

Meteorological data summary for January 2023 for the Blenheim Meteorological station located at the Grovetown Park campus of the Marlborough Research Centre.

Weekly temperatures, rainfall and sunshine during January 2023

	Mean (°C)	Mean Max (°C)	Mean Min (°C)	Rainfall (mm)	Sunshine (hours)	Wind-Run (km)
1 st - 7 th	18.2 (=)	22.6 (-1.0)	13.7 (+0.9)	37.8	37.1	155.1
8 th - 14 th	16.3 (-1.9)	19.9 (-3.7)	12.7 (-0.1)	5.6	35.7	181.3
15 th - 21 st	18.4 (+0.2)	24.0 (+0.4)	12.8 (=)	0.0	79.3	200.4
22 nd - 28 th	18.1 (-0.1)	23.3 (-0.3)	12.9 (+0.1)	9.0	52.2	196.3
29 th - 31 st (3 days)	20.1 (+1.9)	24.0 (+0.4)	16.2 (+3.4)	8.0	7.5	127.0
1st - 31st January	18.0 (-0.2°C)	22.6 (-1.0°C)	13.3 (+0.5°C)	60.4 (146%)	211.7 80%	177.8 66%
LTA 1986-2022	18.2	23.6	12.8	41.4	265.6	268.0 (1996-2022)

Summary

January 2023 rainfall was above average. Mean temperature was slightly below average. Sunshine hours and wind-run were both well below average.

The overcast weather associated with the rainfall and lack of sunshine made for a rather lacklustre summer month.

Air Temperature

The mean temperature of 18.0°C was 0.2°C below the long-term average temperature (LTA) for January of 18.2°C (1986-2022).

January 2022 mean temperature was 18.3°C

January 2021 mean temperature was 18.4°C

January 2020 mean temperature was 17.5°C

January 2019 mean temperature was 20.7°C

There were no days during January 2023 when the daily maximum reached 30.0°C. Blenheim recorded only 5-days above 25.0°C in January 2023. This low number stands in marked contrast to the previous 4-years, which have had between 10 and 20 days above 25.0°C.

Blenheim recorded 1 day greater than 30.0°C in January 2022. 10 days above 25.0°C

Blenheim recorded 2 days greater than 30.0°C in January 2021. 13 days above 25.0°C

Blenheim recorded 2 days greater than 30.0°C in January 2020. 10 days above 25.0°C

Blenheim recorded 10 days greater than 30.0°C in January 2019. 20 days above 25.0°C

The highest maximum temperature of 29.7°C was recorded on 20 January 2023.

Sunshine

211.7 hours sunshine for January was 80% of the LTA for January of 265.6 hours. This is the 5th lowest January sunshine total on record for Blenheim for the 94 years 1930 to 2023. The last time that January recorded less sunshine was in the year 2000, which is also the lowest January total on record, with 195.8 hours.

NB: January 2023 recorded 102.1 hours less sunshine than January 2022, or 3.3 hours less per day.

January 2022 sunshine was 313.8 hours

January 2021 sunshine was 309.0 hours

January 2020 sunshine was 245.0 hours

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

The first 2-weeks of January were very overcast. Average daily sunshine from 1 to 14 January was 5.19 hours compared to the LTA daily sunshine for January of 8.57 hours. Ten of the 12-days from 15 to 26 January recorded above average sunshine as these 12-days recorded no rain. These 12-days also prevented January 2023 becoming the least sunny January on record. However, the final 5-days of the month saw a return of the overcast weather.

Blenheim has not made a good start to the sunshine race for 2023, languishing in 8th place for January. Central Otago was the sunniest region in January, with Cromwell taking the top spot. Not surprising, given that this region has been enjoying a good summer so far.

Sunniest towns for January 2023

Cromwell	308.6 hours
Tekapo	294.8 hours
New Plymouth	250.5 hours
Levin	243.4 hours
Paraparaumu	239.6 hours
Richmond	229.0 hours
Appleby	212.8 hours
Blenheim	211.7 hours

Rainfall

Rainfall total of 60.4 mm was 146% of the LTA for January of 41.4 mm. The above average rainfall in January 2023 follows 4-years (2019 to 2022) when January recorded very low rainfall.

The most recent previous year with higher January rainfall was 2018, with 80.4 mm. However, February 2018 also recorded 181.4 mm rain, the highest February total on record.

February 2022 recorded 153.4 mm, the second highest February total on record. Hopefully February 2023 will not bring high rainfall.

January 2022 rainfall was 12.6 mm

January 2021 rainfall was 7.8 mm

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

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

January 2018 rainfall was 80.4 mm

January 1978 rainfall was 0.0 mm – lowest on record

Wind-run

Average daily wind-run in January 2023 was 177.8 km, 66% of the LTA of 268 km. This is the lowest January wind-run total on record for the 28 years 1996 to 2023; i.e. it was a very calm month. There was only 1-day in January when the daily wind-run exceeded the LTA of 268 km. The windiest day was 20 January with 281 km wind-run. Maximum wind speed during the month was 49.7 km/hr recorded on 28 January.

Potential evapotranspiration

Total potential evapotranspiration for January 2023 was 121.3 mm, 84% of the LTA of 144.9 mm.

Potential water deficit

This is the difference between monthly rainfall and potential evapotranspiration.

60.4 mm rainfall – 121.3 mm potential evapotranspiration = -60.9 mm potential water deficit

This water deficit of -60.9 mm is only 57% of the LTA of -106.6 mm.

Shallow soil moisture (topsoil)

Average shallow soil moisture (0 to 35 cm) at the Grovetown Park weather station for January 2023 was 25.3%. This was well above the LTA of 20.6%. The shallow soil moisture oscillated up and down during the month. On 1 January it was 22.8%. However, following 37.8 mm rain from 4 to 6 January soil moisture rose to 30.6% on 7 January. With no rain recorded from 12 to 27 January the soil moisture dropped back down to 20.7%. Further rain on the 28th and 29th pushed the soil moisture back up slightly to 22.3%.

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