

Weather Data summary for June 2021 for the Blenheim Meteorological station located at the Grovetown Park campus of the Marlborough Research Centre.

June 2021 mean temperature was well above average. Sunshine hours, 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 2021

	Mean Max	Mean Min	Mean. Diff.	Rainfall (mm)	Sunshine (hours)	Total Ground Frosts	Total Air Frosts
1-7 June	15.2 (+1.4)	4.5 (+1.1)	9.9 (+1.2)	1.6	34.3	1	0
8-14 June	17.1 (+3.3)	7.5 (+3.9)	12.3 (+3.6)	0.8	36.5	0	0
15-21 June	13.1 (-0.7)	5.4 (+1.8)	9.3 (+0.6)	65.4	16.3	1	0
22-28 June	15.3 (+1.5)	6.8 (+3.2)	11.0 (+2.3)	7.8	33.4	3	0
29-30 June	12.1 (-1.7)	-0.6 (-4.2)	5.8 (-2.9)	0.0	15.2	2	1
1-30 June 2021	15.0 (+1.2°C)	5.6 (+2.0°C)	10.3 (+1.6°C)	75.6 (116%)	135.6 (90%)	7 (4.9 less)	1 (4 less)
LTA 1986-2020	13.8	3.6	8.7	65.3	150.9	11.9	5.0

Sunshine

135.6 hours sunshine for June was 90% of the long term average (LTA) of 150.9 hours (1986-2020).

June 2020 recorded 115.1 hours sunshine

June 2019 recorded 170.1 hours sunshine

Total sunshine for the first six months of 2021 was 1290.5 hours; 104% of the LTA (1243.1).

Total sunshine for the 12-months July 2020 to June 2021 was 2606.7 hours; 104% of the LTA (2507.6).

7 of the 12 months recorded above average sunshine hours and 5 of the 12 months below average sunshine hours.

Temperature

June's mean temperature of 10.3°C was 1.6°C above the LTA temperature of 8.7°C (1986-2020). June 2021 was a lot warmer than in the previous six years 2015 to 2020.

June 2020 mean temperature was 9.8°C

June 2019 mean temperature was 8.5°C

June 2018 mean temperature was 8.6°C

June 2014 mean temperature was 10.8°C

June 2021 is the fourth equal warmest June on record for the 90 years 1932 to 2021 (Table 2). 8 of the 10 warmest June's on record have occurred in the last 20 years, since 2002.

Table 2: 10 warmest June mean temperatures on record for Blenheim (1932 to 2021)

Year	Mean temperature (°C)
2003	10.9
2014	10.8
2002	10.6
1971	10.3
2021	10.3
2004	10.1
2016	10.1
2020	9.8
1993	9.6
2011	9.5

LTA	8.7 (1986-2020)
	7.5 (1932-1985)

Figure 1 displays the marked increasing temperature trend for Blenheim in June over the 90 years 1932 to 2021. The red trend line indicates that in 2021, June is now about 2.5°C warmer than it was in 1932.

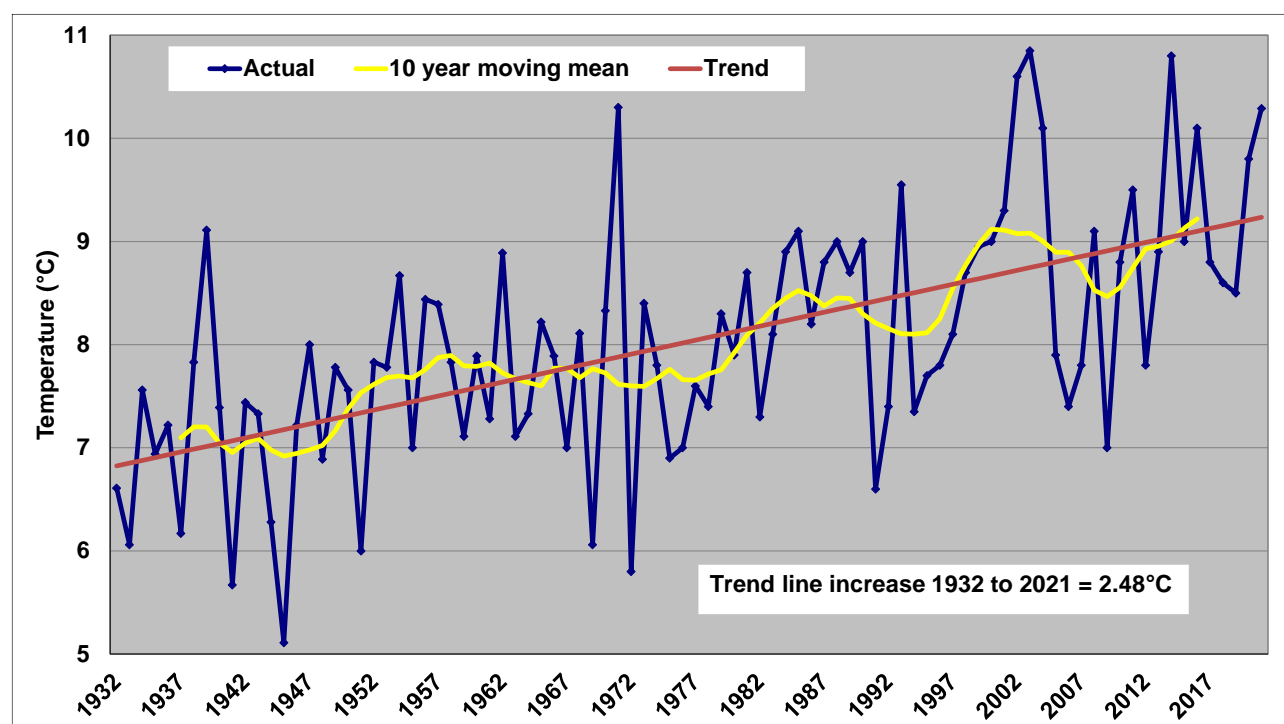


Figure 1: Mean June temperatures in Blenheim over the 90 years 1932 to 2021

Ground Frosts	Air Frosts
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. = 11.9	5.0

With well above average air temperatures in the first 3 weeks of June 2021 only two ground frosts were recorded in those 21 days. However, in the 9 days from 22 to 30 June, 5 ground frosts and 1 air frost were recorded.

The last day of the month, 30th June, was the coldest day with a grass frost of -5.5°C. This is the coldest grass frost recorded in Blenheim since 6 August 2019 which recorded -5.8°C.

30th June also recorded an air frost of -1.2°C. This is the first air frost in 2021.

In the 12 months July 2020 to June 2021, eight months recorded above average temperatures (July, August, September, October, November, January, April and June). Three months recorded close to average temperatures (December, March and May) and only one month recorded a well below average temperature (February).

Rainfall

Total rainfall in June of 75.6 mm was 116% of the LTA (1986-2020) for June of 65.3 mm.

June 2020 rainfall was 77.6 mm.

June 2019 rainfall was 18.0 mm.

January to June 2021 recorded 281.4 mm, 92% of the LTA of 305.3 mm
January to June 2020 recorded 203.4 mm, 67% of the LTA
January to June 2019 recorded 259.6 mm, 85% of the LTA.
January to June 2018 recorded 492.2 mm, 161% of the LTA.

Wet Weekends in June 2021

Of the four weekends in June 2021, 5 of the 8 days recorded rain. By far the wettest two days were Sat 19th with 13.0 mm, and Sunday 20th with 48.6 mm rain.

Rainfall for the 12 months July 2020 to June 2021

Total rainfall for the 12 months July 2020 to June 2021 was 539.4 mm. This was 85% of the long-term average (636.7 mm). The lowest monthly totals were 7.8 mm recorded in both January and April 2021. The highest monthly total was 88.2 mm recorded in May 2021.

In the 12 months July 2020 to June 2021, six months recorded low rainfall (July, October, December, January, February and April). Two months recorded close to average rainfall (August and September). Four months recorded above average rainfall (November, March, May and June).

July 2019 to June 2020 = 604.8 mm (95% of LTA)
July 2018 to June 2019 = 577.0 mm (91% of LTA)
July 2017 to June 2018 = 740.6 mm (116% of LTA)

Wind

Average daily wind run for June 2021 was 192.3 km, with an average wind speed of 8.0 km/hr. This was well below the long-term average wind-run for June of 220.6 km and average wind speed of 9.2 km/hr (1996-2020). Only one month in the past year, July 2020 to June 2021, recorded above average wind-run (October 2020). This continues the trend of the last 10 years, over which time period most months have recorded below average wind-run.

Rob Agnew

Plant & Food Research / Marlborough Research Centre



**MARLBOROUGH
RESEARCH
CENTRE**

Te Rito Hiranga o Wairau