

**Meteorological data summary for November 2022 for the Blenheim Meteorological station located at the Grovetown Park campus of the Marlborough Research Centre.**

**Table 1: Weekly weather data during November 2022**

	Mean (°C) Deviation	Mean Max (°C)	Mean Min (°C)	Rainfall (mm)	Sunshine (hours)	Wind-run (km)
1 <sup>st</sup> - 7 <sup>th</sup>	16.7 (+1.9)	21.4 (+1.4)	12.1 (+2.5)	7.2	69.4	330.1
8 <sup>th</sup> - 14 <sup>th</sup>	15.0 (+0.2)	19.3 (-0.7)	10.7 (+1.1)	14.2	65.0	233.9
15 <sup>th</sup> - 21 <sup>st</sup>	17.8 (+3.0)	22.8 (+2.8)	12.7 (+3.1)	38.4	47.5	175.1
22 <sup>nd</sup> - 28 <sup>th</sup>	16.1 (+1.3)	21.0 (+1.0)	11.2 (+1.6)	9.0	64.2	289.0
29 <sup>th</sup> - 30 <sup>th</sup> (2 days)	17.4 (+2.6)	23.1 (+3.1)	11.8 (+2.2)	3.8	11.0	217.5
1 <sup>st</sup> - 30 <sup>th</sup> November 2022	16.5 (+1.7)	21.3 (+1.3)	11.7 (+2.1)	72.6 (146%)	257.1 (107%)	254.4 87%
November LTA (1986 - 2021)	14.8	20.0	9.6	49.6	239.3	291.4

LTA – Long Term Average

**November 2022 recorded a well above average mean temperature, above average rainfall and sunshine hours and below average wind-run.**

### Sunshine

257.1 hours sunshine for November is 107% of the long-term average (LTA) for November of 239.3 hours.

November 2021 recorded 228.2 hours sunshine.

November 2020 recorded 180.0 hours sunshine.

November 2019 recorded 272.8 hours sunshine.

Total sunshine for the 11 months January to November 2022 is 2242.6 hours; 99% of the LTA of 2258.7 hours.

### Sunniest towns in November 2022

Blenheim 257.1 hours

Richmond 252.8 hours

Napier 243.0 hours

### Sunniest town in New Zealand

Totals to the end of November 2022:

New Plymouth 2361.1 hours

Whakatane 2297.4 hours (63.7 hours behind New Plymouth)

Richmond 2291.0 hours (70.1 hours behind New Plymouth)

Blenheim 2242.6 hours (118.5 hours behind New Plymouth)

Tekapo 2219.5 hours

Blenheim was the sunniest town in New Zealand in November. Unfortunately, Blenheim has left its run too late in the year. At the end of November, New Plymouth has an almost unassailable lead in the race for the sunniest town in New Zealand for 2022. It is 63.7 hours ahead of second placed Whakatane. Richmond is in third place and Blenheim in fourth place, 118.5 hours behind New Plymouth.

### Rainfall

Rainfall total of 72.6 mm is 146% of the LTA for November of 49.6 mm. November recorded 10 rain days, compared to the LTA of 6. Rain was reasonably well spread throughout the month, with 10 rain days greater than 1.0 mm recorded, in comparison to the LTA of 6.4 rain days.

November 2021 rainfall was 14.2 mm

November 2020 rainfall was 81.8 mm

November 2019 rainfall was 42.6 mm

November 2015 rainfall was 2.8 mm (lowest total on record 1930-2016)

Total rainfall for the 11 months January to November 2022 is 781.8 mm; 132% of the LTA of 590.6 mm. January to November 2021 recorded 633.2 mm.

Blenheim's LTA annual rainfall total is 639 mm (1986-2021). Blenheim exceeded its LTA rainfall total on 19 August 2022, with four and a half months of the year still to be completed. 2022 will be one of Blenheim's wettest years on record. Only 9 years between 1930 and 2021 have exceeded 781.8 mm. However, 2022 is highly unlikely to be the wettest year on record. That record was set in 1995, with total rainfall of 1003.4 mm, which is unlikely to be exceeded.

### **Soil moisture**

Shallow soil moisture (0 to 35 cm depth) at the Grovetown Park weather station on 1 November 2022 was 21.5%, well below the average value at the start of November (2003 to 2021) of 27.4%. On 30 November following rain the soil moisture had risen to 26.9%, which was well above the LTA on 30 November of 21.7%.

### **Temperature**

Mean temperature of 16.5°C was 1.7°C above the LTA temperature for November of 14.8°C. This is now the 4<sup>th</sup> warmest November on record for the 91 years 1932 to 2022

November 2021 mean temperature was 16.3°C.

November 2020 mean temperature was 15.2°C.

November 2019 mean temperature was 16.7°C (second warmest on record)

November 2022 is the 10<sup>th</sup> year in a row (2013-2022) when the November mean temperature has been above average. The 3-years 2019, 2021 and 2022 are all in the top 6 warmest November's on record for the 91 years 1932-2022.

The hottest maximum air temperature of 27.8°C was recorded on 15 November. (26.7°C on 29 Nov 2021)

The coldest minimum air temperature of 6.4°C was recorded on 25 November (6.3°C on 18 Nov 2021)

The coldest minimum grass temperature of 1.9°C was recorded on 25 November (1.0°C on 18 Nov 2021)

### **Wind Run**

Average daily wind run during November 2022 was 254.4 km; 87% of the LTA wind-run for November of 291.4 km. The windiest day of the month was 3 November 2022, with total wind-run of 458 km and average wind speed of 19.1 km/hr. The calmest day of the month was 27 November, with total wind run of 118 km and average wind speed of 4.9 km/hr. The absolute maximum wind speed during the month was 63.7 km/hr recorded on 3 November.

All 11 months to the end of November 2022 have recorded below average wind-run.

### **Evapotranspiration (ET)**

Total Evapotranspiration for November was 128.6 mm, or 105% of the LTA of 122.5 mm.

### **Water Deficit (rainfall minus evapotranspiration)**

Total water deficit for November was -56.0 mm. The LTA is -77.1 mm.

## **Spring Summary – September to November 2022**

**Table 2: Monthly sunshine, rainfall and mean temperature over spring in 2022 compared to average**

<b>Month</b>	<b>Sunshine Hours 2022</b>	<b>Sunshine Hours LTA</b>	<b>Rainfall mm 2022</b>	<b>Rainfall mm LTA</b>	<b>Mean temp °C 2022</b>	<b>Mean temp °C LTA</b>
September	195.4	196.1	38.6	52.8	11.6	11.1
October	247.7	230.7	16.8	57.2	12.9	13.2
November	257.1	239.3	72.6	49.6	16.5	14.8
<b>Total Sun &amp; Rain Mean temp</b>	<b>700.2</b>	<b>666.1</b>	<b>128.0</b>	<b>159.6</b>	<b>13.7</b>	<b>13.0</b>

### **Sunshine**

September to November 2022 recorded 700.2 hours sunshine, 105% of the long-term average.

### **Rainfall**

September to November 2022 recorded 128.0 mm rain, 80% of the LTA.

It is interesting to note that the well below average spring rainfall total in 2022 was in marked contrast to the winter rainfall. 2022 recorded the wettest winter (June, July, August) on record with a total of 413.4 mm (215% of the LTA).

### **Temperature**

September to November 2022 recorded a mean temperature of 13.7°C. This was 0.7°C above the LTA (1986-2021). The 11<sup>th</sup> warmest spring on record for the 91 years 1932 to 2022.

***Plant & Food Research / Marlborough Research Centre***

**[rob.agnew@plantandfood.co.nz](mailto:rob.agnew@plantandfood.co.nz)**