

## 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.

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<u>Overview</u>

**Temperature** 

Rain

**Sunshine** 

June 2014 climate in the six main centres

Highlights and extreme events

#### 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 centres¹ 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)<sup>2</sup>. 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

<sup>&</sup>lt;sup>1</sup> New Plymouth sunshine is still omitted from this ranking while recent instrumentation changes are assessed.

<sup>&</sup>lt;sup>2</sup> Interim value

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<sup>3</sup> or near-record mean air temperatures for June were recorded at:

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-recor	rds			•
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

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<sup>&</sup>lt;sup>3</sup> The rankings (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>.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.

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 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 Dunedin (Musselburgh) 8.7 1.4 1947 Highest Lumsden 6.1 1.4 1982 4th-highest Lumsden 6.1 1.4 1982 4th-highest Lumsden 6.1 1.4 1982 4th-highest Gore 7.0 1.7 1971 2nd-highest	Westport	11.2	1.9	1937	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					
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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					
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Dunedin (Musselburgh)8.71.41947HighestLumsden6.11.419824th-highest	Ranfurly	4.8	2.0	1975	Highest
Lumsden 6.1 1.4 1982 4th-highest	Oamaru	8.2	1.1	1908	2nd-highest
	Dunedin (Musselburgh)	8.7	1.4	1947	Highest
Gore 7.0 1.7 1971 2nd-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	Invercargill	7.8	1.9	1905	2nd-highest
Tiwai Point 8.3 1.4 1970 2nd-highest	Tiwai Point	8.3	1.4	1970	2nd-highest
South West Cape 9.4 1.6 1991 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. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-record	rds			
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

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

		•		
Location	Mean maximum air temp. (°C)	Departure from normal (°C)	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
VVariana	1.5	2.0	1999	Terr mgnest

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-reco	rds			
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-recor	ds			
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 2<sup>nd</sup> 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:

June 2014 main centre ci	illiate statistics.	i I	
Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland <sup>a</sup>	13.6	1.8	Well above average
Tauranga <sup>b</sup>	13.1	2.1	Well above average
Hamilton <sup>c</sup>	11.0	1.6	Well above average
Wellington <sup>d</sup>	11.5	1.8	Well above average
Christchurch <sup>e</sup>	7.6	1.2	Above average
Dunedin <sup>f</sup>	8.7	1.4	Well above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Aucklanda	161	136%	Above normal
Tauranga <sup>b</sup>	229	200%	Well above normal
Hamilton <sup>c</sup>	198	158%	Well above normal
Wellington <sup>d</sup>	80	58%	Below normal
Christchurch <sup>e</sup>	69	120%	Above normal
Dunedin <sup>f</sup>	12	21%	2 <sup>nd</sup> lowest on record
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland <sup>a</sup>	123	106%	Near normal
Tauranga <sup>b</sup>	108	80%	Below normal
Hamilton <sup>g</sup>	114	111%	Above normal
Wellington <sup>d</sup>	101	102%	Near normal
Christchurch <sup>e</sup>	112	97%	Near normal
Dunedin <sup>f</sup>	107	113%	Above normal

<sup>&</sup>lt;sup>a</sup> Mangere <sup>b</sup> Tauranga Airport <sup>c</sup> Hamilton Airport <sup>d</sup> Kelburn <sup>e</sup> Christchurch Airport <sup>f</sup> Musselburgh <sup>g</sup> 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-reco	ords			
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	30 <sup>th</sup>	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	<b>21</b> st	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.

#### For further information, please contact:

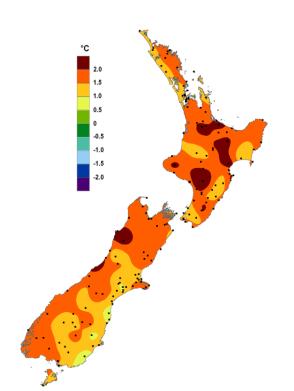
#### **Mr Chris Brandolino**

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For climate data enquiries, please contact:

#### Mr Gregor Macara

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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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