

Meteorological data summary for January 2021 for the Blenheim Meteorological station located at the Grovetown Park campus of the Marlborough Research Centre.

Weekly temperatures, rainfall and sunshine during January 2021

	Mean Max (°C)	Mean Min (°C)	Mean (°C)	Rainfall (mm)	Sunshine (hours)	Wind-Run (km)
1 st - 7 th	24.5 (+1.0)	13.5 (+0.7)	19.0 (+0.8)	1.2	69.2	230.9
8 th - 14 th	23.8 (+0.3)	12.1 (-0.7)	17.9 (-0.3)	0.2	64.9	197.6
15 th - 21 st	23.3 (-0.2)	13.0 (+0.2)	18.2 (=)	6.0	69.7	352.4
22 nd - 28 th	28.2 (+4.7)	12.9 (+0.1)	20.6 (+2.4)	0.4	73.3	276.4
29 th - 31 st (3 days)	20.3 (-3.2)	7.6 (-5.2)	14.0 (-4.2)	0.0	32.0	189.7
1st - 31st January	24.5 (+1.0°C)	12.4 (-0.4°C)	18.4 (+0.2°C)	7.8 (18%)	309.0 117 %	257.1 95%
LTA 1986-2020	23.5	12.8	18.2	43.2	263.0	271.0 (1996-2020)

January 2021 rainfall was markedly below average. Wind-run was below average. Mean temperature was slightly above average. Sunshine hours and evapotranspiration were well above average.

Air Temperature

The mean temperature of 18.4°C was 0.2°C above the long-term average temperature (LTA) for January of 18.2°C (1986-2020). This was warmer than January 2020 but a lot cooler than the very warm mean temperatures in January 2018 and 2019.

January 2020 mean temperature was 17.5°C

January 2019 mean temperature was 20.7°C

January 2018 mean temperature was 20.7°C

The first week of January 2021 was reasonably warm, but was followed by two weeks when daytime maximum temperatures fluctuated from fairly cool (18.5°C on 9 Jan) to fairly warm (29.3°C on 13 Jan). A period of very hot daily maximum temperatures was recorded in the fourth week over the five days from 24th to 28th Jan. However, those hot days were followed by three cool days from 29th to 31st January. The overnight minimum temperatures on 30th and 31st January were only 6.2 and 6.3°C respectively. These two minimum temperatures were 6.6 and 6.5°C below the LTA of 12.8°C.

The highest maximum temperature of 36.4°C was recorded on Wednesday 27 January 2021. This temperature has entered the record books as Blenheim's hottest ever day for the 91 years 1930 to 2021. The previous highest maximum daily temperature was 36.0°C recorded on 11 January 1979, which is remembered as the day of the "Farmers Fire". Two years ago on 28 January 2019 Blenheim recorded a maximum temperature of 35.0°C

Despite the very hot maximum temperature on 27 January, there were only two days during January 2021 when the maximum temperature exceeded 30°C. In marked contrast Blenheim recorded 10 days in January 2019 of 30.0°C or higher. However, the LTA is only 1.3 days above 30°C in January (1947-2020).

The average daily range in temperature during January was 12.1°C, which was 1.4°C above the LTA of 10.7°C. However, on 27 January with a maximum of 36.4°C and a minimum of 12.3°C, the daily range in temperature was 24.1°C.

Sunshine

309.0 hours sunshine for January is 117% of the LTA for January of 263.0 hours. This is the 6th sunniest January on record over the 92 years 1930 to 2021.

January 2020 sunshine was 245.0 hours

January 2019 sunshine was 317.9 hours (2nd highest January total on record)

January 2018 sunshine was 243.6 hours

There were 10 days during January 2021 that recorded less than average sunshine hours (8.5 hours). However, there were 13 days that recorded more than 12 hours sunshine; i.e. 12 hours sunshine is 3.5 hours above the average daily total.

Sunniest towns for January 2021

Napier	313.6 hours
New Plymouth	311.3 hours (provisional)
Whakatane	310.3 hours
Blenheim	309.0 hours (4.6 hours behind Whakatane)
Richmond	289.6 hours

Rainfall

Rainfall total of 7.8 mm is 18% of the LTA for January of 43.2 mm. This is the 10th lowest January rainfall total, for the 92 years 1930-2021.

January 2020 rainfall was 0.2 mm – 2nd lowest on record

January 2019 rainfall was 3.8 mm – 5th equal lowest on record

January 2018 rainfall was 80.4 mm

January 2017 rainfall was 27.2 mm

January 1978 rainfall was 0.0 mm – lowest on record

2021 is the third year in a row with very low January rainfall.

The total rainfall for December 2020 and January 2021 was 30.6 mm. This is only 32% of the LTA (1931-2021) total of 94.8 mm. It is also the third lowest December-January rainfall total on record.

Wind-run

Average daily wind-run in January 2021 was 257.1 km, 95% of the LTA of 271.0 km. Many people will probably be rather surprised that January's wine-run was below average, as there were a number of quite windy days. However, it is windy days we remember, rather than all the calm days.

There were 11 days in January that recorded greater than the LTA 271.0 km daily wind-run. The eight days in a row from 17 to 24 January all recorded above average wind-run.

The windiest day was Wednesday 20 January with 510 km wind-run.

Maximum wind speed during the month was 78.1 km/hr recorded on 19 January.

Potential evapotranspiration

Total potential evapotranspiration for January 2021 was 172.3 mm, 120% of the LTA of 143.5 mm.

Potential water deficit

This is the difference between monthly rainfall and potential evapotranspiration.

7.8 mm rainfall – 172.3 mm potential evapotranspiration = -164.5 mm potential water deficit

This water deficit of -164.5 mm is 160% of the LTA of -102.7 mm.

The much greater water deficit is a combination of very low rainfall and high evapotranspiration.

Shallow soil moisture (topsoil)

Average shallow soil moisture (0 to 35 cm) at the Grovetown Park weather station for January 2021 was 16.7%. This was 4.1% below the LTA of 20.8%. As December 2020 received slightly less than half its normal rainfall the shallow soil moisture on 1 January, of 18.4%, was 3.5% below average. With little rainfall in January the soil moisture fell to 15.2% on 31 January; i.e. getting close to as dry as the topsoil can get.

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