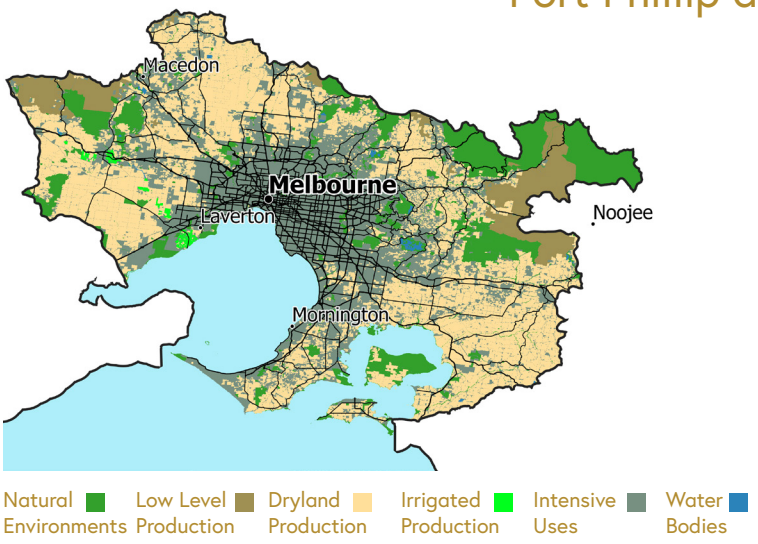
Regional Weather and Climate Guide

In the last 30 years in Port Phillip and Western Port

- Annual rainfall has decreased slightly
- Dry years have occurred 12 times and wet years seven times
- Rainfall has decreased in the autumn and spring months
- Rainfall is moderately reliable year round
- The autumn break usually occurs by mid-April in the region's north east around Warburton, through to late May in the south west of the region.
- There have been fewer frosts
- There have been more hot days, with more consecutive days above 35 °C

Port Phillip and Western Port at a glance



The Port Phillip and Western Port region covers 1.3 million hectares, of which 45% is under agricultural production. It supports many intensive agricultural industries, including nurseries, horticulture, poultry, dairy and eggs, as well as larger-scale enterprises such as grazing (sheep, beef). The region contributed $1.74 billion to the Australian economy in 2017–18.

A guide to weather and climate in Port Phillip and Western Port

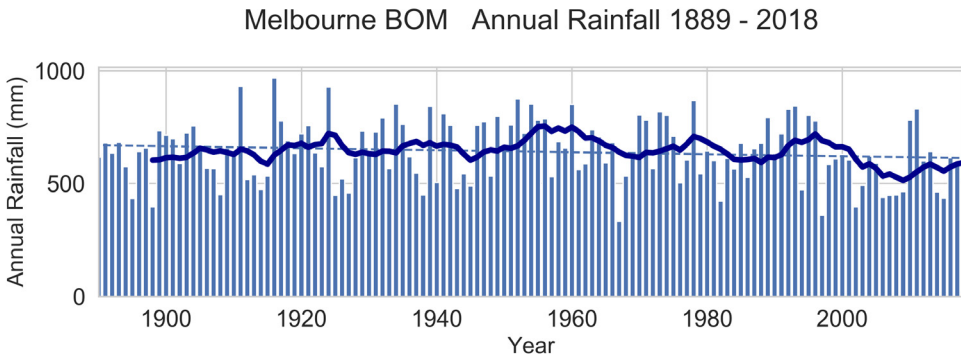
Primary producers make decisions using their knowledge and expectations of regional weather patterns. The purpose of this guide is to provide insight into the region's climate and an understanding of changes that have occurred through recent periods. This information can potentially assist primary producers 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.

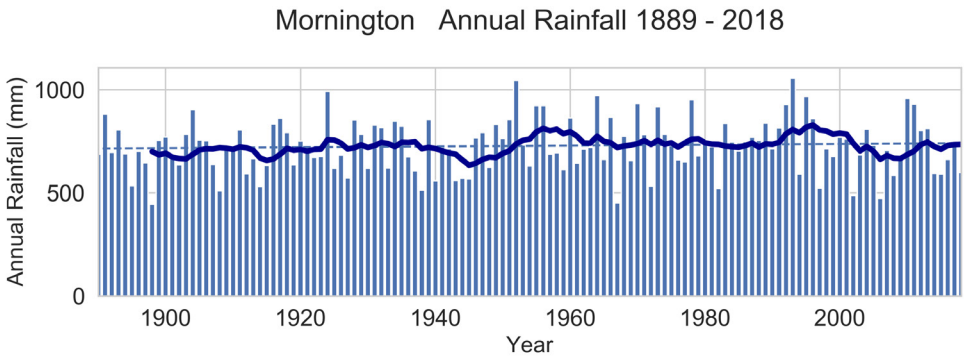
A climate guide for agriculture
Port Phillip and Western Port, Victoria

Annual rainfall in Port Phillip and Western Port has decreased slightly

Annual rainfall in the Port Phillip and Western Port region has decreased slightly, falling by around 50 mm (5%) from an average of about 860 mm over the 30-year period 1959–1988 to about 810 mm over the past 30 years (1989–2018). The charts show annual rainfall (blue bars), with a 10-year running average (solid blue line) for Melbourne and Mornington. Although there has been a slight 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 12 times and wet years (highest 30%) have occurred seven times, while the remaining years were in the average range. Note the Millennium drought accounted for eight 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 nine times.



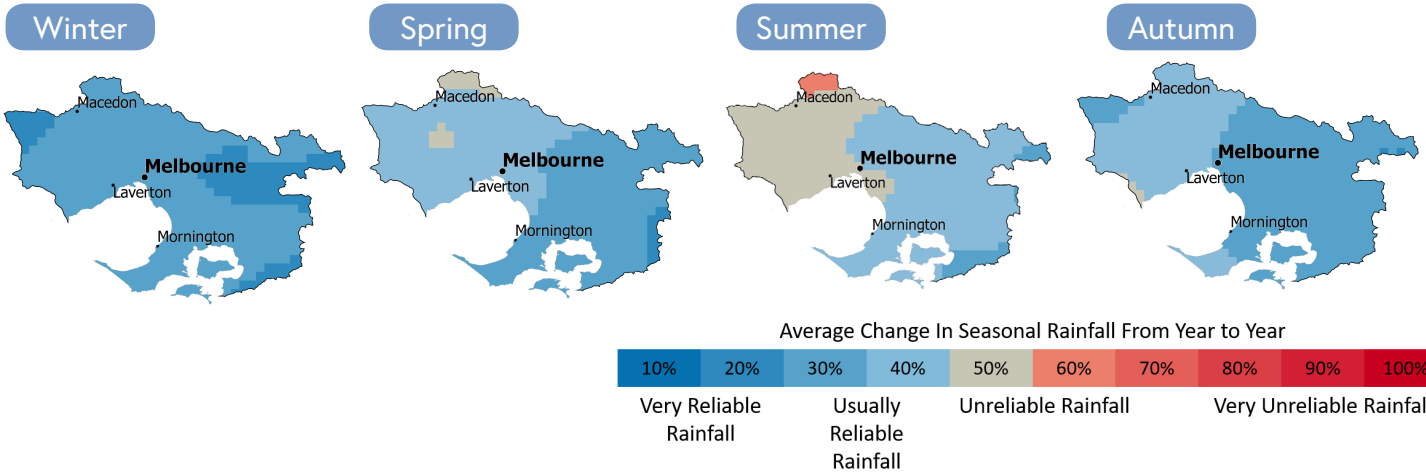


For more information on future projections, visit the Climate Change in Australia website
> www.climatechangeinaustralia.gov.au

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

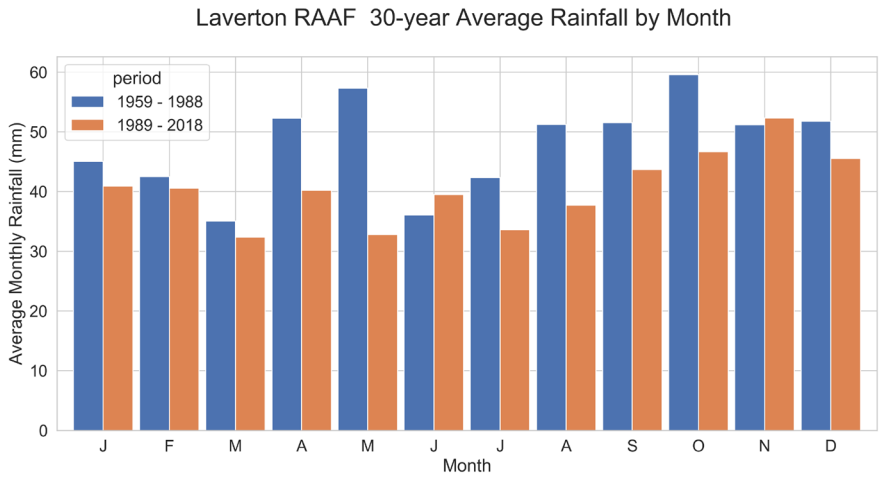
Port Phillip and Western Port rainfall is moderately reliable year round

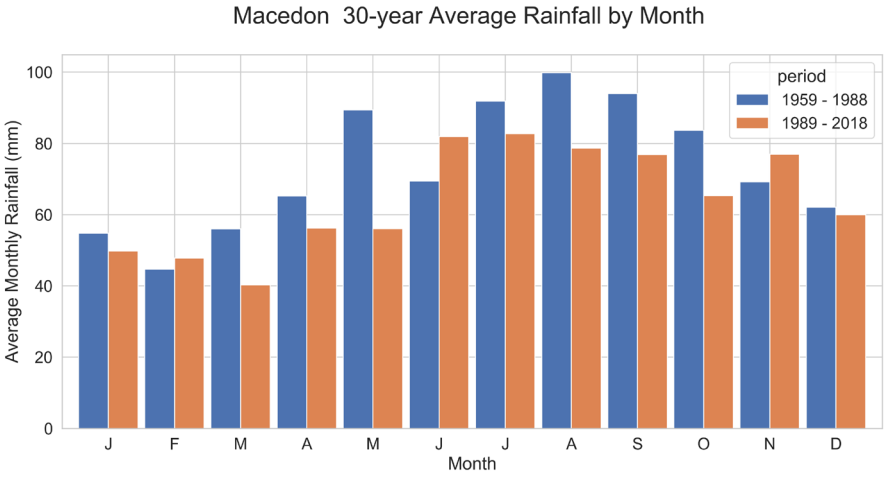
Rainfall reliability maps for the past 30 years (1989–2018) show Port Phillip and Western Port rainfall is moderately reliable all year round. Areas shaded blue represent lower variability, or more reliable rainfall from year to year, while areas shaded beige show higher variability, and less reliable rainfall. Winter is the most reliable season, with usually only about 50 mm difference from one year to the next. Summer rainfall has been the least reliable, usually changing by about 60 mm from one summer to the next, but overall, rainfall in the Port Phillip and Western Port region is usually reliable.



There has been a decrease in rainfall in the autumn and spring months

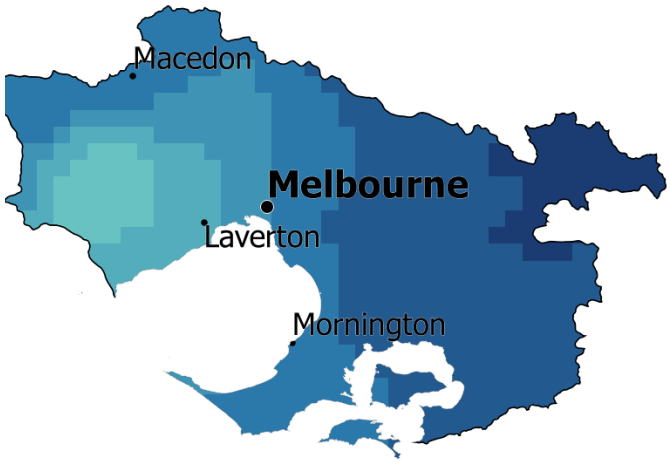
Average monthly rainfall in late autumn and early spring de-creased at Laverton and Macedon between 1989–2018 (orange bars) compared with 1959–1988 (blue bars). In June and November, average monthly rainfall totals increased. Other locations around the Port Phillip and Western Port region showed a similar pattern. Over the past 30 years, winter growing season rainfall (April to October inclusive) for Laverton was 274 mm; 76 mm lower than the 350 mm average for the previous 30-year period (1959–1988). For Macedon, growing season rainfall has declined 96 mm over the same period, from 594 mm to 498 mm.





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/

Timing of the autumn break in the Port Phillip and Western Port region



In the Port Phillip and Western Port region, the autumn break can be defined as at least 15 mm of rainfall over three days, prior to the commencement of sowing. The map shows that over the past 30 years (1989–2018), the break typically occurred in mid-April (dark blue) in the region's north east around Warburton, early to mid-May around Melbourne and Macedon, and late May in the south west of the region around Werribee.

Weeks after 1 April	2	3	4	5	6	7
Autumn Break Usually Occurred After...	14 April	28 April	5 May	12 May	19 May	26 May

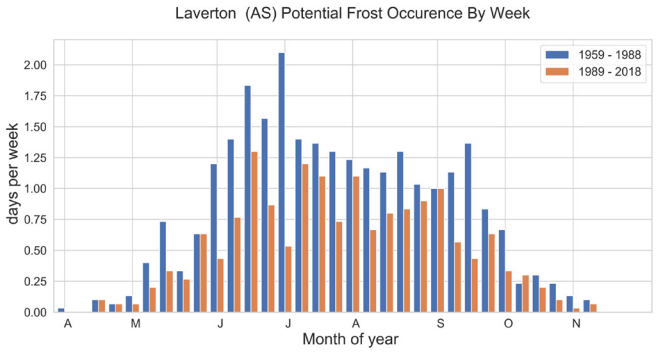
Frost

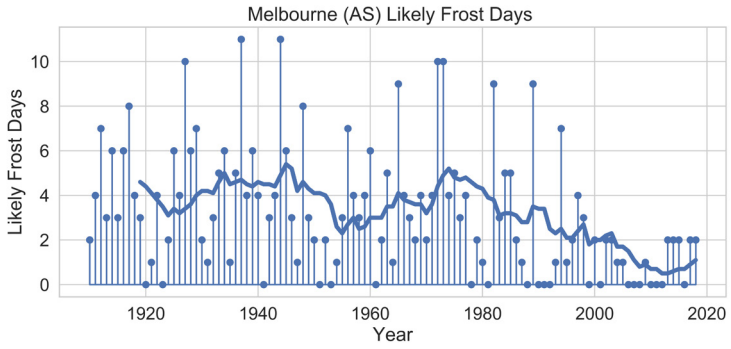
Fewer frosts

The number of potential frosts decreased at Laverton between 1989–2018 (orange bars) compared with 1959–1988 (blue bars), and the same pattern was generally observed across the region. frost risk frequency decreased in autumn and winter but remained the same through October and November. The total number of potential frosts at Laverton decreased from an average of 26 between 1959-1988 to 15 between 1989-2018.

The only other long term temperature record observed in the region is for Melbourne. The frost risk for Melbourne was lower, and also decreased, reducing from an average of four days per year between 1959-1988 to two days per year between 1989-2018.

Some regions of inland Victoria see an increase in their frost risk during and following a dry winter when compared to a wet winter. The Port Phillip and Western Port region does not see the same winter rainfall influence on frost potential. This is most likely due to the reliability in winter rainfall from year to year and the proximity to the coast, which can regulate temperature extremes.

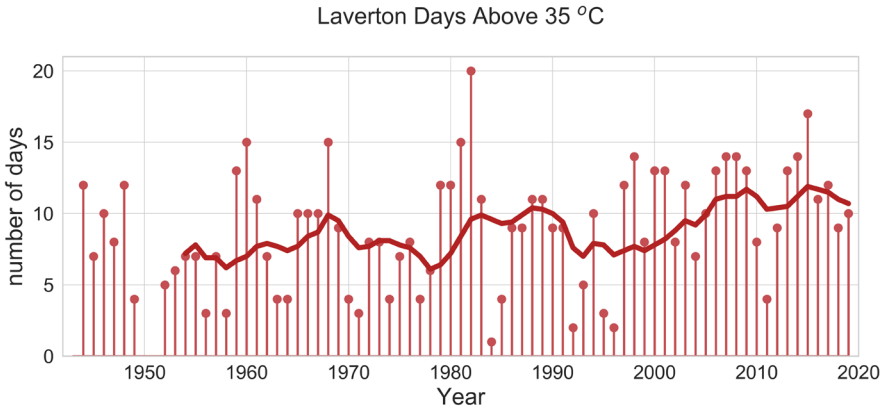




Temperature

Port Phillip and Western Port have had more hot days in the past 30 years

The chart shows the annual number of days above 35 °C (red bars), with a 10-year running average (solid red line) for Laverton. Laverton experienced an average of 10 days per year above 35 °C between 1989–2018, compared to an average of nine days per year above 35 °C between 1959–1988. Since 1989, temperatures above 44 °C have been recorded for Laverton nine times, compared to only two times from 1959–1988. While the overall number of hot days has been increasing, the runs of hot days have remained stable at Laverton since records began in 1944. The longest run of days above 38 °C was four days in 2014, but a run of three days above 38 °C had occurred eight times since records began at Laverton. In 2014 the temperature rose above 40 °C for four consecutive days. A run of 3 days above 40 °C also occurred in January 2009, 1979 and January 1959.



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