

## Second warmest February on record for New Zealand.

<b>Temperature</b>	February temperatures were well above average ( $>1.20^{\circ}\text{C}$ ) across the entirety of New Zealand with the exception of a handful of climate stations where above average ( $+0.51^{\circ}\text{C}$ to $+1.20^{\circ}\text{C}$ ) temperatures were recorded. February 2016 was the second-warmest February on record for New Zealand according to the NIWA seven station series.
<b>Rainfall</b>	Rainfall was well above normal ( $>149\%$ of normal) in Nelson, as well as parts of Northland, Auckland, the Bay of Plenty, Waikato, Tasman, the West Coast and Southland. Conversely rainfall was well below normal ( $<50\%$ of normal) for the eastern portions of Gisborne, Hawke's Bay, Manawatu-Whanganui, Wellington, Canterbury and Otago.
<b>Sunshine</b>	Sunshine was generally above normal (110-125%) or well above normal ( $>125\%$ ) in the South Island and southern parts of the North Island. Below normal (75-89%) sunshine was recorded in the Bay of Plenty and parts of Waikato. Auckland and Northland recorded near normal February sunshine hours (90-109%).
<b>Soil Moisture</b>	As of 1 March 2016, soil moisture levels were above normal for the time of year for eastern Northland and Auckland, Coromandel, the Bay of Plenty, northern Tasman, Nelson and parts of eastern Waikato and Southland. Drier than normal soils were evident in the remainder of the North Island as well as eastern parts of Canterbury and Otago.

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

[Overview](#)

[Temperature](#)

[Rainfall](#)

[Sunshine](#)

[February 2016 climate in the six main centres](#)

[Highlights and extreme events](#)

### Overview

During February 2016, strong El Niño conditions continued but weakened in the tropical Pacific. Typically, more westerly to south-westerly air flows over New Zealand are associated with El Niño. However, this was not the case this month as significant tropical activity combined with higher than normal air pressure to the east of New Zealand and lower air pressure than usual south of the country produced more northerly to north-easterly winds than normal over the North Island and more north-westerlies than normal over the South Island.

The increased prevalence of air flow from northerly directions during February channelled warm and humid air originating in the tropics towards New Zealand. This was the primary reason behind the

humid conditions in the North Island and the exceptionally warm month for New Zealand as a whole. Remarkably, almost every climate station around the country recorded well above normal temperatures (>1.20 °C above February average) for the month. The nationwide average temperature in February 2016 was 19.5°C (2.2°C above the 1981-2010 February average from NIWA's seven station temperature series which begins in 1909)<sup>1</sup>. This was the second warmest February, and second warmest of any month, on record. The warmest February and month on record is February 1998, where the mean temperature (according to the seven station series) was 19.6°C.

The moist tropical air masses (including remnants of tropical cyclones Tatiana and Winston) that affected New Zealand in February not only brought warm temperatures and high humidity, but also significant rainfall to some parts of the country. Rainfall was well above normal (>149% of February normal) in Nelson as well as parts of Northland, Auckland, the Bay of Plenty, Waikato, Tasman, the West Coast and Southland. Conversely, rainfall was well below normal (<50% of February normal) for the eastern portions of Gisborne, Hawke's Bay, Manawatu-Whanganui, Wellington, Canterbury and Otago.

As of 1 March 2016, soil moisture levels were above normal for the time of year for eastern Northland and Auckland, Coromandel, the Bay of Plenty, northern Tasman, Nelson and parts of eastern Waikato and Southland. Drier than normal soils were evident in the remainder of the North Island as well as eastern parts of Canterbury and Otago.

Sunshine in February was generally above normal (110-125%) or well above normal (>125%) in the South Island and southern parts of the North Island. Below normal (75-89%) sunshine was recorded in the Bay of Plenty and parts of Waikato. In particular, Tauranga had its cloudiest February on record, with records extending back to 1933. Auckland and Northland recorded near normal February sunshine hours (90-109%).

#### **Further Highlights:**

- The highest temperature was 35.5°C, observed at Clyde on 3 February.
- The lowest temperature was 1.9°C, observed at Manapouri on 10 February.
- The highest 1-day rainfall was 331 mm, recorded at North Egmont on 17 February.
- The highest wind gust was 148 km/hr, observed at South West Cape on 28 February.
- Of the six main centres in February 2016, Auckland was the warmest, Dunedin was the coolest, Christchurch was the driest, Wellington was the sunniest and Tauranga was the wettest and cloudiest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2016 so far (1 January – 29 February) were Richmond (573 hours), New Plymouth (543 hours), Blenheim (522 hours) and Masterton (517 hours).

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<sup>1</sup> Interim value

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## Temperature: Record-breaking warmth up and down the country

February was an exceptionally warm month for all parts of the country with recorded temperatures in the well above normal range (>1.20 °C above February average) for virtually every climate station. This was largely due to the prevalence of warm tropical air channelled by north-easterly and north-westerly winds. Additionally, sea surface temperatures around New Zealand have been warmer than normal, particularly to the west of New Zealand. These warm waters helped to elevate night time minimum temperatures, especially for coastal areas. In fact, several coastal locations reported larger minimum (typically occurring overnight or early morning) temperature anomalies versus maximum (typically occurring during the afternoon) temperature anomalies – a reflection of the warmer than average ocean temperatures.

The nationwide average temperature in February 2016 was 19.5°C (2.2°C above the 1981-2010 February average from NIWA’s seven station temperature series which begins in 1909). This was the second warmest February and second warmest of any month on record. The warmest February and month on record is February 1998, where the mean temperature (according to the seven station series) was 19.6°C.

Overall, 28 locations recorded their hottest February on record (in terms of mean temperature) and a further 59 locations experienced near-record February mean temperatures. Mean maximum and mean minimum temperatures were likewise remarkable with many new records and near-records set. One highlight is Christchurch (Riccarton), which recorded its highest monthly mean, mean maximum and mean minimum temperatures since records began for its group of climate stations (The grouping includes Christchurch Gardens which opened in 1863 - one of the longest records in New Zealand). Mean maximum temperatures in Christchurch (Riccarton) were in fact 5.1°C above the February normal.

### Record<sup>2</sup> or near-record mean air temperatures for February were recorded at:

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Masterton (Te Ore Ore)	21.5	4.2	1992	Highest
Christchurch (Riccarton)	20.7	3.8	1863	Highest
Hastings	21.2	3.4	1965	Highest
Lake Tekapo	18.2	3.4	1927	Highest
Cromwell	20.7	3.4	1949	Highest
Whatawhata	22.0	3.3	1952	Highest
Ranfurly	17.7	3.3	1975	Highest
Wanaka	20.1	3.1	1955	Highest

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<sup>2</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.

Palmerston North	21.2	3.0	1928	Highest
Tara Hills	19.0	3.0	1949	Highest
Dunedin (Airport)	17.8	3.0	1962	Highest
Whanganui (Spriggens Park)	21.3	2.9	1937	Highest
Waiau	19.9	2.8	1974	Highest
Cheviot	19.2	2.8	1982	Highest
Dunedin (Musselburgh)	17.7	2.7	1947	Highest
Tiwai Point	17.1	2.7	1970	Highest
Ngawi	21.1	2.6	1972	Highest
Levin	20.4	2.6	1895	Highest
Lumsden	16.9	2.6	1982	Highest
New Plymouth	20.6	2.5	1944	Highest
Motueka	20.1	2.5	1956	Highest
Paraparaumu	19.8	2.4	1953	Highest
Farewell Spit	20.5	2.4	1971	Highest
Wellington (Kelburn)	19.6	2.4	1927	Highest
Nelson	20.3	2.4	1943	Highest
Waipawa	20.2	2.3	1945	Highest
Stratford	18.5	2.2	1960	Highest
Whangaparaoa	22.0	1.8	1982	Highest
Takaka	19.1	1.7	1978	Highest
Lauder	18.9	3.3	1924	2nd-highest
Masterton (Airport)	20.3	3.0	1906	2nd-highest
Gisborne	21.8	2.9	1905	2nd-highest
Waione	21.2	2.7	1991	2nd-highest
Hanmer Forest	18.3	2.7	1906	2nd-highest
Hamilton	21.4	2.6	1906	2nd-highest
Wairoa	21.5	2.6	1964	2nd-highest
Lincoln	19.2	2.6	1881	2nd-highest
Takapau Plains	19.3	2.5	1962	2nd-highest
Reefton	19.5	2.5	1960	2nd-highest
Kaikohe	21.4	2.4	1973	2nd-highest
Auckland (Henderson)	21.9	2.4	1948	2nd-highest
Hawera	19.3	2.4	1977	2nd-highest
Kaikoura	18.9	2.4	1963	2nd-highest
Nugget Point	16.2	2.3	1970	2nd-highest
Wellington	20.2	2.2	1962	2nd-highest
Blenheim	20.0	2.2	1941	2nd-highest
Orari Estate	18.1	2.2	1972	2nd-highest
Puysegur Point	16.0	2.1	1978	2nd-highest
Waipara West	19.5	2.0	1973	2nd-highest
Auckland (Whenuapai)	21.4	1.9	1945	2nd-highest
Tauranga	21.7	1.9	1913	2nd-highest
Mokohinau	21.9	1.6	1994	2nd-highest
Port Taharoa	21.3	1.6	1973	2nd-highest
Kerikeri	21.3	1.6	1981	2nd-highest
Arthurs Pass	16.0	2.5	1973	3rd-highest
Taupo	19.5	2.4	1949	3rd-highest

Castlepoint	20.4	2.4	1972	3rd-highest
Christchurch (Airport)	19.2	2.4	1863	3rd-highest
Auckland (Mangere)	22.3	2.3	1959	3rd-highest
Mt Cook	16.9	2.3	1929	3rd-highest
Martinborough	19.8	2.1	1986	3rd-highest
Le Bons Bay	17.4	2.0	1984	3rd-highest
Manapouri	16.2	1.9	1963	3rd-highest
Auckland (North Shore)	22.2	1.8	1994	3rd-highest
Auckland (Pukekohe)	20.9	1.8	1969	3rd-highest
Dargaville	21.2	1.7	1943	3rd-highest
Whangarei	21.9	1.7	1967	3rd-highest
Whakatane	20.9	1.7	1974	3rd-highest
Kaitaia	21.7	1.6	1948	3rd-highest
Hicks Bay	20.6	1.5	1969	3rd-highest
Cape Reinga	20.9	1.2	1951	3rd-highest
South West Cape	14.2	1.2	1991	3rd-highest
Milford Sound	16.9	1.7	1934	Equal 3rd-highest
Gore	16.5	2.4	1971	4th-highest
Timaru	17.8	2.3	1885	4th-highest
Alexandra	19.5	2.3	1983	4th-highest
Oamaru	17.4	2.2	1908	4th-highest
Dannevirke	19.5	2.1	1951	4th-highest
Culverden	19.1	2.1	1928	4th-highest
Invercargill	16.0	2.1	1905	4th-highest
Westport	18.6	1.9	1937	4th-highest
Paeroa	21.6	1.8	1947	4th-highest
Rotorua	19.6	1.7	1964	4th-highest
Greymouth	18.1	1.7	1947	4th-highest
Te Puke	20.3	1.6	1973	4th-highest
Balclutha	16.4	1.6	1964	4th-highest
Whitianga	20.8	1.5	1962	4th-highest
Mahia	19.7	1.4	1990	4th-highest
Low records or near-records				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Masterton (Te Ore Ore)	29.3	5.4	1992	Highest
Christchurch (Riccarton)	26.6	5.1	1863	Highest
Hanmer	27.3	4.4	1906	Highest
Tiwai Point	21.9	4.1	1970	Highest
Cromwell	28.2	4.0	1949	Highest
Masterton (Airport)	27.8	3.9	1906	Highest
Lake Tekapo	25.5	3.8	1927	Highest
Hastings	26.8	3.7	1965	Highest

Whatawhata	27.4	3.6	1952	Highest
Waiau	27.3	3.5	1974	Highest
Whanganui (Airport)	25.9	3.4	1937	Highest
Cheviot	25.6	3.3	1982	Highest
Waione	27.7	3.2	1991	Highest
Ngawi	25.5	3.1	1972	Highest
Waipawa	26.9	3.1	1945	Highest
Motueka	26.4	3.1	1956	Highest
Palmerston North	26.2	2.9	1928	Highest
New Plymouth	24.9	2.7	1944	Highest
Levin	25.1	2.7	1895	Highest
Appleby	25.4	2.7	1932	Highest
Wellington (Kelburn)	23.3	2.7	1927	Highest
Wellington (Airport)	23.8	2.5	1962	Highest
Paraparaumu	23.9	2.4	1953	Highest
Westport	22.9	2.4	1937	Highest
Nelson	25.0	2.4	1943	Highest
Takaka	25.3	2.2	1978	Highest
Dunedin (Airport)	24.5	3.8	1962	2nd-highest
Ranfurly	24.9	3.4	1975	2nd-highest
Dunedin (Musselburgh)	21.8	3.3	1947	2nd-highest
Wairoa	27.1	3.1	1964	2nd-highest
Gisborne	27.3	3.0	1905	2nd-highest
Whanganui (Spriggens Park)	25.7	3.0	1937	2nd-highest
Lumsden	23.2	3.0	1982	2nd-highest
Blenheim	26.7	2.9	1932	2nd-highest
Reefton	25.9	2.8	1960	2nd-highest
Nugget Point	20.4	2.8	1970	2nd-highest
Castlepoint	24.1	2.7	1972	2nd-highest
Kaikoura	22.6	2.6	1963	2nd-highest
Takapau Plains	25.0	2.4	1962	2nd-highest
Farewell Spit	24.3	2.2	1971	2nd-highest
Stratford	23.3	2.1	1960	2nd-highest
Auckland (Whangaparaoa)	25.0	1.3	1982	2nd-highest
Hamilton	26.9	2.2	1946	3rd-highest
Martinborough	26.4	2.9	1986	3rd-highest
Wanaka	26.3	2.6	1955	3rd-highest
Auckland (Mangere)	26.1	2.3	1959	3rd-highest
Lauder	26.1	3.4	1924	3rd-highest
Lincoln	24.8	3.1	1881	3rd-highest
Orari Estate	23.9	2.4	1972	3rd-highest
Hawera	23.7	2.6	1977	3rd-highest
Balclutha	22.2	2.3	1964	3rd-highest
Le Bons Bay	20.9	2.1	1984	3rd-highest
Puysegur Point	18.4	1.9	1978	3rd-highest
Mokohinau	24.0	1.4	1994	3rd-highest
Christchurch (Airport)	25.1	3.2	1863	4th-highest
Gore	22.2	3.2	1971	4th-highest

Timaru	23.7	2.8	1885	4th-highest
Napier	26.0	2.5	1870	4th-highest
Arthurs Pass	21.2	2.4	1973	4th-highest
Dannevirke	24.8	2.2	1951	4th-highest
Auckland (Whenuapai)	25.9	1.6	1945	4th-highest
Kaitaia	26.0	1.4	1985	4th-highest
Hicks Bay	23.6	1.4	1969	4th-highest
Whangarei	25.7	1.3	1967	4th-highest
Mahia	22.8	1.3	1990	4th-highest
<b>Low records or near-records</b>				
None observed				

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

<b>Location</b>	<b>Mean minimum air temp. (°C)</b>	<b>Departure from normal (°C)</b>	<b>Year records began</b>	<b>Comments</b>
<b>High records or near-records</b>				
Wanaka	13.9	3.6	1955	Highest
Taupo	14.7	3.1	1949	Highest
Ranfurly	10.4	3.1	1975	Highest
Lauder	11.7	3.1	1924	Highest
Whatawhata	16.6	3.0	1952	Highest
Masterton (Te Ore Ore)	13.7	3.0	1992	Highest
Kaikohe	17.7	2.9	1973	Highest
Tara Hills	11.6	2.9	1949	Highest
Tauranga	18.3	2.8	1913	Highest
Cromwell	13.2	2.8	1949	Highest
Kerikeri	17.3	2.6	1981	Highest
Farewell Spit	16.7	2.6	1971	Highest
Christchurch (Riccarton)	14.7	2.5	1863	Highest
Whitianga	16.9	2.4	1962	Highest
Auckland (Mangere)	18.5	2.3	1959	Highest
Secretary Island	14.0	2.3	1985	Highest
Puysegur Point	13.6	2.3	1978	Highest
Lumsden	10.7	2.3	1982	Highest
New Plymouth	16.2	2.2	1944	Highest
Cheviot	12.7	2.2	1982	Highest
Dunedin (Musselburgh)	13.6	2.1	1947	Highest
Mokohinau	19.8	1.8	1994	Highest
Nugget Point	12.0	1.8	1970	Equal highest
Auckland (Henderson)	17.9	3.5	1948	2nd-highest
Hamilton	16.4	3.1	1906	2nd-highest
Palmerston North	16.1	3.1	1928	2nd-highest
Whanganui (Spriggens Park)	16.9	2.9	1937	2nd-highest
Whakatane	16.9	2.8	1974	2nd-highest
Paeroa	17.1	2.6	1947	2nd-highest
Te Puke	16.2	2.6	1973	2nd-highest

Culverden	12.9	2.6	1928	2nd-highest
Levin	15.7	2.4	1895	2nd-highest
Hawera	15.0	2.4	1977	2nd-highest
Alexandra	12.5	2.4	1983	2nd-highest
Port Taharoa	18.1	2.3	1973	2nd-highest
Wellington (Kelburn)	16.0	2.3	1927	2nd-highest
Stratford	13.8	2.3	1960	2nd-highest
Ohakune	12.0	2.3	1962	2nd-highest
Kaikoura	15.3	2.3	1963	2nd-highest
Waipara West	13.7	2.3	1973	2nd-highest
Auckland (Whangaparaoa)	18.9	2.2	1982	2nd-highest
Waiau	12.5	2.2	1974	2nd-highest
Whangarei	18.2	2.1	1967	2nd-highest
Auckland (Whenuapai)	16.8	2.1	1945	2nd-highest
Nelson	15.9	2.1	1943	2nd-highest
Ngawi	16.6	2.0	1972	2nd-highest
Orari Estate	12.2	2.0	1972	2nd-highest
Pukekohe	16.4	1.9	1969	2nd-highest
Le Bons Bay	13.8	1.9	1984	2nd-highest
Kaitaia	17.2	1.8	1985	2nd-highest
Wellington (Airport)	16.6	1.8	1962	2nd-highest
South West Cape	11.7	1.6	1991	2nd-highest
Mahia	16.6	1.5	1990	2nd-highest
Oamaru	12.5	1.4	1908	2nd-highest
Lake Tekapo	11.0	3.2	1927	3rd-highest
Gisborne	16.4	2.7	1905	3rd-highest
Milford Sound	13.0	2.6	1934	3rd-highest
Arthurs Pass	10.8	2.6	1973	3rd-highest
Auckland (North Shore)	19.2	2.5	1994	3rd-highest
Rotorua	15.4	2.4	1964	3rd-highest
Waione	14.8	2.3	1991	3rd-highest
Paraparaumu	15.7	2.3	1953	3rd-highest
Hokitika	14.2	2.2	1866	3rd-highest
Blenheim	14.5	2.2	1941	3rd-highest
Reefton	13.1	2.1	1960	3rd-highest
Castlepoint	16.7	2.0	1972	3rd-highest
Wairoa	15.8	2.0	1964	3rd-highest
Lincoln	13.5	1.9	1881	3rd-highest
Hicks Bay	17.6	1.6	1969	3rd-highest
Gore	10.8	1.6	1971	3rd-highest
Hastings	15.7	3.2	1965	4th-highest
Taumarunui	14.8	2.7	1947	4th-highest
Milford Sound	12.9	2.6	1934	4th-highest
Manapouri	10.4	2.4	1963	4th-highest
Motueka	13.9	2.0	1956	4th-highest
Invercargill	11.1	1.8	1905	4th-highest
Cape Reinga	18.2	1.7	1951	4th-highest
Dargaville	17.0	1.7	1943	4th-highest



### Low records or near-records

None observed

## Rainfall: Dry in the east and wet in the north of both Islands

With northerly and north-easterly winds prevailing across the North Island, and north-westerlies over the South Island, eastern areas from Gisborne to Wellington and along the Canterbury coast were sheltered from the rain during February. As a result, February rainfall for the eastern portions of these regions was well below normal (<50% of February normal) and several locations observed near-record low rainfall.

Conversely, northern parts of the North Island (from Northland through to Waikato and the Bay of Plenty) and northern and western parts of the South Island were exposed to the humid and moist tropical flows. Consequently, these parts of New Zealand received above normal (120-149% of normal) to well above normal (>149% of normal) February rainfall.

### Record or near-record February rainfall totals were recorded at:

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
<b>High records or near-records</b>				
South West Cape	191	204	1991	Highest
Whangaparaoa	206	364	1946	2nd-highest
Manapouri	163	192	1961	2nd-highest
Milford Sound	1229	270	1929	3rd-highest
Kaitaia	188	201	1985	3rd-highest
Warkworth	208	238	1966	3rd-highest
<b>Low records or near-records</b>				
Orari Estate	6	9	1897	Lowest
Mahia	13	15	1990	2nd-lowest
Winchmore	4	7	1909	2nd-lowest
Oamaru	4	11	1898	2nd-lowest
Masterton (Te Ore Ore)	9	16	1992	3rd-lowest
Waione	14	23	1991	3rd-lowest
Ashburton	6	10	1909	3rd-lowest
Timaru	6	11	1881	4th-lowest

## Sunshine: Sunny in the South Island, cloudy in the Bay of Plenty

It was a sunny month for the South Island as well as Taranaki, Manawatu-Whanganui, Wellington, Hawke's Bay and Gisborne where above normal (110-125% of normal) to well above normal (>125% of normal) sunshine was recorded. Sunshine in the Auckland and Northland regions was near normal (90-109% of normal). The Bay of Plenty had a cloudy month with below normal (75-89% of normal) to well below (<75% of normal) sunshine recorded. Tauranga had a cloudy and wet February with 168% of normal rainfall recorded, consequently, Tauranga also observed its lowest February sunshine hours since records began in 1933.

Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2016 so far (1 January – 29 February) were Richmond (573 hours), New Plymouth (543 hours), Blenheim (522 hours) and Masterton (517 hours).

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

Location	Sunshine hours	Percentage of normal	Year records began	Comments
<b>High records or near-records</b>				
Takaka	261	123	1985	Highest
Appleby	287	125	1995	Highest
Ashburton	246	153	1930	Highest
Lake Tekapo	289	132	1928	Highest
Martinborough	253	133	1986	2nd-highest
Blenheim	289	129	1947	2nd-highest
Cromwell	270	119	1979	2nd-highest
Dunedin (Musselburgh)	215	137	1980	3rd-highest
Cheviot	229	118	1983	4th-highest
Queenstown	246	119	1930	4th-highest
Balclutha	221	136	1964	4th-highest
<b>Low records or near-records</b>				
Tauranga	130	60	1933	Lowest

## February climate in the six main centres

February temperatures for the six main centres were all well above average (>1.20 °C above February average) with Wellington and Dunedin experiencing their hottest February on record. Christchurch (Riccarton) also recorded its hottest February on record, however data in the table below is based on the climate station at the airport. In terms of rainfall, Wellington, Christchurch and Dunedin had a very dry month with rainfall totals well below normal (<50% of February normal). Conversely Tauranga recorded well above normal rainfall (>149% of normal) which contributed to the low sunshine hours observed in Tauranga during February - its lowest on record. Of the six main centres in February 2016, Auckland was the warmest, Dunedin was the coolest, Christchurch was the driest, Wellington was the sunniest and Tauranga was the wettest and cloudiest.

**February 2016 main centre climate statistics:**

<b>Temperature</b>			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland <sup>a</sup>	22.3	+2.3	Well above average (3 <sup>rd</sup> highest on record)
Tauranga <sup>b</sup>	21.7	+1.9	Well above average (2 <sup>nd</sup> highest on record)
Hamilton <sup>c</sup>	21.3	+2.5	Well above average (2 <sup>nd</sup> highest on record)
Wellington <sup>d</sup>	19.6	+2.4	Well above average (highest on record)
Christchurch <sup>e</sup>	19.2	+2.4	Well above average (3 <sup>rd</sup> highest on record)
Dunedin <sup>f</sup>	17.7	+2.7	Well above average (highest on record)

Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland <sup>a</sup>	103	143%	Above normal
Tauranga <sup>b</sup>	145	168%	Well above normal
Hamilton <sup>c</sup>	78	105%	Near normal
Wellington <sup>d</sup>	29	42%	Well below normal
Christchurch <sup>e</sup>	21	48%	Well below normal
Dunedin <sup>f</sup>	29	42%	Well below normal
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland <sup>a</sup>	177	90%	Near normal
Tauranga <sup>b</sup>	130	60%	Well below normal (lowest on record)
Hamilton <sup>g</sup>	166	86%	Below normal
Wellington <sup>d</sup>	236	112%	Near normal
Christchurch <sup>e</sup>	234	120%	Above normal
Dunedin <sup>f</sup>	215	137%	Well above normal

<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

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## Highlights and extreme events

### Rain and slips

On 6 February, rain cancelled the Governor-General's Bledisloe Garden Reception at Government House in Auckland.

On 17 February, heavy rain affected much of the country, with Nelson-Tasman taking a big hit. 126mm of rain in 24 hours was recorded in Appleby – the highest on record there since records began in 1932. Localised flooding was reported in parts of Nelson City, the Waimea Plains and in Golden Bay. Three adults and a nine-month-old baby stranded in a 4WD were rescued from the Waimea River, 20 km from Nelson. Two men were stranded on a remote island in Golden Bay after being trapped by the incoming tide. They were winched to safety in bad weather by a Defence Force helicopter. Surface flooding also occurred in Hokitika, and a slip blocked one lane in the Fox Hills area. 15 car crashes were attributed to bad weather in the Waikato region.

On 19 February heavy rain trapped two people in their home at Galatea near Murupara. The pair had no way out as flood waters rose to half way up their windows.

On 27 February heavy rain in Auckland caused feeder faults and knocked out power to around 1600 homes in Kaukapakapa and Sunnyvale. Power was restored the following day.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Motu	127	18th	1990	Highest
Appleby	126	17th	1932	Highest
Hokitika	186	16th	1866	2nd-highest
Warkworth	93	18th	1967	3rd-highest
Whangaparaoa	104	18th	1946	3rd-highest
Reefton	65	17th	1960	3rd-highest
Nelson	79	17th	1941	3rd-highest
Tiwai Point	37	25th	1970	4th-highest
South West Cape	43	25th	1991	4th-highest

**Temperatures**

On 3 February Canterbury, Central Otago and Southland experienced hot temperatures with several Southland towns recording near-record high temperatures.

On 29 February warm and humid air kept night time temperatures high in the North Island with several locations experiencing record or near-record high daily minimum temperatures.

The highest February temperature was 35.5°C, observed at Clyde on 3 February.

The lowest February temperature was 1.9°C, observed at Manapouri on 10 February.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
<b>High records or near-records</b>				
Masterton	34.2	26th	1992	Highest
Paraparaumu	30.0	6th	1953	Highest
Puysegur Point	26.0	3rd	1978	Highest
Whatawhata	30.5	13th	1952	2nd-highest
Blenheim	34.5	26th	1932	2nd-highest
Lumsden	30.6	3rd	1982	2nd-highest
Gore	32.2	3rd	1971	2nd-highest
Invercargill	31.4	3rd	1905	2nd-highest
South West Cape	25.9	3rd	1991	2nd-highest
Campbell Island	18.4	17th	1991	2nd-highest
Whangaparaoa	27.9	10th	1982	Equal 2nd-highest
Hawera	27.7	16th	1977	Equal 2nd-highest
Levin	30.5	3rd	1895	3rd-highest
Tiwai Point	29.8	3rd	1970	3rd-highest
Reefton	32.5	6th	1960	Equal 3rd-highest
Wairoa	33.6	26th	1964	4th-highest
Palmerston North	31.6	3rd	1918	4th-highest

Motueka	30.9	25th	1956	4th-highest
Appleby	30.6	27th	1932	4th-highest
Cromwell	34.5	3rd	1949	4th-highest
<b>Low records or near-records</b>				
Campbell Island	6.1	29th	1991	Lowest
Le Bons Bay	11.0	29th	1984	2nd-lowest
Waipara West	13.0	29th	1973	4th-lowest
South West Cape	10.7	29th	1991	Equal 4th-lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
<b>High records or near-records</b>				
Kerikeri	22.0	28th	1981	Highest
Mokohinau	21.5	19th	1994	Highest
Auckland (Whangaparaoa)	20.9	29th	1982	Highest
Whitianga	22.5	29th	1971	Highest
Masterton	20.4	29th	1992	Highest
Milford Sound	18.2	4th	1935	Highest
Secretary Island	18.1	4th	1988	Highest
Puysegur Point	19.5	4th	1978	Highest
Cheviot	21.5	27th	1982	Highest
South West Cape	16.7	4th	1991	Highest
Cape Reinga	20.7	28th	1971	2nd-highest
Kaitaia	22.0	28th	1948	2nd-highest
Kaikohe	21.8	28th	1973	2nd-highest
Farewell Spit	19.7	3rd	1972	2nd-highest
Waiau	20.6	26th	1974	2nd-highest
Christchurch (Riccarton)	21.3	17th	1863	2nd-highest
Le Bons Bay	18.5	5th	1984	2nd-highest
Wanaka	20.0	4th	1972	2nd-highest
Wairoa	23.0	29th	1972	Equal 2nd-highest
Ngawi	22.1	26th	1972	3rd-highest
Hastings	20.8	29th	1972	3rd-highest
Mahia	20.3	29th	1990	3rd-highest
Whangarei	21.9	29th	1967	Equal 3rd-highest
Auckland (Whenuapai)	21.2	29th	1951	Equal 3rd-highest
Tara Hills	19.5	26th	1949	Equal 3rd-highest
Auckland (North Shore)	21.7	29th	1994	4th-highest
Gisborne	22.4	29th	1940	4th-highest
Ranfurly	17.5	4th	1975	4th-highest
Cromwell	20.7	4th	1949	4th-highest
Auckland (Henderson)	21.4	29th	1971	Equal 4th-highest
<b>Low records or near-records</b>				
None observed				

## Wind

On 6 February, wind speeds on Auckland's Harbour Bridge were too high to raise the Tino Rangatiratanga flag for Waitangi Day.

On 17 February, strong winds ripped roofs from houses and a conservatory in Kaikoura. The winds also caused power outages and brought down trees.

On 18 February, strong wind advisories were in place for SH 1 at the Desert Road.

On 26 February hot and dry north-westerlies turned a burn-off of "tree slash" into an out of control blaze in North Otago. Helicopters with monsoon buckets were able to bring the fire under control after several hours.

On 27 February organiser of the Wairarapa Balloon Festival cancelled plans to inflate hot air balloons due to strong winds and a larger than anticipated crowd.

### Record or near-record February extreme wind gusts were recorded at:

Location	Extreme wind gust (km/hr)	Date of extreme gust	Year records began	Comments
Hawera	91	17th	1986	Highest
Nelson	95	17th	1972	Highest
New Plymouth	95	18th	1972	2nd-highest
Auckland (North Shore)	69	29th	1994	2nd-highest
Tara Hills	91	26th	1985	3rd-highest
Motu	74	18th	1991	4th-highest
Farewell Spit	87	17th	1973	Equal 4th-highest

## Lightning and Hail

On 17 February a number of lightning strikes were recorded in Central Otago. One lightning strike caused a fire. Two instances of ball lightning were recorded.

On 25 February lightning struck a woman in Fiordland. The woman did not receive any serious injuries.

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**For further information, please contact:**

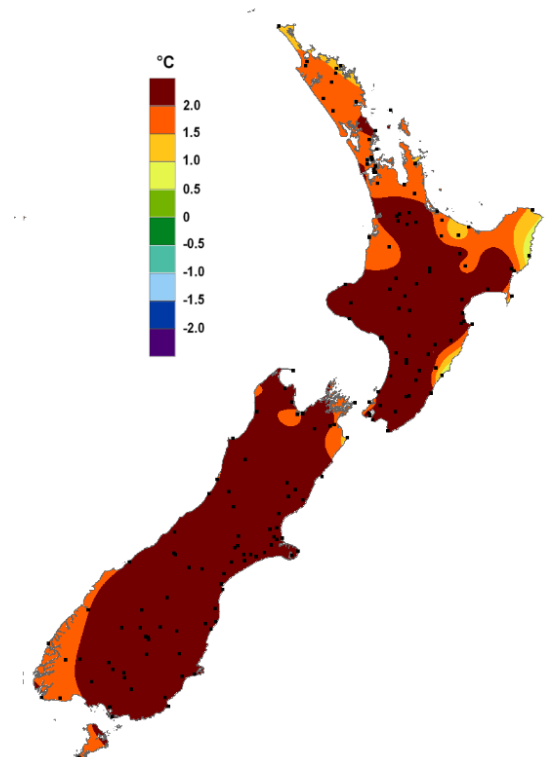
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*February 2016 mean temperature, expressed as a departure from average (1981-2010 average).*

*Temperatures were well above average (>1.20°C) for virtually the entire country. February 2016 was the second hottest February on record coming in close behind February 1998.*

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