

## Weather Data summary for June 2022 for the Blenheim Meteorological station located at the Grovetown Park campus of the Marlborough Research Centre.

June 2022 mean temperature and rainfall were well above average. Sunshine hours, average daily wind-run and total number of frosts were below average.

**Table 1: Weekly temperatures, rainfall, sunshine and frosts recorded in Blenheim during June 2022**

	Mean Max	Mean Min	Mean. Diff.	Ground Frosts	Air Frosts	Rainfall (mm)	Sunshine (hours)	Wind-run (km)
1-7 June	15.8 (+1.9)	6.4 (+2.8)	11.1 (+2.3)	0	0	15.0	26.8	179.6
8-14 June	14.9 (+1.0)	6.3 (+2.7)	10.6 (+1.8)	0	0	45.6	33.7	313.6
15-21 June	12.9 (-1.0)	4.0 (+0.4)	8.5 (-0.3)	3	1	2.4	29.3	187.9
22-28 June	13.5 (-0.4)	2.6 (-1.0)	8.1 (-0.7)	4	2	17.4	32.7	154.3
29-30 June	14.7 (+0.8)	2.3 (-1.3)	8.5 (-0.3)	0	0	0	15.6	221.0
1-30 June 2022	14.3 (+0.4°C)	4.7 (+1.1°C)	9.5 (+0.7°C)	7 (4.7 less)	3 (1.9 less)	80.4 (123%)	138.1 (92%)	209.6 (95%)
LTA 1986-2021	13.9	3.6	8.8	11.7	4.9	65.6	150.4	219.5

### Sunshine

138.1 hours sunshine for June was 92% of the long-term average (LTA) of 150.4 hours (1986-2021).

June 2021 recorded 135.6 hours sunshine

June 2020 recorded 115.1 hours sunshine

June 2019 recorded 170.1 hours sunshine

Total sunshine for the first six months of 2022 was 1270.2 hours; 102% of the LTA (1244.4).

Total sunshine for the 12-months July 2021 to June 2022 was 2502.4 hours; 99.8% of the LTA (2508).

Over the past year 7 months recorded above average sunshine hours and 5 months below average sunshine hours.

### Temperature

June's mean temperature of 9.5°C was 0.7°C above the LTA temperature of 8.8°C (1986-2021).

June 2021 mean temperature was 10.3°C

June 2020 mean temperature was 9.8°C

June 2019 mean temperature was 8.5°C

Over recent years' we have pointed out that June has become considerably warmer over recent decades. June 2022 followed this trend and has become the 10<sup>th</sup> equal warmest June on record for the 91 years 1932 to 2022. 9 of the 11 warmest June's on record have occurred since 2002.

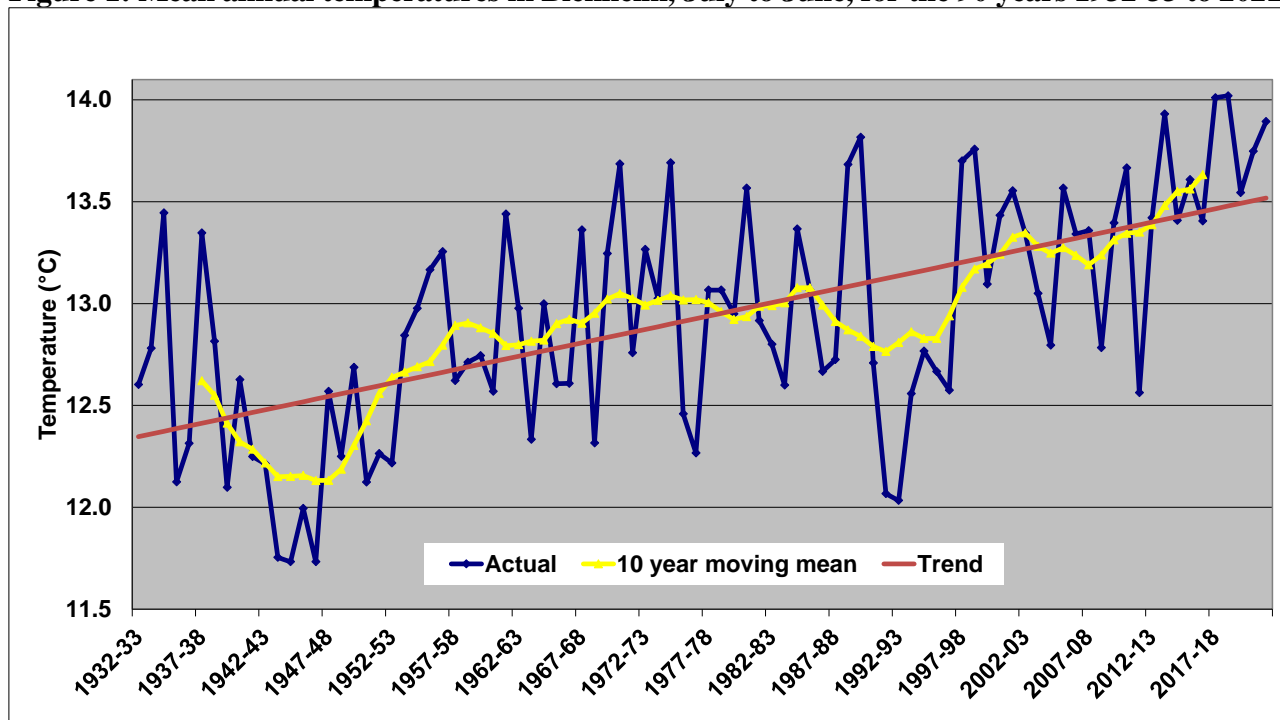
The mean temperature for the 12-month period July 2021 to June 2022 was 13.89°C (Table 2 & Figure 1). This is the fourth warmest July to June year on record, for the 90-year period 1932-33 to 2021-22.

**Table 2: Warmest 12 month July to June mean temperatures on record for Blenheim (1932-33 to 2021-22)**

Year	Mean temperature (°C)
2018-19	14.02
2017-18	14.01
2013-14	13.93
2021-22	13.89
1989-90	13.82
1998-99	13.76
2020-21	13.75
1997-98	13.70
1974-75	13.69

<b>1970-71</b>	<b>13.69</b>
<b>LTA</b>	<b>13.2 (1986-2021)</b> <b>12.7 (1932-1985)</b>

**Figure 1: Mean annual temperatures in Blenheim, July to June, for the 90 years 1932-33 to 2021-22**



<b>Ground Frosts</b>	<b>Air Frosts</b>
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. = 11.7	4.9

Air temperatures were well above average in the first two weeks of June 2022 and consequently no ground frosts were recorded over that period; (2 days came close). With much cooler overnight temperatures in the latter half of June, 7 ground frosts and 3 air frosts were recorded.

The 23rd June recorded the coldest ground and air temperatures, with a grass frost of  $-4.4^{\circ}\text{C}$  and an air frost of  $-0.4^{\circ}\text{C}$ .

In the 12 months July 2021 to June 2022, eight months recorded well above average temperatures (July, August, October, November, December, April, May and June). Three months recorded close to average temperatures (September, January and March) and only one month recorded a well below average temperature (February).

### **Rainfall**

Total rainfall in June of 80.4 mm was 123% of the LTA (1986-2021) for June of 65.6 mm.

June 2021 rainfall was 75.6 mm.

June 2020 rainfall was 77.6 mm.

June 2019 rainfall was 18.0 mm.

January to June 2022 recorded 320.8 mm, 105% of the LTA of 304.6 mm

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 2021 to June 2022

Total rainfall for the 12 months July 2021 to June 2022 was 758.4 mm (Figure 2). This was 119% of the LTA (639.0 mm) and the highest 12-month July to June total since 2009-2010, which recorded 759.6 mm.

There was considerable variation in monthly totals throughout the past year; February recorded the highest total of 153.4 mm and April the lowest total of 9.6 mm

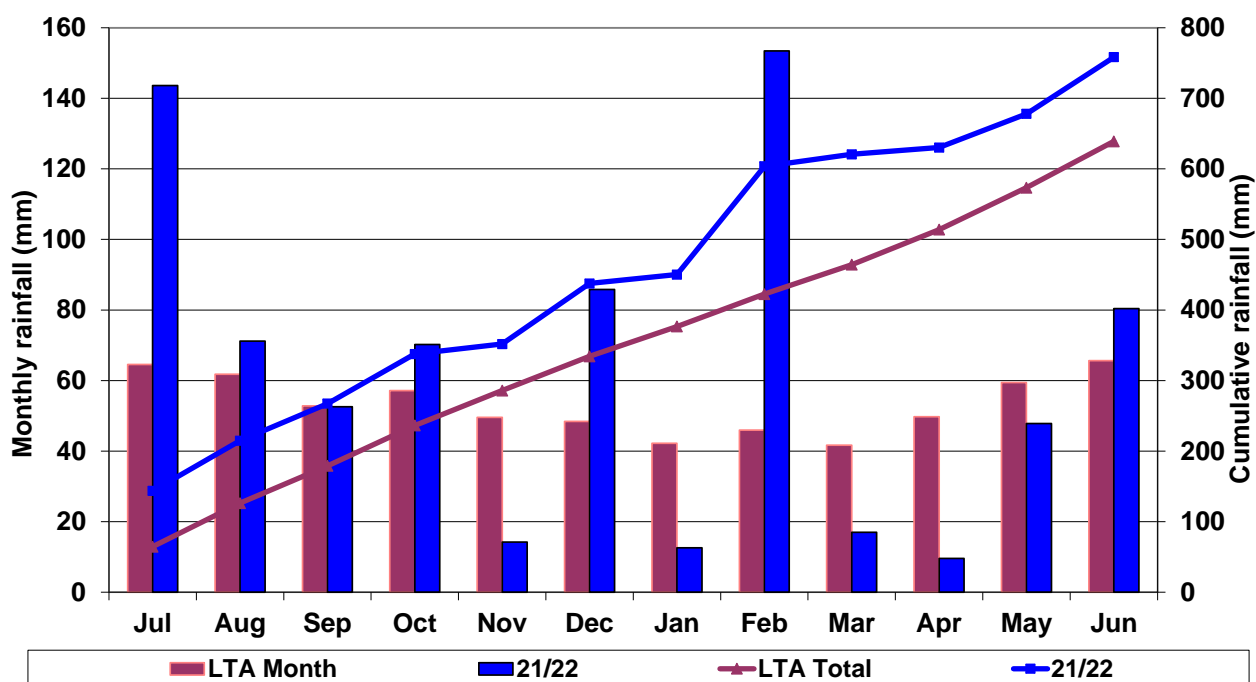
July 2021 to June 2022 = 758.4 mm (119% of LTA of 639.0 mm)

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

July 2019 to June 2020 = 604.8 mm (95% of LTA)

July 2018 to June 2019 = 577.0 mm (91% of LTA)

**Figure 2: Blenheim monthly and annual rainfall for the 12-month July 2021 to June 2022, compared to the long-term average**



### Wind

Average daily wind run for June 2022 was 209.6 km, with an average wind speed of 8.7 km/hr. This was below the LTA wind-run for June of 219.5 km and average wind speed of 9.1 km/hr (1996-2021).

September 2021 was the only month in the past year, July 2021 to June 2022, to record above average wind-run. Coincidentally September 2020 was the only month in the 2020-2021 year to record above average wind-run.

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