

Title: Temperature and water supply

Instructions

You have been tasked with investigating the effect of temperature on Melbourne’s water supply. Follow the steps below to find out if and how the mean highest temperature has changed over the decades.

Explore the Interactive Map for some background information on:

- [Water Supply for Melbourne](#)
- [Climate change and it’s impacts on Melbourne’s Water](#)
- [Reservoir levels](#)

Step 1.

Take a look at the historical temperature data for an area of your choice in Victoria with help from the Bureau of Meteorology:

Visit the BOM’s Climate Change data, [here](#). Select “Temperature” from the drop down box and then “Mean maximum temperature” below. Then select a weather station of your choice by using the search. Once selected, click the “Get data” button.

Text search

Select your data type, your location, then select from the list of stations.
If you prefer to see the station locations, use the map search instead.

1: Selected: **Monthly mean maximum temperature**

Data about: **Temperature**

Type of data: Observations Daily Monthly Statistics Daily Monthly

Mean maximum temperature

Mean maximum temperature data and graphs for all available years.

2: Select a weather station in the area of interest

ballarat Find

OR - search by Position

Matching towns (click one to select it)

- Ballarat, VIC, 37.56°S, 143.85°E
- Ballarat East, VIC, 37.57°S, 143.89°E
- Ballarat North, VIC, 37.54°S, 143.85°E
- Ballarat South, VIC, 37.57°S, 143.84°E

Nearest Bureau stations (click one to select it)

Only show open stations (may no longer report all data types)

- 089002 Ballarat Aerodrome VIC (7.4km away)
- 088019 Creswick VIC (15.9km away)
- 088015 Clunes VIC (28.9km away)
- 089092 Warrambine No 2 VIC (35.5km away)
- 088021 Eberys VIC (42.4km away)

More information: [Geoscience Australia](#) (opens new window)

More information: [for the selected station](#) (opens new window)

Data available for the selected station

1850 1900 1950 2000 100% 0%

3: Get the data

Station number: 089002 Get Data (Opens in new window) Save | Clear

Don't clear this number Note, most stations do not collect all data types. Searching will ensure relevant stations.

Step 2.

Click the graph button in the 'Annual' column to produce a graph from the data:


Monthly mean maximum temperature

Ballarat Aerodrome

[About this page](#)

[All years of data](#) | [PDF](#)

The Monthly mean maximum temperature is the average of all available daily maxima for the month. The Daily maximum air temperature is nominally recorded at 9 am local clock time. It is the highest temperature for the 24 hours leading up to the observation, and is recorded as the maximum temperature for the previous day. Temperature data prior to 1910 should be used with extreme caution as many stations prior to that date used non-standard shelters. [About temperature data](#)

| | | | | |
|-----------------------------|---------------|---------------|-----------------|---|
| Station: Ballarat Aerodrome | Number: 89002 | Opened: 1908 | Now: Open |  |
| | Lat: 37.51°S | Lon: 143.79°E | Elevation: 435m | |

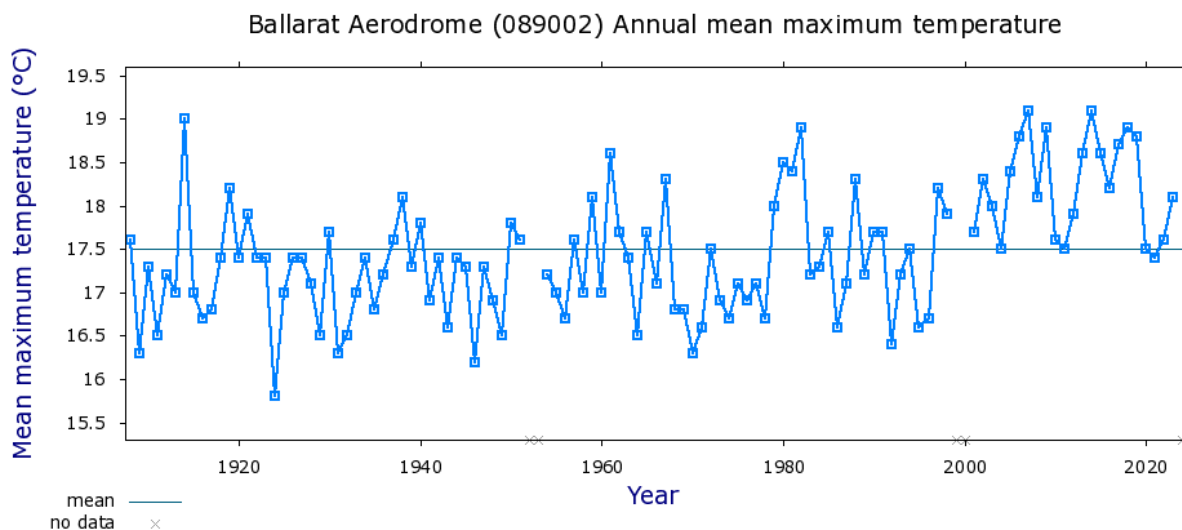
No highlight

Key: Units = °C. 12.3 = Not quality controlled or uncertain, or precise date unknown

Period for calculating statistics: All years 1961-1990

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| 1908 | 30.1 | 26.4 | 20.8 | 18.2 | 12.0 | 8.6 | 9.2 | 10.3 | 11.9 | 17.7 | 21.9 | 24.5 | 17.6 |
| 1909 | 23.3 | 24.2 | 20.9 | 14.7 | 11.9 | 9.4 | 8.7 | 9.9 | 12.9 | 17.0 | 21.4 | 21.3 | 16.3 |
| 1910 | 25.3 | 27.4 | 21.9 | 18.6 | 13.4 | 10.6 | 9.4 | 11.8 | 13.7 | 14.3 | 20.3 | 20.4 | 17.3 |
| 1911 | 24.1 | 22.5 | 19.4 | 15.2 | 12.8 | 8.8 | 9.6 | 12.6 | 14.2 | 15.8 | 22.6 | 20.2 | 16.5 |
| 1912 | 24.8 | 27.4 | 23.1 | 15.1 | 14.1 | 10.7 | 9.6 | 11.7 | 13.0 | 16.9 | 18.1 | 21.8 | 17.2 |
| 1913 | 25.1 | 25.4 | 18.4 | 18.3 | 11.8 | 10.4 | 9.9 | 10.8 | 13.3 | 17.0 | 17.8 | 25.3 | 17.0 |
| 1914 | 25.8 | 29.2 | 24.7 | 17.2 | 13.8 | 11.3 | 9.5 | 12.9 | 14.8 | 22.4 | 23.6 | 23.2 | 19.0 |
| 1915 | 25.3 | 25.9 | 21.3 | 16.7 | 12.2 | 9.8 | 11.1 | 11.3 | 13.4 | 14.9 | 18.4 | 23.3 | 17.0 |

This will generate a graph like the one shown below:



Name:

1. Has the temperature for _____ (your location) changed in the last 50 years?

In this location, the average temperature over the last 50 years was _____C.
This average temperature is [higher | lower] than last year's average temperature by _____C.

The hottest year(s) on record for this area was in _____ with a temperature of _____C.

2. Do you see a general trend or pattern in the graph you generated from the mean temperature data? Explain and use data in your response.

3. What impacts do you think this change in temperature will have on:

a) Melbourne's water supply?

b) The demand for water?

3. With help from the Interactive Map, create a mind map/visual display showing the impacts a restricted water supply in Melbourne would have (e.g. less water for the environment).

