



Regional Weather and Climate Guide

In the last 30 years in the Greater Sydney region

-  Annual rainfall has decreased by 9%
-  Dry years have occurred 10 times and wet years nine times
-  Rainfall has decreased in late winter and spring
-  Summer rainfall has been reliable; winter has been unreliable
-  Average spring rainfall has decreased by 21%
-  There have been more hot days, with more consecutive days above 40 °C



Natural Environments  Low Level Production  Dryland Production  Irrigated Production  Intensive Uses  Water Bodies  Water Bodies 

Greater Sydney at a glance

The Greater Sydney region covers around 1.3 million hectares, of which 19% is under agricultural production. The region supports a diverse range of industries, including poultry (meat and eggs), nursery (turf and cut flowers), vegetables (mainly mushrooms, tomatoes, lettuce and potatoes) and fruit (citrus, stone fruit and avocados) and dairy. The region contributed around \$805 million to the Australian economy in 2017–18.

A guide to weather and climate in Greater Sydney

Primary producers make decisions using their knowledge and expectations of regional weather patterns. The purpose of this guide is to provide an insight into the region's climate and an understanding of changes that have occurred through recent periods. This information can potentially assist primary producers and rural communities make better informed decisions for their business and livelihoods. This guide is part of a series of guides produced for every Natural Resource Management area around Australia.



A climate guide for agriculture
Greater Sydney, New South Wales



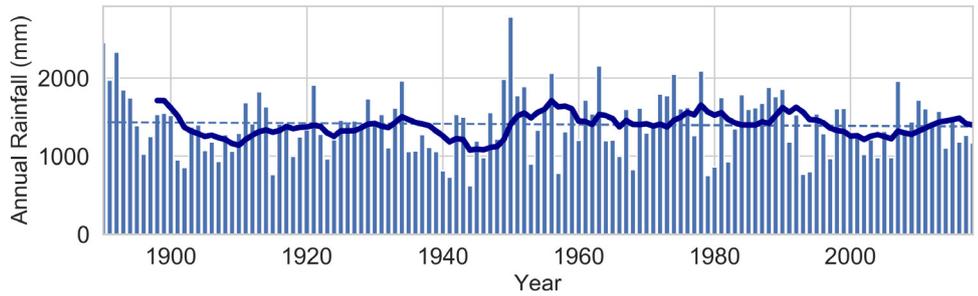


Annual Rainfall

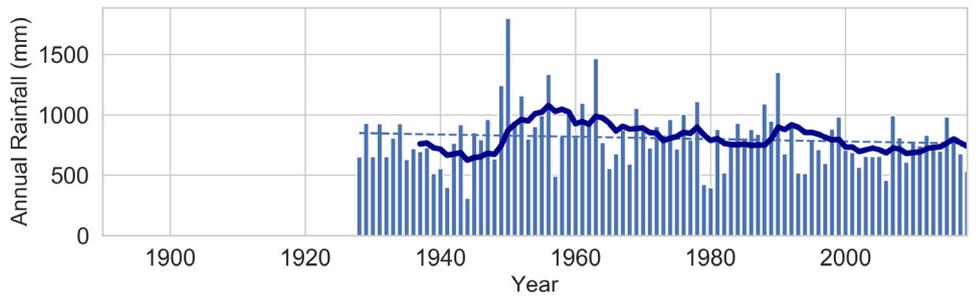
Annual rainfall in the Greater Sydney region has decreased

Annual rainfall in Greater Sydney has decreased by around 90 mm (9%) from about 1020 mm to about 930 mm over the past 30 years (1989–2018) when compared to the previous 30 years (1959–1988). The charts show annual rainfall (blue bars), with a 10-year running average (solid blue line) for Katoomba and Richmond RAAF. Although there has been a decrease in annual rainfall in the past 30 years, it is within the range of natural variability. In the past 30 years (1989–2018), dry years (lowest 30%) have occurred 10 times and wet years (highest 30%) have occurred nine times, while the remaining years were in the average range. Note the Millennium drought accounted for seven of these dry years in the recent period. During the previous 30-year period (1959–1988), dry years occurred six times and wet years occurred 13 times.

Katoomba Annual Rainfall 1889 - 2018



Richmond RAAF Annual Rainfall 1928 - 2018



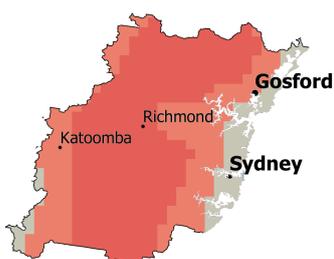
For more information on future projections, visit the Climate Change in Australia website > www.climatechangeinaustralia.gov.au

Want to know more about the guides? Try Frequently Asked Questions at > www.bom.gov.au/climate/climate-guides/#faqs

Greater Sydney summer rainfall is reliable; winter is unreliable

Rainfall reliability maps for the past 30 years (1989–2018) show summer rainfall has been moderately reliable across the region (blue areas), with about 136 mm difference from one year to the next. This is in contrast to spring and autumn rainfall, which has been less reliable (beige areas). Winter rainfall has been unreliable across the region (red areas), and although there have been some wet winters in the past 30 years, winter rainfall has not been reliable from year to year.

Winter



Spring



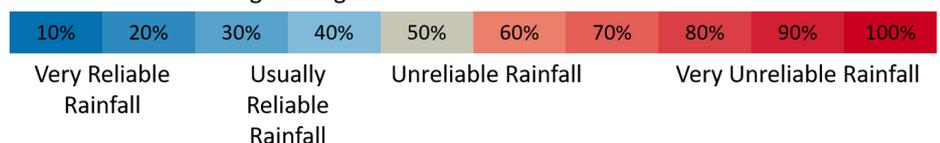
Summer



Autumn



Average Change In Seasonal Rainfall From Year to Year



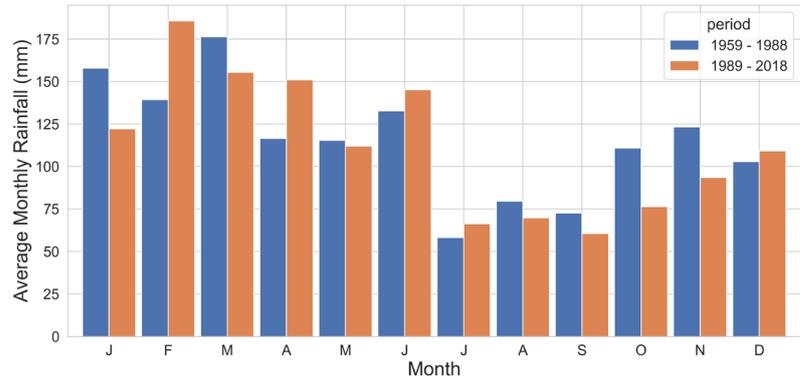


There has been a decrease in rainfall in late winter and spring

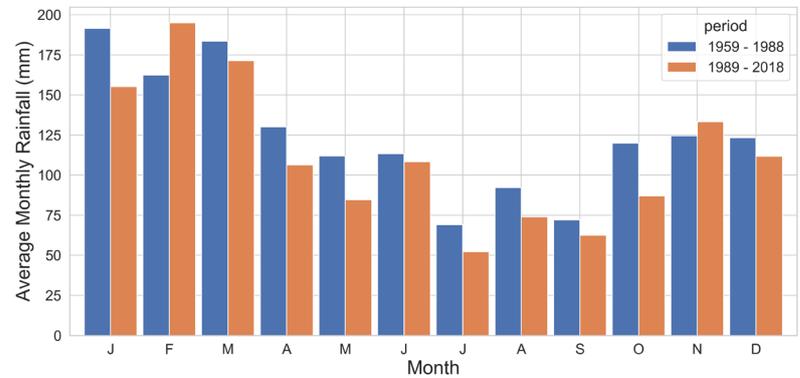
Rainfall in late winter and spring decreased at Gosford and Katoomba between 1989–2018 (orange bars) compared with 1959–1988 (blue bars).

Over the past 30 years, winter rainfall (May to October inclusive) for Katoomba was 469 mm; 110 mm lower than the 579 mm average for the previous 30-year period (1959–1988). For Gosford, winter rainfall decreased by 39 mm over the same period. Over the same 30-year periods, summer rainfall from November to April decreased by 42 mm for Katoomba, from 915 mm to 873 mm, while Gosford's summer rainfall remained stable at 816 mm.

Gosford 30-year Average Rainfall by Month



Katoomba 30-year Average Rainfall by Month

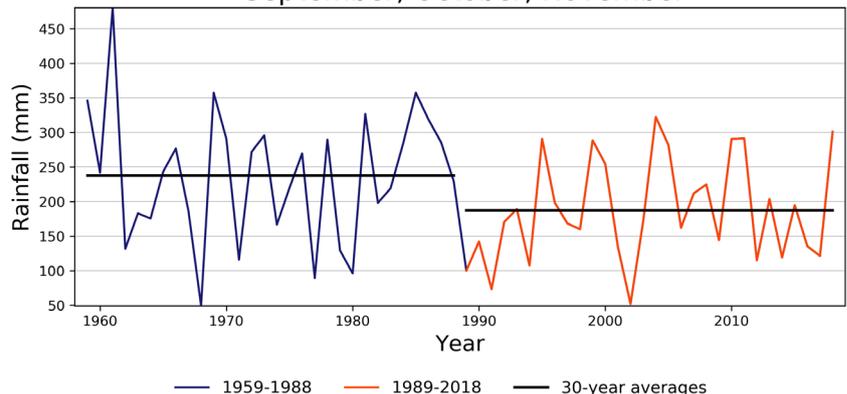


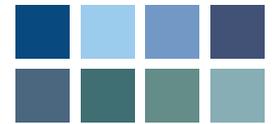
For more information on the latest observations and science behind these changes, refer to the State of the Climate Report > www.bom.gov.au/state-of-the-climate/

Spring rainfall has decreased by 21%

Spring rainfall across the Greater Sydney region is essential for fruit, vegetable and turf growth in early summer. The average spring rainfall has decreased to 187 mm for the period 1989–2018 compared to 237 mm for 1959–1988, a drop of 50 mm (21%). Spring rainfall across the region usually varies by around 90 mm from year to year.

Greater Sydney Region, NSW, Regional Total Rainfall for September, October, November





Frost

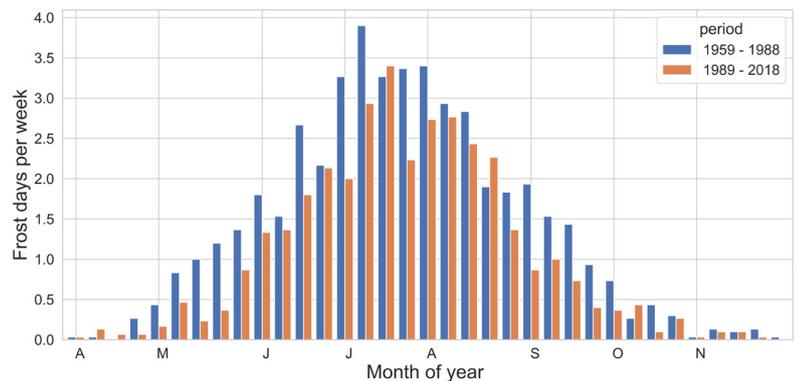
There have been fewer frosts

The number of potential frosts has decreased at Katoomba and Richmond between 1989–2018 (orange bars) compared with 1959–1988 (blue bars). There were an average of six fewer nights at Richmond and 12 fewer nights at Katoomba with the potential for frost between 1989–2018 compared to 1959–1988.

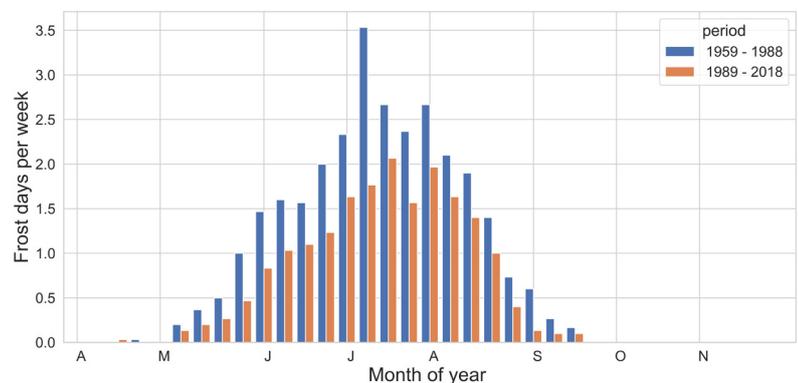
Richmond's frost risk has typically ended by the first week of September, whereas Katoomba's frost risk usually ends about the second week of October. The latest potential frost night recorded for Richmond was September 28, 2018, while for Katoomba it was November 23, 2018.

More frosty nights have tended to occur through dry winter and spring periods, when soil moisture is low and cloud cover infrequent. In Richmond, the region had nine more frost nights during a dry winter and spring than during wetter seasons.

Katoomba Frost Occurrence And Likelihood By Week



Richmond RAAF Frost Occurrence And Likelihood By Week

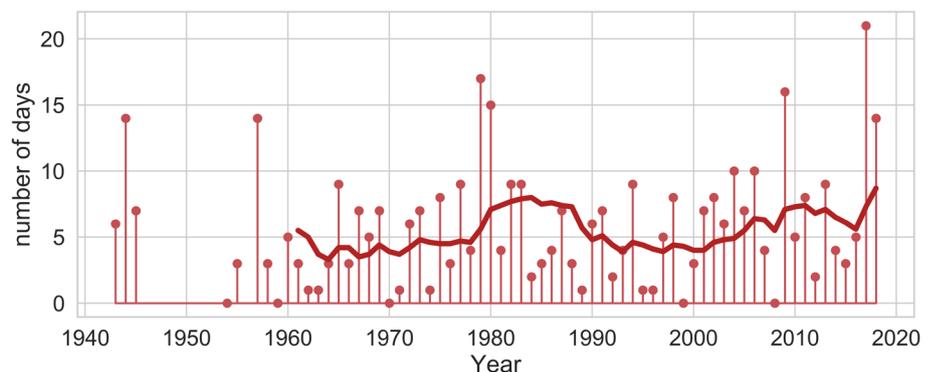


Temperature

Greater Sydney has experienced more hot days in the past 30 years

The chart shows the annual number of days above 38 °C (red bars), with a 10-year running average (solid red line) for Richmond. Richmond experienced an average of seven days per year above 38 °C between 1989–2018, compared to an average of five days per year above 38 °C between 1959–1988. Since 1989, the maximum temperature recorded for Richmond was 47 °C, in February 2017. In the previous 30-year period, the maximum temperature was 44 °C, recorded in January 1979. Instances of consecutive days above 38 °C have also been more

Richmond RAAF Days Over 38 °C



frequent in the past 30 years. In 2009, 2011, twice in 2018 and once in 2019, Richmond experienced periods of four or more

days in a row above 38 °C. A run of four or more days above 38 °C is unusual at Richmond and had not happened since 1979.

Regional Weather and Climate Guides are produced as a partnership between Bureau of Meteorology, CSIRO and FarmLink



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