>
<td>995.2 on 107 days</td>
<td>1302.2</td>
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<tr>
<td>Canberra</td>
<td>38.7 14th February</td>
<td>−7.3 21st July</td>
<td>21.0</td>
<td>7.0</td>
<td>435.2 on 84 days</td>
<td>623.2</td>
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<tr>
<td>Melbourne</td>
<td>40.4 14th February</td>
<td>2.0 16th August</td>
<td>20.4</td>
<td>11.5</td>
<td>623.4 on 127 days</td>
<td>638.8</td>
</tr>
<tr>
<td>Hobart</td>
<td>33.9 20th January</td>
<td>0.5 2nd August</td>
<td>16.8</td>
<td>8.5</td>
<td>578.8 on 146 days</td>
<td>586.4</td>
</tr>
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**Notes:**
1. The long term averages are based on the 1961 to 1990 period, except * which are for 1994 to 2003.
2. # Highest on record.
3. Decile Ranges: 1 - Lowest 10% of records. 2 - next lowest 10% of records, ..., 10 - highest 10% of records. Based on all available records.