

National Climate Summary: **June 2014** Issued: 2 July 2014

# Warmest June on record for New Zealand

|  |  |
| --- | --- |
| **Temperature** | It was an exceptionally warm start to winter in terms of both intensity and coverage with just about all of New Zealand, from the top of the North Island to the bottom of the South Island, reporting above normal (0.51-1.20°C above average) to well above normal (more than 1.20°C above average) temperatures for June. In fact, dozens of climate stations placed in the top four for warmest June ever recorded, with New Zealand’s Seven Station Series recording the warmest June on record of 10.3°C. |
| **Rainfall** | Early winter rain was above normal (120-149% of June normal) to well above normal (150% or greater of the June normal) for most of the Northland, Auckland, Waikato and coastal Bay of Plenty regions. Conversely, below (50-79% of June normal) to well below normal rainfall (less than 50% of June normal) for much of the Taranaki, interior Bay of Plenty, and south coastal Hawke’s Bay as well as much of the Manawatu-Wanganui regions. South Island rainfall was just as wide ranging with parts of eastern Canterbury, coastal Marlborough and Nelson regions receiving above or well above normal rainfall for June. Meanwhile, below or well below rainfall was recorded in a good part of the Otago and Southland regions. Most other locations in New Zealand received near normal June rainfall (within 20% of normal). |
| **Soil Moisture** | As of 1 July 2014, after a very dry summer for much of the North Island, soil moisture levels are now at typical levels for this time of year for most locations. The exception is parts of the Hawke’s Bay where some coastal areas are drier or much drier than normal for this time of year. Soils remain quite saturated for most of the eastern part of the South Island, in particular coastal Marlborough, Canterbury and northern parts of the Otago regions. All other parts of the South Island have soil moisture levels that are typical for this time of year. |
| **Sunshine** | Sunshine was near normal (90 to 109% of normal) for much of the North Island. However, the central North Island from Taumarunui to Palmerston North received well above normal sunshine (more than 125% of June normal) to begin the winter season. Most of the South Island also received near normal sunshine; however, there were also exceptions with pockets of below normal sunshine (75 to 89% of June normal) over the Otago region with spotty areas of well below normal (less than 75% of June normal) sunshine over coastal Southland. |

Click on the link to jump to the information you require:

[Overview](#_Overview)

[Temperature](#_Temperature:_Warmest_June)

[Rain](#_Rainfall:_Divided_on)

[Sunshine](#_Sunshine:_Reasonably_generous)

[June 2014 climate in the six main centres](#_June_climate_in)
[Highlights and extreme events](#_Highlights_and_extreme_1)

## Overview

June 2014 was characterised by higher than normal mean sea level pressure (MSLP) values from New Zealand, and in particular, points east and southeast of the country to the Dateline. Meanwhile, lower than normal MSLP were present to the west and southwest of New Zealand. This resulted in a dominant north-easterly flow anomaly across the country. Furthermore, this played a significant role in the record warm June, and start to the winter season, as this meant the source origin of air was not from the higher latitudes where colder air is generated.

The persistent lack of southerlies not only had a profound impact on the monthly temperatures in terms of the strength, or departure from average, but also the coverage. In fact, only one climate station (Middlemarch) experienced a June mean temperature that was NOT either above average (0.51 to 1.2°C above June average) or well above average (more than 1.2°C above June average). As highlighted in the temperature section of this document, dozens of locations experienced record or near record warm temperatures in June.

As for rainfall, there was quite a contrast in terms of distribution across the country. Many northern and eastern parts of the North Island received above normal or well above normal rainfall for June (110-125% of normal and greater than 125% of normal, respectively) from Northland to Auckland and Bay of Plenty regions. However, rainfall was lacking for many other parts of the North Island, in particular the Taranaki, Manawatu-Wanganui, Wairarapa and southern coastal areas of the Hawke’s Bay regions where rainfall was below normal (50-79% of June normal) or well below normal (less than 50% of June normal). No doubt the prevailing north-easterly wind, described earlier, carrying warmth and moisture from the sub-tropics and tropics, substantially contributed to this rainfall pattern as northern and eastern areas first greeted the moist air and thus releasing much of its water content in said areas. Moreover, it is distinctly possible - if not likely - that rainfall was further enhanced by abnormally warm sea surface temperatures (up to 1.0°C above normal) east of New Zealand as that provided additional fuel for low pressure centres. The wet impacts of the northeast wind then reversed as the air continued to travel southwest (from the northeast), drying significantly by the time it reached central and southern parts of the island.

The rainfall dichotomy continued across the Cook Strait and onto the South Island where precipitation ranged from above normal to well above normal from the Tasman and Marlborough regions south into eastern Canterbury and continuing to the Christchurch region. Interestingly, just southeast of Christchurch, on the Banks Peninsula, rainfall was very low with Akaroa receiving only one-third of the June normal rainfall, or well below normal (less than 50% of June normal). The checkerboard pattern continued farther south into the rest of the South Island as woven into a regime of below normal or well below normal rainfall were areas of normal to even well above normal rainfall. Of note were many Southland areas that experienced an unusually dry June, with several locations reporting below or well below normal June rainfall. A relative lack of onshore (south to southwest) airflow is likely to be a contributing factor to these observations.

In spite of the somewhat erratic nature of the June rainfall distribution, soil moisture levels were more uniform, though regions of abnormally wet or dry soils were present. As of 1 July, most of the country has soil moisture levels that are, generally speaking, close to normal (i.e. near field capacity) for this time of year. The exceptions are on eastern areas of both islands where parts of Hawke’s Bay, coastal Wairarapa are reporting soil moisture levels that abnormally dry for this time of year. For the South Island, abnormally wet soils for this time of year are present from the eastern Marlborough south through to coastal Otago regions.

Near normal (within 10% of June normal) or above normal (110-125% of June normal) June sunshine hours were recorded for most parts of the North Island. There were even few locations that experienced well above average sunshine for the month (more than 125% of June normal), mostly in the Manawatu-Whanganui region. Sunshine for the South Island was, on average, comparatively less plentiful. Much of the island experienced near normal (within 10% of June normal) or below normal sunshine (75-89% of June normal), with well below normal sunshine recorded in Nelson (less than 75% of June normal). However, nestled within that zone was Cheviot in northern Canterbury, which received well above normal sunshine for June. Well above normal sunshine was also experienced in Queenstown.

**Further Highlights:**

* The highest temperature was 22.2°C, observed at Waione on 8 June.
* The lowest temperature was -7.4°C, observed at Hanmer Forest on 1 June.
* The highest 1-day rainfall was 137 mm, recorded at Te Puke on 11 June.
* The highest wind gust was 161 km/hr, observed at Cape Turnagain on 21 June.
* Of the six main centres in June 2014, Dunedin was the driest and cloudiest, Auckland was the sunniest and warmest, Tauranga was the wettest, and Christchurch was the coolest.
* Of the available, regularly reporting sunshine observation sites, the sunniest four centres[[1]](#footnote-1) so far in 2014 (January to June) are: Whakatane (1392 hours), Tauranga (1261 hours), Auckland - Albany (1214 hours) and Takaka (1207 hours).

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## Temperature: Warmest June on record for New Zealand

It was an exceptionally warm start to winter from the top of the North Island to the bottom of the South Island, as dozens of locations experienced record or near record high mean temperatures for the month of June. As noted in the table below, there are an abundance of individual locations that recorded their warmest June on record. Of particular note are the number of stations that recorded temperatures of two degrees or more above the long term average. Perhaps most impressive is how wide reaching and sustained the warmth was during June. According to NIWA’s seven station temperature series, June 2014 produced the highest mean temperature for June recorded in New Zealand. The nation-wide average temperature in June 2014 was 10.3°C (1.9°C above the 1971-2000 June average from NIWA’s seven station temperature series which begins in 1909)[[2]](#footnote-2). This surpasses the previous record for warmest June in 2003, when the temperature anomaly for the month was 1.8°C. Also of note, there have now been nine Junes since 1909 where the departure from average has been greater than 1.0°C. Of those 9 instances, 5 have occurred since the year 2000 and 8 since the year 1970.

**Record[[3]](#footnote-3) or near-record mean air temperatures for June were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Mean** **air temp. (oC)** | **Departure from normal (oC)** | **Year records began** | **Comments** |
| High records or near-records |
| Cape Reinga | 14.9 | 1.4 | 1951 | 2nd-highest |
| Kaitaia  | 14.5 | 1.7 | 1948 | 2nd-highest |
| Kerikeri  | 14.0 | 1.9 | 1981 | Highest |
| Kaikohe  | 13.7 | 1.9 | 1973 | 2nd-highest |
| Whangarei  | 14.1 | 1.7 | 1967 | 2nd-highest |
| Whangaparaoa  | 13.8 | 1.2 | 1982 | 4th-highest |
| Auckland (Whenuapai) | 12.7 | 1.5 | 1945 | 2nd-highest |
| Tauranga  | 13.1 | 2.1 | 1913 | Highest |
| Te Puke  | 12.7 | 2.7 | 1973 | Highest |
| Whakatane  | 11.4 | 1.9 | 1974 | 2nd-highest |
| Rotorua  | 10.0 | 1.5 | 1964 | 4th-highest |
| Taupo | 8.9 | 1.5 | 1949 | 4th-highest |
| Motu  | 8.7 | 2.2 | 1990 | 2nd-highest |
| Auckland (Mangere) | 13.6 | 1.8 | 1959 | 4th-highest |
| Pukekohe  | 12.8 | 1.7 | 1969 | 4th-highest |
| Hamilton (Ruakura) | 11.9 | 2.3 | 1906 | 2nd-highest |
| Port Taharoa  | 13.5 | 1.6 | 1973 | 3rd-highest |
| New Plymouth  | 12.1 | 1.5 | 1944 | 4th-highest |
| Masterton  | 9.8 | 1.9 | 1906 | 3rd-highest |
| Dannevirke  | 10.0 | 1.5 | 1951 | 4th-highest |
| Waione  | 10.6 | 1.5 | 1991 | 4th-highest |
| Ngawi  | 13.0 | 1.7 | 1972 | 2nd-highest |
| Hicks Bay  | 13.5 | 1.6 | 1969 | 4th-highest |
| Gisborne  | 12.2 | 2.0 | 1905 | 2nd-highest |
| Mahia  | 12.5 | 1.7 | 1990 | 2nd-highest |
| Paraparaumu  | 11.1 | 1.4 | 1953 | 4th-highest |
| Palmerston North  | 11.4 | 2.1 | 1928 | 2nd-highest |
| Levin  | 11.0 | 1.7 | 1895 | 3rd-highest |
| Wellington  | 11.7 | 1.2 | 1962 | 4th-highest |
| Wallaceville  | 9.7 | 1.0 | 1939 | Equal 3rd-highest |
| Stratford  | 10.9 | 2.5 | 1960 | Highest |
| Hawera  | 11.1 | 1.6 | 1977 | 3rd-highest |
| Wanganui | 12.4 | 2.0 | 1937 | Highest |
| Takaka  | 10.0 | 1.6 | 1978 | 4th-highest |
| Farewell Spit  | 12.4 | 1.9 | 1971 | 3rd-highest |
| Westport  | 11.2 | 1.9 | 1937 | Highest |
| Hokitika  | 10.4 | 2.2 | 1866 | Highest |
| Hokitika  | 10.3 | 2.1 | 1866 | 2nd-highest |
| Reefton  | 8.5 | 2.6 | 1960 | 2nd-highest |
| Greymouth  | 10.5 | 1.7 | 1947 | 3rd-highest |
| Haast  | 9.9 | 1.8 | 1949 | Highest |
| Milford Sound | 7.6 | 1.7 | 1934 | 3rd-highest |
| Secretary Island  | 11.0 | 1.6 | 1985 | Highest |
| Nelson Aero | 10.1 | 2.2 | 1943 | 3rd-highest |
| Blenheim  | 10.8 | 2.3 | 1941 | 2nd-highest |
| Cape Campbell  | 11.3 | 1.1 | 1953 | 4th-highest |
| Kaikoura  | 10.9 | 1.8 | 1963 | 3rd-highest |
| Culverden  | 7.7 | 2.0 | 1928 | 3rd-highest |
| Waiau  | 7.9 | 2.2 | 1974 | Highest |
| Cheviot  | 8.4 | 1.7 | 1982 | 2nd-highest |
| Le Bons Bay  | 9.5 | 1.2 | 1984 | 4th-highest |
| Timaru  | 8.0 | 1.5 | 1885 | 2nd-highest |
| Ranfurly  | 4.8 | 2.0 | 1975 | Highest |
| Oamaru  | 8.2 | 1.1 | 1908 | 2nd-highest |
| Dunedin (Musselburgh) | 8.7 | 1.4 | 1947 | Highest |
| Lumsden | 6.1 | 1.4 | 1982 | 4th-highest |
| Gore  | 7.0 | 1.7 | 1971 | 2nd-highest |
| Invercargill  | 7.8 | 1.9 | 1905 | 2nd-highest |
| Tiwai Point | 8.3 | 1.4 | 1970 | 2nd-highest |
| South West Cape | 9.4 | 1.6 | 1991 | Highest |

**Record or near-record mean maximum air temperatures for June were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Mean maximum****air temp. (oC)** | **Departure from normal (oC)** | **Year records began** | **Comments** |
| HIgh records or near-records |
| Cape Reinga  | 16.9 | 1.2 | 1951 | 4th-highest |
| Kaitaia  | 17.8 | 1.6 | 1948 | 2nd-highest |
| Kerikeri  | 18.3 | 1.7 | 1981 | Highest |
| Kaikohe  | 16.7 | 1.9 | 1973 | 2nd-highest |
| Whangarei | 17.6 | 1.5 | 1967 | 2nd-highest |
| Whangaparaoa  | 16.2 | 1.1 | 1982 | 3rd-highest |
| Auckland (Whenuapai)  | 16.9 | 1.5 | 1945 | Highest |
| Paeroa A | 16.8 | 1.8 | 1947 | 2nd-highest |
| Tauranga  | 16.9 | 1.8 | 1913 | Highest |
| Te Puke  | 16.7 | 1.9 | 1973 | Highest |
| Whakatane  | 16.4 | 1.6 | 1974 | 2nd-highest |
| Rotorua  | 13.9 | 1.3 | 1964 | 3rd-highest |
| Taupo  | 13.3 | 1.6 | 1949 | 2nd-highest |
| Motu  | 12.7 | 1.7 | 1990 | 2nd-highest |
| Auckland (Mangere) | 17.2 | 1.9 | 1959 | Highest |
| Auckland (Airport) | 16.8 | 1.6 | 1959 | 4th-highest |
| Hamilton (Ruakura) | 16.7 | 2.4 | 1906 | Highest |
| Port Taharoa  | 16.8 | 1.7 | 1973 | Highest |
| Taumarunui  | 14.6 | 1.8 | 1947 | 2nd-highest |
| Turangi  | 13.5 | 1.5 | 1968 | 2nd-highest |
| New Plymouth  | 15.4 | 1.3 | 1944 | 3rd-highest |
| Masterton  | 15.2 | 1.9 | 1906 | 3rd-highest |
| Dannevirke  | 14.2 | 1.9 | 1951 | 2nd-highest |
| Waione  | 15.6 | 1.9 | 1991 | Highest |
| Martinborough  | 14.6 | 1.3 | 1986 | 4th-highest |
| Ngawi  | 15.4 | 1.7 | 1972 | 2nd-highest |
| Hicks Bay  | 16.6 | 1.6 | 1969 | 2nd-highest |
| Gisborne  | 16.9 | 1.7 | 1905 | 4th-highest |
| Waipawa  | 14.9 | 1.8 | 1945 | Highest |
| Mahia  | 14.9 | 1.6 | 1990 | 3rd-highest |
| Paraparaumu  | 15.2 | 1.9 | 1953 | 2nd-highest |
| Palmerston North  | 15.3 | 2.0 | 1928 | Highest |
| Levin  | 15.3 | 2.0 | 1895 | 2nd-highest |
| Wellington  | 14.6 | 1.5 | 1962 | 4th-highest |
| Wallaceville  | 14.6 | 1.6 | 1939 | 4th-highest |
| Stratford  | 14.5 | 2.4 | 1960 | Highest |
| Hawera  | 14.6 | 1.7 | 1977 | 3rd-highest |
| Wanganui | 16.5 | 2.4 | 1937 | 2nd-highest |
| Takaka  | 15.0 | 0.9 | 1978 | 3rd-highest |
| Farewell Spit  | 15.0 | 1.0 | 1971 | 4th-highest |
| Westport  | 14.6 | 1.5 | 1937 | 2nd-highest |
| Reefton  | 12.4 | 2.3 | 1960 | 2nd-highest |
| Greymouth  | 13.6 | 1.1 | 1947 | 4th-highest |
| Haast  | 13.3 | 1.7 | 1949 | 2nd-highest |
| Secretary Island  | 13.3 | 1.3 | 1985 | Highest |
| Appleby  | 14.9 | 1.5 | 1932 | 2nd-highest |
| Blenheim  | 15.5 | 1.8 | 1941 | 2nd-highest |
| Hanmer Forest | 13.1 | 2.2 | 1906 | 4th-highest |
| Kaikoura  | 14.1 | 2.1 | 1963 | 3rd-highest |
| Waiau  | 14.1 | 2.4 | 1974 | Highest |
| Cheviot  | 14.2 | 1.7 | 1982 | 2nd-highest |
| Mt Cook  | 10.1 | 2.5 | 1929 | 4th-highest |
| Christchurch (Riccarton) | 13.5 | 1.5 | 1863 | 3rd-highest |
| Timaru | 12.9 | 1.9 | 1885 | 4th-highest |
| Ranfurly  | 10.6 | 2.7 | 1975 | 2nd-highest |
| Dunedin (Musselburgh) | 12.4 | 1.8 | 1947 | Highest |
| Manapouri  | 10.4 | 2.1 | 1963 | 4th-highest |
| Lumsden  | 11.4 | 2.3 | 1982 | Highest |
| Gore  | 11.0 | 2.2 | 1971 | 4th-highest |
| Invercargill  | 11.7 | 1.7 | 1905 | 3rd-highest |
| Tiwai Point  | 12.2 | 2.2 | 1970 | Highest |
| South West Cape  | 10.9 | 1.1 | 1991 | 2nd-highest |
| Campbell Island  | 8.5 | 1.3 | 1991 | Highest |

**Record or near-record mean minimum air temperatures for June were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Mean maximum****air temp. (oC)** | **Departure from normal (oC)** | **Year records began** | **Comments** |
| HIgh records or near-records |
| Cape Reinga | 12.8 | 1.6 | 1951 | 2nd-highest |
| Kaitaia  | 11.3 | 2.0 | 1948 | 2nd-highest |
| Kerikeri  | 9.6 | 2.0 | 1981 | 3rd-highest |
| Kaikohe  | 10.8 | 2.0 | 1973 | 3rd-highest |
| Dargaville  | 10.2 | 1.3 | 1943 | 4th-highest |
| Whangarei  | 10.6 | 1.9 | 1967 | 3rd-highest |
| Tauranga  | 9.3 | 2.4 | 1913 | Equal 3rd-highest |
| Te Puke  | 8.7 | 3.6 | 1973 | Highest |
| Whakatane  | 6.5 | 2.4 | 1974 | 3rd-highest |
| Motu  | 4.7 | 2.7 | 1990 | 2nd-highest |
| Hamilton (Ruakura) | 7.2 | 2.4 | 1906 | 3rd-highest |
| New Plymouth  | 8.8 | 1.7 | 1944 | 4th-highest |
| Masterton | 5.3 | 2.8 | 1992 | Highest |
| Castlepoint  | 9.9 | 1.7 | 1972 | 3rd-highest |
| Ngawi  | 10.5 | 1.7 | 1972 | 2nd-highest |
| Hicks Bay  | 10.5 | 1.7 | 1969 | 4th-highest |
| Gisborne  | 7.5 | 2.4 | 1905 | 2nd-highest |
| Mahia  | 10.0 | 1.7 | 1990 | 2nd-highest |
| Palmerston North  | 7.6 | 2.3 | 1928 | 3rd-highest |
| Stratford  | 7.4 | 2.7 | 1960 | Highest |
| Hawera  | 7.7 | 1.6 | 1977 | 4th-highest |
| Wanganui | 8.4 | 1.6 | 1937 | 4th-highest |
| Farewell Spit  | 9.8 | 2.8 | 1971 | 2nd-highest |
| Westport  | 7.9 | 2.3 | 1937 | Highest |
| Hokitika  | 6.8 | 2.8 | 1866 | Highest |
| Reefton  | 4.7 | 3.0 | 1960 | 3rd-highest |
| Greymouth  | 7.5 | 2.4 | 1947 | Highest |
| Haast  | 6.5 | 2.0 | 1949 | 3rd-highest |
| Milford Sound | 4.2 | 2.0 | 1934 | 4th-highest |
| Secretary Island  | 8.6 | 1.7 | 1985 | Highest |
| Motueka | 3.8 | 2.0 | 1956 | 4th-highest |
| Nelson  | 5.8 | 2.4 | 1943 | 3rd-highest |
| Blenheim  | 6.2 | 2.9 | 1941 | Highest |
| Cape Campbell | 9.4 | 1.5 | 1953 | 2nd-highest |
| Kaikoura  | 7.8 | 1.6 | 1963 | 2nd-highest |
| Culverden | 1.8 | 2.0 | 1928 | 3rd-highest |
| Waiau  | 1.7 | 1.9 | 1974 | 3rd-highest |
| Cheviot  | 2.6 | 1.7 | 1982 | 2nd-highest |
| Le Bons Bay  | 7.0 | 1.2 | 1984 | 4th-highest |
| Wanaka  | 1.9 | 2.0 | 1955 | 4th-highest |
| Ranfurly  | -1.0 | 1.2 | 1975 | 3rd-highest |
| Oamaru  | 3.6 | 1.0 | 1908 | 2nd-highest |
| Gore  | 3.0 | 1.2 | 1971 | 4th-highest |
| Invercargill  | 3.9 | 2.0 | 1905 | 2nd-highest |
| South West Cape | 7.9 | 2.0 | 1991 | Highest |
| Campbell Island  | 5.1 | 2.1 | 1991 | Highest |

## Rainfall: Divided on both islands

Rainfall for the month of June was wide ranging and largely dependent on geography, for either island. Starting with the North Island, by and large rainfall was above average or well above average (120-149% and 150% or greater, respectively) for the top half of the island. Of note are Kaitaia in Northland, Te Puke in the Bay of Plenty and Whatawhata in the Waikato regions which had either near-record or record June rainfall. On the other side of the spectrum, the southern half of the North Island was rather dry with Masterton (Te Ore Ore) recording its second driest June on record.

The South Island had a similar story with Waipara recording its fourth wettest June with just over 200mm of rainfall for the month. In contrast, it was very dry along with Otago coast as Dunedin had its second driest June since 1918 with only 12mm of rain recorded for the month. Lumdsen, located in northern Southland, recorded their driest June since records began in 1982. Of interest is Campbell Island, located well south of the main South Island near 55°S latitude, experiences its second driest June on record.

As of 1 July, for much of New Zealand soil moisture levels are close to where they should be for this time of year. However, there are exceptions for eastern areas of both islands. The lack of rainfall for parts coastal parts of Hawke’s Bay and coastal portions of the Wairarapa regions contributed to abnormally dry soils, relative to this time of year, in these regions. Conversely, the previously described June rainfall coupled with the antecedent wet soils along the east coast of the South Island, from the Marlborough region south through to about Dunedin, meant soil moisture levels anomalously wet for this time of year.

**Record or near-record June rainfall totals were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Rainfall total (mm)** | **Percentage of normal** | **Year records began** | **Comments** |
| High records or near-records |
| Kaitaia  | 270 | 178 | 1985 | Highest |
| Kaikohe  | 363 | 239 | 1956 | 2nd-highest |
| Te Puke  | 386 | 229 | 1973 | Highest |
| Whatawhata  | 303 | 175 | 1952 | 3rd-highest |
| Takapau  | 165 | 169 | 1962 | 4th-highest |
| Low records or near-records |
| Greymouth  | 363 | 152 | 1947 | 2nd-highest |
| Masterton | 57 | 56 | 1992 | 3rd-lowest |
| Dunedin (Musselburgh) | 12 | 21 | 1918 | 2nd-lowest |
| Campbell Island  | 68 | 61 | 1992 | Lowest |

## Sunshine: Reasonably generous for the North Island, near record high for parts of the South Island

As a whole, June sunshine was most plentiful for the North Island, with many locations recording near or above normal sunshine (90-109% and 110% or greater, respectively), and the Manawatu-Whanganui region receiving the most with Taumarunui recording 135% of the June normal and Palmerston North 140% of the June normal. While both were well above average (greater than 125% of June normal), neither were high enough to qualify as record or near record. All sunshine records were limited to the South Island where Queenstown and Cheviot (north Canterbury), for the second consecutive month, recorded well above normal sunshine. In fact, both locations recorded the second greatest amount of sunshine for June on record. Of note is Queenstown where records go back more than 80 years to 1930. The near-record sunshine is sensible as Queenstown was rather dry, recording 51% of June normal and a lack of rain would support a lack of cloud.

Of the available, regularly reporting sunshine observation sites, the sunniest four centres so far in 2014 (January - June) are: Whakatane (1393 hours), Tauranga (1261 hours), Auckland - Albany (1214 hours) and Takaka (1208 hours).

**Record or near-record June sunshine hours were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Sunshine hours** | **Percentage of normal** | **Year records began** | **Comments** |
| High records or near-records |
| Cheviot  | 135 | 148 | 1983 | 2nd-highest |
| Queenstown  | 119 | 166 | 1930 | 2nd-highest |

## June climate in the six main centres

Temperatures were well above average in all of the six main centres, with the exception of Christchurch which experienced above average mean June temperatures. Monthly rainfall totals ranged from well above normal, Tauranga, to the 2nd lowest on record, Dunedin. The lack of rainfall in Auckland and Tauranga was accompanied by well above normal sunshine. Dunedin experienced above normal sunshine hours, whilst sunshine was near normal at the remaining main centres. Of the six main centres in June 2014, Dunedin was the driest and cloudiest, Auckland was the sunniest and warmest, Tauranga was the wettest, and Christchurch was the coolest.

**June 2014 main centre climate statistics:**

|  |
| --- |
| **Temperature** |
| **Location** | **Mean temp. (oC)** | **Departure from normal (oC)** | **Comments** |
| Aucklanda | 13.6 | 1.8 | Well above average |
| Taurangab | 13.1 | 2.1 | Well above average |
| Hamiltonc | 11.0 | 1.6 | Well above average |
| Wellingtond |  11.5 | 1.8 | Well above average |
| Christchurche | 7.6 | 1.2 | Above average |
| Dunedinf | 8.7 | 1.4 | Well above average |
| **Rainfall** |
| **Location** | **Rainfall (mm)** | **% of normal** | **Comments** |
| Aucklanda | 161 | 136% | Above normal |
| Taurangab | 229 | 200% | Well above normal |
| Hamiltonc | 198 | 158% | Well above normal |
| Wellingtond | 80 | 58% | Below normal |
| Christchurche | 69 | 120% | Above normal |
| Dunedinf | 12 | 21% | 2nd lowest on record |
| **Sunshine** |
| **Location** | **Sunshine (hours)** | **% of normal** | **Comments** |
| Aucklanda | 123 | 106% | Near normal |
| Taurangab |  108 | 80% | Below normal |
| Hamiltong |  114 |  111% | Above normal |
| Wellingtond | 101 | 102% | Near normal |
| Christchurche | 112 | 97% | Near normal |
| Dunedinf | 107 | 113% | Above normal |  |

*a Mangere b Tauranga Airport c Hamilton Airport d Kelburn e Christchurch Airport f Musselburgh g Ruakura*

## Highlights and extreme events

### Temperatures

Many ski areas throughout New Zealand were forced to delay their opening for the 2014 season due to warmer than average temperatures for much of June. These temperatures hindered the ability to generate man-made snow, compounding the troubles resulting from a lack of natural snowfalls during the month. As at 30 June, only Coronet Peak, Cardrona, Snow Farm (cross country ski area) and Mt Hutt had begun operations for the season with skiable terrain generally limited to on-piste only, whilst 10 ski areas had been forced to delay opening.

**Record or near-record daily maximum air temperatures for June were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Extreme maximum (°C)** | **Date of extreme temperature** | **Year records began** | **Comments** |
| High records or near-records |
| Cape Reinga  | 20.1 | 3rd | 1951 | 3rd-highest |
| Kaitaia Aero  | 20.8 | 3rd | 1948 | Highest |
| Kerikeri  | 21.3 | 17th | 1981 | Equal highest |
| Kaikohe  | 20.3 | 12th | 1973 | 4th-highest |
| Waione  | 22.2 | 8th | 1991 | Highest |
| Wanganui  | 21.1 | 8th | 1937 | 4th-highest |
| Westport  | 18.3 | 9th | 1937 | 3rd-highest |
| Hokitika  | 18.6 | 12th | 1866 | Highest |
| Hokitika  | 18.3 | 12th | 1866 | Equal 3rd-highest |
| Secretary Island  | 18.1 | 10th | 1985 | Highest |
| Puysegur Point  | 17.6 | 24th | 1978 | Highest |
| Cheviot  | 21.0 | 25th | 1982 | 3rd-highest |
| Manapouri  | 17.4 | 5th | 1963 | Highest |
| South West Cape  | 16.1 | 24th | 1991 | 2nd-highest |
| Campbell Island  | 12.6 | 29th | 1991 | Highest |

**Record or near-record daily minimum air temperatures for June were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Extreme minimum (°C)** | **Date of extreme temperature** | **Year records began** | **Comments** |
| High records or near-records |
| Kaitaia  | 16.5 | 9th | 1948 | 4th-highest |
| Kerikeri | 16.4 | 9th | 1981 | 3rd-highest |
| Whangarei  | 16.1 | 9th | 1967 | 4th-highest |
| Whangaparaoa | 15.5 | 9th | 1982 | Equal highest |
| Te Puke  | 14.2 | 10th | 1973 | 4th-highest |
| Ngawi  | 16.0 | 26th | 1972 | 2nd-highest |
| Stratford  | 12.2 | 10th | 1972 | 3rd-highest |
| Westport  | 13.9 | 10th | 1966 | 3rd-highest |
| Haast  | 12.4 | 11th | 1949 | Equal 3rd-highest |
| Secretary Island  | 12.5 | 16th | 1988 | 4th-highest |
| Arthurs Pass  | 8.4 | 6th | 1973 | Equal 4th-highest |
| Cheviot  | 9.7 | 10th | 1982 | Equal 2nd-highest |
| Orari  | 7.8 | 10th | 1972 | 2nd-highest |
| Campbell Island | 9.1 | 30th | 1991 | Highest |

### Rain and slips

On 10 June, considerable flooding occurred throughout North Canterbury. Local Police said flooding on many roads in that area had never been worse, and many schools were closed. Twenty-one elderly people were forced to evacuate a rest home in Rangiora due to flooding caused by heavy rain. Police urged motorists to exercise extreme caution on SH 1 near Kaikoura after rock falls onto the highway, and significant flooding was reported on SH 1 near the Ashley River. SH 1 between Amberley and Waikuku was closed. Flooding was reported across both lanes of SH 1 about halfway between Blenheim and Kaikoura. Farther north, a slip partially blocked SH 2 on the Rimutaka Hill Road. On the Coromandel Peninsula, flooding was also reported on SH 25 south of Whitianga, and many rural roads in Northland were closed by floodwaters.

On 11 June, a slip on SH 29 across the Kaimai Ranges blocked both lanes causing the road to be closed temporarily. On 24 June, SH 94 from Lower Hollyford to Milford Sound (the Milford Road) was closed due to heavy rain. It remained closed until the morning of 25 June.

On 25 June, extensive surface flooding and road closures occurred in Nelson as a result of heavy rain. Eight shops around Victory Square were flooded, whilst homes on Murphy Street were evacuated. Surface flooding also affected many roads along the West Coast, including SH 6 from Harihari to Haast, SH 6 from Barrytown to Rununga, and SH 73 from Otira to Kumara Junction. Farther north, a slip near Rotorua closed SH 36 between Dudley Road and Te Matai Road.

On 26 June, a large slip that occurred about 15 km south of Makarora forced the closure of SH 6 in that area. The road was reopened to a single lane on 28 June, with both lanes cleared of debris in the following days.

**Record or near record June extreme 1-day rainfall totals were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Extreme 1-day rainfall****(mm)** | **Date of extreme rainfall** | **Year records began** | **Comments** |
| Matamata | 77 | 11th | 1951 | 2nd-highest |
| Te Puke  | 137 | 11th | 1973 | Highest |
| Whatawhata  | 74 | 10th | 1952 | 2nd-highest |
| Takapau Plains  | 60 | 11th | 1962 | Equal 4th-highest |
| Waione  | 42 | 10th | 1991 | 3rd-highest |
| Waipara West  | 80 | 9th | 1973 | Highest |

### Wind

On 10 and 11 June, very strong winds struck many parts of the upper North Island. On 10 June, Civil Defence warned Northland residents to stay indoors overnight due to danger associated with the strong winds. Power was lost for a time at 90,000 Auckland premises, with a number of schools in the city forced to close as a result of the power outage. A large number of trees were brought down by the wind in Auckland, with Auckland Civil Defence noting that the damage was particularly widespread. A child was hospitalised after being injured by a tree that crashed through the roof of a property on the Whangaparaoa Peninsula. Trees were brought down in Auckland Zoo, causing damage to displays and forcing it to close on 11 June. The Auckland Harbour Bridge was closed due to strong wind gusts that also blew a truck onto its side there. Ferry services on the North Shore were disrupted due to power outages, whilst the *Bayswater Ferry* was unable to operate as a result of extensive damage to its wharf. In Whitianga, Police closed Blacksmith Lane due to flying roof iron. Drivers of motorcycles, campervans and high-sided vehicles were warned to take extra care on SH 6 between Hokitika and Haast due to strong winds.

On 19 June, trees were blown onto power lines in Otatara (near Invercargill), resulting in a power outage which affected 672 customers. Drivers of motorcycles, campervans and high-sided vehicles were warned to take extra care on SH 1 on the Desert Road, SH 1 between Gore and Balclutha, SH 90 between Gore and Raes Junction and SH 87 from Outram to Middlemarch due to strong winds.

On 25 June, strong winds in Greymouth affected the integrity of an industrial building’s roof, with the Fire Service called in to make it secure. Motorists were warned to take extra care on SH 1 at the Desert Road and SH 2 on the Rimutaka Hill Road due to strong winds.

**Record or near record June extreme wind gusts were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Extreme wind gust (km/hr)** | **Date of extreme gust** | **Year records began** | **Comments** |
| Leigh  | 122 | 10th | 1972 | 2nd-highest |
| Auckland (Whenuapai)  | 89 | 11th | 1972 | 4th-highest |
| Paeroa  | 104 | 10th | 1991 | 2nd-highest |
| Hamilton  | 82 | 11th | 1978 | 4th-highest |
| South West Cape  | 152 | 21st | 1991 | 2nd-highest |

### Snow and ice

On 18 and 19 June caution was advised to motorists travelling on SH 94 between Te Anau and Milford Sound due to snow. The road was closed to all towing vehicles.

On 24 June, icy roads were a contributing factor to a fatal car accident which occurred near Darfield (west of Christchurch).

### Thunder and Lightning

On 27 June, a number of lightning strikes were reported in Auckland. At one point, 2500 Auckland homes were without power, although the outage was thought to have been caused by roofing iron being blown off roofs onto power lines, as opposed to being caused by lightning strikes.

### Cloud and fog

On 8 June, flights at Queenstown Airport were delayed, diverted or cancelled due to low cloud.

On 26 June, six flights at Nelson Airport were cancelled due to fog.

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*June 2014 mean temperatures, expressed as a difference from average (°C). It was the warmest June on record for New Zealand, with the figure to the left illustrating considerably warmer than average June mean temperatures throughout the country.*

*Mean temperatures were well above average (more than 1.2°C above the June average) or above average (between 0.51 and 1.2°C above June average) for almost all areas New Zealand.*

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1. New Plymouth sunshine is still omitted from this ranking while recent instrumentation changes are assessed. [↑](#footnote-ref-1)
2. Interim value [↑](#footnote-ref-2)
3. The rankings (1st, 2nd, 3rd.etc) in all Tables in this summary are relative to climate data from a *group* of nearby stations, some of which may no longer be operating. The current climate value is compared against all values from any member of the group, without any regard for homogeneity between one station’s record, and another. This approach is used due to the practical limitations of performing homogeneity checks in real-time. [↑](#footnote-ref-3)