

Weather Data summary for June 2023 for the Blenheim Meteorological station located at the Grovetown Park campus of the Marlborough Research Centre.

June 2023 mean temperature and sunshine hours were well above average. Total rainfall, average daily wind-run and total number of frosts were well below average.

Table 1: Weekly temperatures, rainfall, sunshine and frosts recorded in Blenheim during June 2023

	Mean.	Mean Max	Mean Min	Ground Frosts	Air Frosts	Rainfall (mm)	Sunshine (hours)	Wind-run (km)
1-7 June	9.8 (+1.0)	14.7 (+0.8)	4.9 (+1.3)	3.0	0.0	6.4	38.3	214.6
8-14 June	8.2 (-0.6)	14.5 (+0.6)	1.8 (-1.8)	1.0	0.0	0.0	55.1	178.1
15-21 June	9.9 (+1.1)	15.1 (+1.2)	4.8 (+1.2)	0.0	0.0	6.6	36.5	147.7
22-28 June	11.1 (+2.3)	14.7 (+0.8)	7.4 (+3.8)	0.0	0.0	9.0	21.4	139.0
29-30 June	8.8 (=)	15.4 (+1.5)	2.2 (-1.4)	0.0	0.0	0.0	15.9	177.5
1-30 June 2023	9.7 (+0.9)	14.8 (+0.9)	4.6 (+1.0)	4.0 (7.6 less)	0.0 (4.8 less)	22.0 (33%)	167.2 (111%)	170.4 (78%)
LTA 1986-2022	8.8	13.9	3.6	11.6	4.8	66.0	150.1	219.2

Sunshine

167.2 hours sunshine for June was 111% of the long-term average (LTA) of 150.1 hours (1986-2022).

June 2022 recorded 138.1 hours sunshine

June 2021 recorded 135.6 hours sunshine

June 2020 recorded 115.1 hours sunshine

Total sunshine for the first six months of 2023 was 1118.2 hours; 90% of the LTA (1245.2). This is the 10th lowest total on record for the 94 years 1930 to 2023.

Total sunshine for the 12-months July 2022 to June 2023 was 2324.8 hours; 93% of the LTA (2499.3). This is the 12th lowest total for the 93 years 1930-31 to 2022-23.

Over the past year only 4 months recorded above average sunshine hours and 8 months below average sunshine hours.

Sunniest towns in June 2023

Paraparaumu 172.2 hours

Richmond 170.3 hours

Blenheim 167.2 hours

Sunniest towns in New Zealand for the 6-months January to June 2023

New Plymouth 1248.2 hours (3 days missing from record)

Tekapo 1240.0 hours

Richmond 1201.7 hours

Cromwell 1154.4 hours

Appleby 1140.9 hours

Blenheim 1118.2 hours

Temperature

June's mean temperature of 9.7°C was 0.9°C above the LTA temperature of 8.8°C (1986-2022).

June 2022 mean temperature was 9.5°C

June 2021 mean temperature was 10.3°C

June 2020 mean temperature was 9.8°C

The June press releases over the last few years have pointed out that June has undergone a significant warming trend over recent decades. June 2023 continued this trend and became the 9th warmest June on record for the 92 years 1932 to 2023. 8 of the 10 warmest June’s on record have occurred since 2002.

In the 12-months July 2022 to June 2023, 9-months recorded above average temperatures (July, August, September, November, February, March, April, May and June), and 3-months recorded below average temperature (October, December and January).

The mean temperature for the 12-month period July 2022 to June 2023 was 13.92°C (Table 2). This is the third equal warmest July to June year on record, for the 92-year period 1932-33 to 2022-23. The data in Table 2 record the temperature to two decimal places merely to separate the numbers. However, when the temperatures are rounded to one decimal place, the third, fourth and fifth years in Table 2 (2013-14, 2022-23, 2021-22) all recorded a mean temperature of 13.9°C.

Table 2: Warmest 12 month July to June mean temperatures on record for Blenheim (1932-33 to 2022-23)

Year	Mean temperature (°C)
2018-19	14.02
2017-18	14.01
2013-14	13.93
2022-23	13.92
2021-22	13.89
1989-90	13.82
1998-99	13.76
2020-21	13.75
1997-98	13.70
1974-75	13.69
LTA	13.2 (1986-2022) 12.7 (1932-1985)

Ground Frosts	Air Frosts
June 2023 = 4	0
June 2022 = 7	3
June 2021 = 7	1
June 2020 = 3	0
June 2019 = 15	7
June 2018 = 13	5
June 2017 = 10	1
June 2016 = 10	1
L.T.A. = 11.6	4.8

The four ground frosts recorded in June 2023 were all in the first two weeks. However, while there were only four official ground frosts (ground temperature <=-1.0) there were another eight days during June when the ground temperature was between 0 and -1.0; not quite cold enough for a ground frost to be recorded.

The 7th of June recorded the coldest ground and air temperatures, with a ground frost of -1.9°C and an air temperature of 0.3°C.

Rainfall

Total rainfall in June of 22.0 mm was 33% of the LTA (1986-2022) for June of 66.0 mm.

- June 2022 rainfall was 80.4 mm
- June 2021 rainfall was 75.6 mm
- June 2020 rainfall was 77.6 mm

January to June 2023 recorded 296.4 mm, 97% of the LTA of 305.1 mm

January to June 2022 recorded 320.8 mm, 105% of the LTA

January to June 2021 recorded 281.4 mm, 92% of the LTA

January to June 2020 recorded 203.4 mm, 67% of the LTA

Rainfall for the 12 months July 2022 to June 2023

Total rainfall for the 12 months July 2022 to June 2023 was 806.2 mm (Figure 1). This was 126% of the LTA (639.4 mm) and the 8th highest 12-month July to June total on record for the 93 years 1930-31 to 2022-23. Despite the 12-month rainfall total being the 8th highest on record, only 6 of the 12 months recorded above average rainfall.

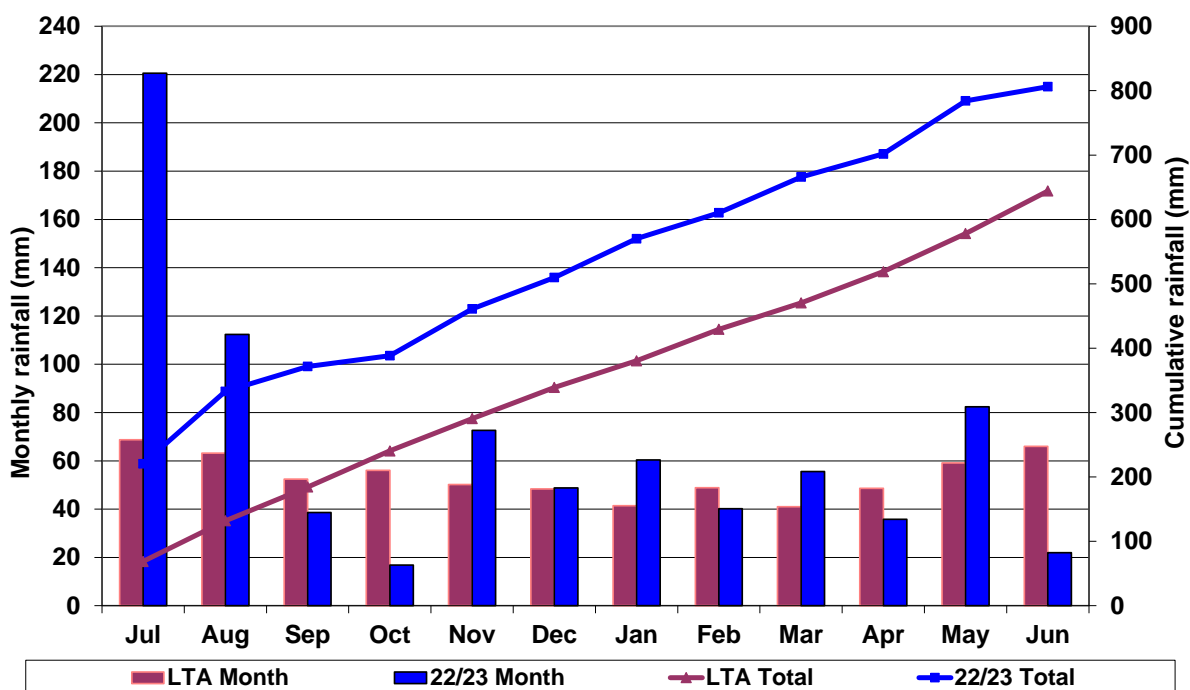
There was a massive difference in monthly rainfall totals over the 12-month period. July 2022 recorded 220.6 mm, the highest ever monthly total on record for Blenheim. October 2022 recorded only 16.8 mm.

July 2022 to June 2023 = 806.2 mm (126% of LTA of 639.4 mm)

July 2021 to June 2022 = 758.4 mm (119% of LTA)

July 2020 to June 2021 = 539.4 mm (84% of LTA)

Figure 1: Blenheim monthly and annual rainfall for the 12-months July 2022 to June 2023, compared to the long-term average



Wind

Average daily wind run for June 2023 was 170.4 km, with an average wind speed of 7.1 km/hr. This was only 78% of the LTA wind-run (1996-2022) for June of 219.2 km and average wind speed of 9.1 km/hr.

All 12-months July 2022 to June 2023 recorded below average wind-run.

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