

Weather Data summary for March 2023 for the Blenheim Meteorological station located at Grovetown Park.

Table 1: Weekly temperatures, rainfall and sunshine during March 2023

	Mean (°C)	Mean Max (°C)	Mean Min (°C)	Rainfall (mm)	Sunshine (hours)	Windrun (km)
1 <sup>st</sup> - 7 <sup>th</sup>	17.8 (+1.7)	23.1 (+2.4)	12.4 (+1.8)	13.6	56.4	166.9
8 <sup>th</sup> - 14 <sup>th</sup>	18.3 (+2.2)	24.4 (+2.9)	12.2 (+1.6)	15.2	56.6	220.9
15 <sup>th</sup> - 21 <sup>st</sup>	17.0 (+0.9)	22.9 (+1.4)	11.1 (+0.5)	18.6	60.3	220.3
22 <sup>nd</sup> - 28 <sup>th</sup>	15.5 (-0.6)	21.3 (-0.2)	9.8 (-0.8)	6.8	50.2	206.6
29 <sup>th</sup> – 31 <sup>st</sup> (3 days)	11.1 (-5.0)	17.9 (-3.6)	4.3 (-6.3)	1.4	23.5	182.3
1 – 31 March	16.6 (+0.5°C)	22.4 (+0.9°C)	10.7 (+0.1°C)	55.6 (136%)	247.0 (107%)	201.6 (84%)
LTA 1986-2022	16.1	21.5	10.6	41.0	230.2	239.0

Sunshine

247.0 hours sunshine for March is 107% of the long-term average (LTA) for March of 230.2 hours (1986-2022).  
March 2022 recorded 238.0 hours sunshine.  
March 2021 recorded 208.8 hours sunshine.  
March 2020 recorded 234.0 hours sunshine.  
March 2019 recorded 225.7 hours sunshine.

Total sunshine for the first three months of 2023 is 652.6 hours; 90% of the LTA (1986-2022) of 725.3 hours.

Although Blenheim recorded above average sunshine hours in March it languished in 8<sup>th</sup> place amongst the other contenders. After a very sunny start to the year in January and February, Cromwell and Tekapo dropped down the rankings in March. However, they are still retaining first and second places for sunshine totals for the 3-months January to March 2023.

Sunniest towns in March 2023

New Plymouth	276.6 hours
Richmond	270.2 hours
Whakatane	260.4 hours
Nelson	258.5 hours
Napier	252.0 hours
Appleby	249.8 hours
Auckland	247.4 hours
Blenheim	247.0 hours
Cromwell	222.6 hours
Tekapo	220.1 hours

Ranking of sunniest towns in NZ for the 3-months January to March 2023

Cromwell	785.2 hours
Tekapo	765.5 hours
New Plymouth	763.7 hours
Richmond	707.7 hours
Appleby	656.5 hours
Blenheim	652.6 hours
Nelson	652.4 hours

Rainfall

55.6 mm rain is 136% of the LTA for March of 41.0 mm (1986-2022).  
March 2022 rainfall was 17.0 mm.  
March 2021 rainfall was 79.2 mm.  
March 2020 rainfall was 11.2 mm.

March 2019 rainfall was 94.6 mm.

While March 2023 rainfall was above average there were no significantly large rain events during the month. There were 6 rain days during the month; i.e. days that recorded 1.0 mm or more rain. The rainfall was spread throughout the month, with the largest daily total being 15.2 mm recorded on 13 March.

Total rainfall for the first 3-months of 2023 was 156.2 mm; 119% of the LTA of 131.3 mm

Total rainfall for the first 3-months of 2022 was 183.0 mm; 138% of the LTA

Total rainfall for the first 3-months of 2021 was 109.8 mm; 843% of the LTA.

### **Soil moisture**

Average shallow soil moisture (5-35 cm depth) at the Grovetown Park weather station during March was 24.5%. This was 4.3% above the LTA March value of 20.2%. Shallow soil moisture rose from 21.2% on 1 March to 26.8% on 31 March.

### **Air Temperature**

Mean temperature of 16.6°C was 0.5°C above the LTA temperature for March of 16.1°C (1986-2022).

March 2022 mean temperature was 16.3°C.

March 2021 mean temperature was 16.2°C.

March 2020 mean temperature was 15.5°C.

March 2019 mean temperature was 17.6°C.

The first three weeks of March all recorded above average temperatures. The second week was especially warm, with the mean temperature of 18.3°C being the same as the average January mean temperature. However, temperatures over the last 10-days of March were colder than average and Blenheim got its first taste of the winter to come.

### **Coldest and Hottest days during March**

No ground or air frosts were recorded during March 2023. The coldest minimum air temperature of 2.4°C was recorded on 29 March. This was the coldest air minimum temperature in March since 25 March 2004. The grass minimum temperature on 29 March was 0.0°C. While this morning didn't officially record a frost many people noted that there was some ice on car windscreens and on roofs. Ice forms sooner on surfaces such as glass windscreens or metal roofs as these surfaces cool down quickly and dew forms on these surfaces easily. Whereas the official ground frost temperatures are measured 2.5 cm above a mown grass surface. Soil under grass stores heat during the day, which is then radiated out at night, so the ground temperature will normally be warmer than the temperature on a windscreen or roof.

The hottest maximum temperature of 29.0°C was recorded on 2 March.

### **Wind Run**

March 2023 recorded average daily wind-run of 201.6 km compared to the LTA of 239.0 km (1996-2022); 84% of the LTA. While March recorded lower than average wind-run, it was considerably windier than March 2022 which recorded average daily wind-run of only 163.9 km.

Only 6-days in March 2023 recorded above average daily wind-run; i.e. greater than 239 km.

The maximum instantaneous wind-gust recorded during the month was 78.5 km/hr on 20 March. This day also recorded the highest daily wind-run total during the month of 392 km.

*Rob Agnew*

*Plant & Food Research / Marlborough Research Centre*



**MARLBOROUGH  
RESEARCH  
CENTRE**

Te Rito Hiranga o Wairau