

Warmest May on record and plenty of rain for western regions

Temperature	May temperatures were well above average ($>1.20^{\circ}\text{C}$) for the entire North Island as well as the majority of the South Island. Pockets of above average temperatures ($+0.51^{\circ}\text{C}$ to $+1.20^{\circ}\text{C}$) were observed in Marlborough, Nelson, Tasman, the West Coast and Southland. No locations observed average temperatures (-0.50°C to $+0.50^{\circ}\text{C}$) or colder than average temperatures.
Rainfall	Rainfall was well above normal ($>149\%$) for large parts of the South Island. The exceptions were parts of central and eastern Canterbury were below normal (50-79%) and well below normal ($<50\%$) rainfall was recorded. In the North Island, rainfall was well above normal in Taranaki and Manawatu-Wanganui as well as the western portion of the Wellington region. Well below normal rainfall was recorded along the coastal fringes of Gisborne, Hawke's Bay and eastern Wellington.
Sunshine	Sunshine was below normal (75-89%) in the regions of Southland, the West Coast, Tasman, Manawatu-Wanganui and Taranaki. Above normal sunshine (110-125%) was recorded along the eastern portions of Gisborne, Hawke's Bay and eastern Wellington. Sunshine was near normal in the regions of Waikato, Auckland and Northland.
Soil Moisture	As at 1 June 2016, soil moisture levels were below normal for the time of year for large parts of Gisborne, Hawke's Bay, the Wairarapa as well as central and northern parts of Canterbury. Soil moisture levels for the remainder of the country were near normal for the time of year.

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Overview

During the month of May, air pressure was lower than normal over and to the south-west of the South Island while higher than normal pressures existed to the northeast of the country. This pressure set up led to a prevalence of north-westerly wind flow throughout the month. In addition to frequent north-westerlies, warmer than usual sea surface temperatures, particularly to the west of the country persisted throughout May. It is the combination of these two factors that contributed to the exceptional warmth felt across New Zealand throughout the month. Virtually every climate station in New Zealand recorded well above average ($>1.20^{\circ}\text{C}$) temperatures during May, with numerous locations experiencing record or near-record warmth (particularly in the North Island). The nationwide

average temperature in May 2016 was 12.9°C¹(2.1°C above the 1981-2010 May average from NIWA's seven station temperature series which begins in 1909), making May 2016 the warmest May on record using this series. The first 5 months of 2016 have all been warmer than normal, and January-May 2016 is the equal warmest January-May period in the seven station temperature record (equalled by 1938).

While the warmer than normal seas surrounding New Zealand contributed to the warmth felt on land, they also provided added moisture or "fuel" to approaching storms. The second half of May saw a change in regime where a succession of low pressure systems travelling from west to east brought stormy and active weather. As a result, southern and western parts of the South Island as well as Taranaki, Manawatu-Wanganui and western Wellington received copious amounts of rain. For the month as whole, well above normal (>149%) rainfall was recorded in these areas, with some locations such as Palmerston North, Greymouth and Hokitika experiencing their wettest May on record. The eastern fringes of Gisborne, Hawke's Bay, eastern Wellington and the district of Kaikoura were sheltered from the north westerlies and passing lows and consequently received well below normal (<50%) rainfall in May. Mahia and Napier observed their 2nd and 4th driest May on record respectively.

Soil moisture levels at the beginning of May were below normal for the time of year for large parts of New Zealand. The arrival of steady rain during the second half of May led to soil moisture levels gradually rising to near normal in southern Canterbury, Otago, Southland, the West Coast and western parts of the North Island. As at 1 June 2016, soil moisture levels remain below normal for the time of year for large parts of Gisborne, Hawke's Bay, the Wairarapa as well as central and northern parts of Canterbury.

May sunshine hours were a reflection of the rainfall pattern seen during the month. The wettest parts of the country from Waikato down to Southland received below normal (75-89%) sunshine while the driest areas in May (coastal parts of Gisborne, Hawke's Bay and eastern Wellington) experienced above normal sunshine (110-125%). Gisborne had its second sunniest May on record with records extending back to 1905. Sunshine was near normal in the Waikato, Auckland and Northland regions.

Further Highlights:

- The highest temperature was 27.6°C, observed at Kawerau on 9 May.
- The lowest temperature was -5.6°C, observed at Ranfurly on 25 May.
- The highest 1-day rainfall was 163.2 mm, recorded at North Egmont on 11 May.
- The highest wind gust was 174km/hr, observed at Cape Turnagain on 18 May.
- Of the six main centres in May 2016, Tauranga was the driest and sunniest, Auckland was the warmest, Dunedin was the coolest, Wellington was the wettest, and Hamilton was the cloudiest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2016 so far (1 January – 31 May) were Richmond (1289 hours), Blenheim (1167 hours), New Plymouth (1164 hours) and Takaka (1123 hours).

For further information, please contact:

Mr Chris Brandolino

Principal Scientist – Forecasting, NIWA National Climate Centre

Tel. 09 375 6335, Mobile 027 886 0014

¹ Interim value

Temperature: Warmest May on record

It has been an exceptionally warm start to the year. May has continued the trend with well above average (>1.20°C) temperatures recorded by virtually every climate station in the country. Numerous locations experienced record or near record mean, mean maximum and mean minimum high temperatures. Notable records include Napier and Christchurch which observed their highest May average temperature with records extending back to 1870 and 1863, respectively. The nationwide average temperature in May 2016 was 12.9°C (2.1°C above the 1981-2010 May average from NIWA's seven station temperature series which begins in 1909), making May 2016 the warmest May on record using this series.

Record² or near-record mean air temperatures for May were recorded at:

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Cape Reinga	16.8	1.5	1951	Highest
Kaitaia	17.5	2.8	1967	Highest
Kerikeri	16.6	2.4	1981	Highest
Kaikohe	16.9	3.2	1973	Highest
Dargaville	16.7	2.8	1943	Highest
Whangarei	17.1	2.6	1967	Highest
Mokohinau	17.7	2.2	1994	Highest
Whangaparaoa	16.8	2.2	1982	Highest
Auckland (Whenuapai)	15.6	2.3	1945	Highest
Whitianga	15.5	2.4	1962	Highest
Paeroa	15.3	2.7	1947	Highest
Tauranga	15.6	2.3	1913	Highest
Rotorua	13.2	2.5	1964	Highest
Taupo	12.5	3.1	1949	Highest
Motu	11.1	2.3	1990	Highest
Auckland (Mangere)	16.7	2.7	1959	Highest
Auckland (Pukekohe)	15.3	2.1	1969	Highest
Whatawhata	15.7	3.5	1952	Highest
Hamilton	14.4	2.5	1906	Highest
Te Kuiti	13.7	2.2	1959	Highest
Turangi	11.3	1.9	1968	Highest
New Plymouth	14.9	2.4	1944	Highest
Masterton	12.9	2.8	1906	Highest
Dannevirke	13.7	3.2	1951	Highest
Waione	14.5	3.1	1991	Highest
Castlepoint	14.8	2.1	1972	Highest

² 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.

Ngawi	15.2	2.1	1972	Highest
Hicks Bay	16.6	2.7	1969	Highest
Gisborne	15.6	3.2	1905	Highest
Napier	14.8	2.8	1870	Highest
Hastings	14.6	3.5	1965	Highest
Waipawa	13.1	2.6	1945	Highest
Wairoa	14.8	2.6	1964	Highest
Mahia	15.5	2.6	1990	Highest
Paraparaumu	14.4	2.8	1953	Highest
Palmerston North	13.9	2.6	1928	Highest
Levin	14.3	2.9	1895	Highest
Wellington	14.6	2.1	1962	Highest
Wanganui (Spriggens Park)	15.2	2.8	1937	Highest
Hanmer Forest	10.1	2.4	1906	Highest
Cheviot	11.7	2.6	1982	Highest
Waipara West	12.8	2.4	1973	Highest
Christchurch (Riccarton)	13.2	3.5	1863	Highest
Lincoln	12.5	3.2	1881	Highest
Te Puke	14.1	1.9	1973	2nd-highest
Whakatane	14.3	2.5	1974	2nd-highest
Port Taharoa	15.9	1.9	1973	2nd-highest
Takapau Plains	12.2	2.2	1962	2nd-highest
Stratford	12.4	2.0	1960	2nd-highest
Hawera	13.7	2.5	1977	2nd-highest
Ohakune	10.6	2.3	1962	2nd-highest
Takaka	12.5	1.7	1978	2nd-highest
Farewell Spit	14.3	1.7	1971	2nd-highest
Hokitika	11.6	1.4	1866	2nd-highest
Reefton	11.2	2.7	1960	2nd-highest
Milford Sound	10.3	1.9	1934	2nd-highest
Puysegur Point	11.8	1.6	1978	2nd-highest
Cape Campbell	13.8	1.7	1953	2nd-highest
Kaikoura	13.5	2.4	1963	2nd-highest
Waiau	11.3	2.9	1974	2nd-highest
Oamaru	11.0	1.8	1908	2nd-highest
Lauder	9.0	2.5	1924	2nd-highest
Nelson	12.4	1.5	1943	3rd-highest
Blenheim	12.7	1.8	1941	3rd-highest
Culverden	11.2	2.8	1928	3rd-highest
Le Bons Bay	12.0	1.7	1984	3rd-highest
Wanaka	9.2	2.0	1955	3rd-highest
Ranfurly	8.2	2.7	1975	3rd-highest
Dunedin (Musselburgh)	11.1	1.8	1947	3rd-highest
Manapouri	8.6	1.8	1963	3rd-highest
Lumsden	9.1	1.8	1982	3rd-highest
Tiwai Point	11.0	2.1	1970	3rd-highest
Auckland (North Shore)	16.8	2.2	1994	4th-highest
Taumarunui	12.5	2.2	1947	4th-highest

Westport	12.6	1.4	1937	4th-highest
Ashburton	10.7	1.9	1927	4th-highest
Tara Hills	8.1	2.0	1949	4th-highest
Cromwell	9.6	2.4	1949	4th-highest
Alexandra	9.2	2.1	1983	4th-highest
Invercargill	9.7	1.8	1905	4th-highest
Nugget Point	9.7	1.1	1970	4th-highest
South West Cape	10.3	1.0	1991	4th-highest
Low records or near-records				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kaitaia	21.3	3.0	1967	Highest
Kerikeri	21.2	2.6	1981	Highest
Kaikohe	19.9	3.1	1973	Highest
Whangarei	20.8	2.7	1967	Highest
Mokohinau	19.5	2.3	1994	Highest
Auckland (Whangaparaoa)	19.4	2.2	1982	Highest
Auckland (Whenuapai)	19.7	2.0	1945	Highest
Whitianga	19.8	2.1	1962	Highest
Paeroa	19.3	1.9	1947	Highest
Whakatane	19.1	1.9	1974	Highest
Auckland (Mangere)	20.0	2.5	1959	Highest
Whatawhata	19.5	2.9	1952	Highest
Hamilton	19.0	2.1	1906	Highest
Te Kuiti	18.1	1.5	1959	Highest
New Plymouth	18.0	1.9	1944	Highest
Dannevirke	17.3	2.6	1951	Highest
Hicks Bay	19.7	2.8	1969	Highest
Gisborne	20.7	3.1	1905	Highest
Napier	20.5	3.7	1870	Highest
Hastings	20.5	3.7	1965	Highest
Waipawa	19.0	3.3	1945	Highest
Wairoa	20.4	3.2	1964	Highest
Mahia	18.8	3.3	1990	Highest
Wellington	17.1	1.9	1962	Highest
Stratford	16.0	1.7	1960	Highest
Hawera	17.4	2.4	1977	Highest
Cheviot	17.7	2.5	1982	Highest
Christchurch (Riccarton)	19.2	4.6	1863	Highest
Lincoln, Broadfield	17.5	3.2	1881	Highest
Tiwai Point	15.0	2.9	1970	Highest
Waione	18.4	2.0	1991	Equal highest
Cape Reinga	19.0	1.2	1951	2nd-highest

Tauranga	19.3	2.0	1913	2nd-highest
Rotorua	16.6	1.5	1964	2nd-highest
Taupo	16.0	1.9	1949	2nd-highest
Motu	15.5	2.3	1990	2nd-highest
Masterton	18.2	2.1	1906	2nd-highest
Paraparaumu	17.3	1.8	1953	2nd-highest
Palmerston North	17.7	2.0	1928	2nd-highest
Wanganui (Spriggens Park)	18.7	2.4	1937	2nd-highest
Farewell Spit	17.2	1.0	1971	2nd-highest
Milford Sound	14.0	1.6	1934	2nd-highest
Puysegur Point	14.3	1.9	1978	2nd-highest
Hanmer Forest	17.1	3.0	1906	2nd-highest
Kaikoura	17.1	2.9	1963	2nd-highest
Waiau	17.1	2.5	1974	2nd-highest
Waipara West	17.6	2.0	1973	2nd-highest
Dargaville	20.0	2.7	1943	3rd-highest
Te Puke	18.6	1.4	1973	3rd-highest
Castlepoint	17.7	2.4	1972	3rd-highest
Ngawi	17.7	2.0	1972	3rd-highest
Takaka	18.0	1.5	1978	3rd-highest
Nelson	17.1	1.5	1943	3rd-highest
Blenheim	17.7	1.4	1941	3rd-highest
Winchmore	16.7	2.8	1928	3rd-highest
Timaru	16.1	2.3	1885	3rd-highest
Dunedin (Musselburgh)	15.4	2.7	1947	3rd-highest
Balclutha	13.8	1.3	1964	3rd-highest
Turangi	15.7	1.1	1968	4th-highest
Levin	17.2	1.6	1895	4th-highest
Ashburton	16.5	2.4	1928	4th-highest
Le Bons Bay	15.0	1.9	1984	4th-highest
Ranfurly	13.2	2.1	1975	4th-highest
Lumsden	13.5	1.5	1982	4th-highest
Cromwell	14.7	2.0	1949	4th-highest
Nugget Point	12.7	1.3	1970	4th-highest
Low records or near-records				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Cape Reinga	14.7	1.9	1951	Highest
Kaitaia	13.7	2.3	1948	Highest
Kerikeri	12.1	2.4	1981	Highest
Kaikohe	13.9	3.3	1973	Highest
Dargaville	13.4	2.8	1943	Highest
Whangarei	13.4	2.6	1967	Highest

Mokohinau	15.9	2.1	1994	Highest
Leigh	14.5	1.7	1966	Highest
Auckland (Whenuapai)	11.5	2.5	1945	Highest
Whitianga	11.3	2.7	1962	Highest
Paeroa	11.2	3.4	1947	Highest
Tauranga	11.9	2.6	1913	Highest
Rotorua	9.8	3.5	1964	Highest
Taupo	9.1	4.3	1949	Highest
Auckland (Mangere)	13.3	2.9	1959	Highest
Auckland (Pukekohe)	11.6	2.2	1969	Highest
Whatawhata	12.0	4.2	1952	Highest
Hamilton	9.8	2.9	1906	Highest
Port Taharoa	13.5	2.8	1973	Highest
Te Kuiti	9.3	2.8	1959	Highest
Turangi	7.0	2.7	1968	Highest
New Plymouth	11.7	2.8	1944	Highest
Masterton	7.7	3.6	1906	Highest
Dannevirke	10.0	3.6	1951	Highest
Waione	10.6	4.2	1991	Highest
Castlepoint	12.0	2.0	1972	Highest
Ngawi	12.6	2.2	1972	Highest
Hicks Bay	13.5	2.7	1969	Highest
Hastings	8.6	3.3	1965	Highest
Wairoa	9.3	2.1	1964	Highest
Mahia	12.1	1.9	1990	Highest
Paraparaumu	11.5	3.6	1953	Highest
Palmerston North	10.3	2.9	1928	Highest
Levin	11.4	4.3	1895	Highest
Wellington	12.1	2.4	1962	Highest
Wanganui (Spriggens Park)	11.7	3.2	1937	Highest
Cape Campbell	11.6	1.8	1953	Highest
Kaikoura	9.9	1.8	1963	Highest
Culverden	6.1	3.8	1928	Highest
Cheviot	5.8	2.7	1982	Highest
Waipara West	7.9	2.8	1973	Highest
Lincoln	7.4	3.0	1881	Highest
Wanaka	5.3	3.0	1955	Highest
Ranfurlly	3.2	3.2	1975	Highest
Lauder	4.3	3.3	1924	Highest
Auckland (Whangaparaoa)	14.1	2.2	1982	2nd-highest
Te Puke	9.5	2.2	1973	2nd-highest
Taumarunui	8.1	3.1	1947	2nd-highest
Takapau Plains	8.3	3.1	1962	2nd-highest
Gisborne	10.4	3.3	1905	2nd-highest
Stratford	8.7	2.2	1960	2nd-highest
Hawera	10.0	2.6	1977	2nd-highest
Ohakune	7.2	3.2	1962	2nd-highest
Farewell Spit	11.3	2.3	1971	2nd-highest

Hokitika	8.3	2.2	1866	2nd-highest
Reefton	7.7	3.8	1960	2nd-highest
Tara Hills	3.3	2.7	1949	2nd-highest
Oamaru	6.4	1.6	1908	2nd-highest
Cromwell	4.4	2.7	1949	2nd-highest
Alexandra	3.8	2.4	1983	2nd-highest
South West Cape	8.6	1.3	1991	2nd-highest
Lumsden	4.8	2.3	1982	Equal 2nd-highest
Whakatane	9.5	3.1	1974	3rd-highest
Motu	6.7	2.4	1990	3rd-highest
Westport	9.3	1.8	1937	3rd-highest
Milford Sound	6.8	2.6	1934	3rd-highest
Puysegur Point	9.2	1.3	1978	3rd-highest
Nelson	7.7	1.4	1943	3rd-highest
Blenheim	7.6	2.1	1941	3rd-highest
Waiau	5.4	3.1	1974	3rd-highest
Le Bons Bay	9.0	1.6	1984	3rd-highest
Manapouri	4.6	2.5	1963	3rd-highest
Auckland (North Shore)	13.5	2.4	1994	4th-highest
Waipawa	7.2	1.9	1945	4th-highest
Greymouth	9.1	2.0	1947	4th-highest
Arthurs Pass	4.2	2.7	1973	4th-highest
Lake Tekapo	3.2	2.4	1927	4th-highest
Invercargill	5.7	1.9	1905	4th-highest
Low records or near-records				
None observed				

Rainfall: A wet second half of the month, particularly for western areas.

May got off to a dry start in the North Island and eastern parts of the South Island. As the month progressed, a change in regime brought a succession of storms to southern and western parts of the country. Warmer than normal sea surface temperatures, particularly to the west of the country, contributed moisture or “fuel” to the weather systems. As a result, areas exposed to the passage of these low pressure system (areas along the west of New Zealand from Waikato down to Southland) recorded above (120-149%) to well above (>149%) normal rainfall for the month as a whole. Hokitika received 579mm (or 245% of normal) of rain in May which was the highest on record since records began in 1866. Milford Sound also had its wettest May on record with an impressive 1338mm recorded for the month.

Conversely, eastern portions of Gisborne, Hawke’s Bay and Wellington were sheltered from the predominant north-westerlies and therefore recorded below (50-79%) and well below (<50%) normal rainfall.

Record or near-record May rainfall totals were recorded at:

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
Palmerston North	249	299	1928	Highest
Hokitika	579	245	1866	Highest
Greymouth	479	243	1947	Highest
Milford Sound	1338	224	1929	Highest
Manapouri	225	220	1961	Highest
Lumsden	151	169	1982	Highest
Paraparaumu	216	260	1945	2nd-highest
Reefton	357	214	1960	2nd-highest
South West Cape	193	160	1991	2nd-highest
Motu	284	148	1990	3rd-highest
Dannevirke	173	207	1951	3rd-highest
Ohakune	204	193	1961	3rd-highest
Westport	370	217	1944	3rd-highest
Mt Cook	865	237	1928	3rd-highest
Dunedin	145	241	1962	3rd-highest
Levin	193	242	1895	4th-highest
Hawera	176	179	1977	4th-highest
Alexandra	58	181	1983	4th-highest
Low records or near-records				
Mahia	13	12	1990	2nd-lowest
Napier	12	15	1870	4th-lowest

Sunshine: Cloudy for western parts of the country

May sunshine hours were a reflection of the rainfall pattern seen during the month. Areas along the west of New Zealand from Waikato down to Southland received more rain than usual and as a result sunshine hours in these locations were below normal (75-89%). Eastern parts of Gisborne, Hawke's Bay and Wellington which received little rainfall in May experienced above normal sunshine (110-125%), Gisborne had its second sunniest May on record with records extending back till 1905. Sunshine was near normal in the Waikato, Auckland and Northland regions. Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2016 so far (1 January – 31 May) were Richmond (1289 hours), Blenheim (1167 hours), New Plymouth (1164 hours) and Takaka (1123 hours).

Record or near-record May sunshine hours were recorded at:

Location	Sunshine hours	Percentage of normal	Year records began	Comments
High records or near-records				
Gisborne	205	141	1905	2nd-highest
Low records or near-records				
Turangi	90	63	1976	Lowest
Paraparaumu	94	70	1953	3rd-lowest
Hokitika	74	62	1912	4th-lowest

May climate in the six main centres

May temperatures were well above average (>1.20°C above the May average) for all main centres. Christchurch and Dunedin experienced their 3rd warmest May on record (although measurements at Christchurch (Riccarton) instead of the airport were the warmest on record), while the remaining main centres had their warmest May on record. Rainfall was near normal in Auckland and Tauranga, above normal (120-149%) in Hamilton and well above normal (>149%) in the remaining main centres. In particular, Wellington recorded more than double its normal May rainfall. Near normal sunshine hours were observed in all of the main centres. Of the six main centres in May 2016, Tauranga was the driest and sunniest, Auckland was the warmest, Dunedin was the coolest, Wellington was the wettest, and Hamilton was the cloudiest.

May 2016 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland ^a	16.7	+2.7	Well above average (highest on record)
Tauranga ^b	15.6	+2.3	Well above average (highest on record)
Hamilton ^c	14.0	+2.4	Well above average (highest on record)
Wellington ^d	13.8	+2.1	Well above average (highest on record)
Christchurch ^e	11.9	+2.9	Well above average (3 rd highest on record)
Dunedin ^f	11.1	+1.8	Well above average (3 rd highest on record)
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland ^a	120	111%	Near normal
Tauranga ^b	89	80%	Near normal
Hamilton ^c	140	131%	Above normal
Wellington ^d	234	210%	Well above normal
Christchurch ^e	99	172%	Well above normal
Dunedin ^f	121 ³	183%	Well above normal
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland ^a	133	93%	Near normal
Tauranga ^b	143	86%	Near normal
Hamilton ^g	113	82%	Near normal
Wellington ^d	120	90%	Near normal
Christchurch ^e	129 ³	92%	Near normal
Dunedin ^f	103 ⁴	101%	Near normal

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

³ Missing 1 day of data.

⁴ Missing 2 days of data.

Highlights and extreme events

Rain and slips

On 5 May, a relatively short but intense period of rainfall resulted in flooding for parts of the Wellington region. Porirua was worst affected, with five houses flooded, five schools closed, and surface flooding on many roads. Farther north, Palmerston North also suffered surface flooding after a torrential downpour of rain. In the three hours from midday to 3 p.m., the city recorded 47.8 mm of rain. This was more rainfall than the total rainfall that had been recorded in the city over the preceding 41 days.

On 11 May, State Highway 67, north of Westport, was closed overnight after a creek burst its banks between Hector and Mokihinui. There were also minor slips in the area.

On 18 May a heavy downpour of rain in Wellington caused surface flooding near the Basin Reserve.

On 20 May, heavy rain caused slips and the closure of State Highway 6 north of Greymouth. The heavy rain also caused localised flooding in Hokitika and Greymouth.

On 22 and 23 May heavy rain caused flooding in parts of Dunedin. 50mm of rain in 24 hours was recorded at Dunedin airport – the 4th highest 1-day rainfall total on record. Surface flooding occurred along a number of highways in Southland and Otago. Flooding on State Highway 6 between Nokomai and Fairlight and State Highway 83 between Oamaru and Kurow meant extra care was needed.

On 30 May, heavy rain in the early morning hours led to flooding in the Wellington region. Johnsonville Shopping Centre was flooded as well as parts of Strathmore Park. The rain also contributed to a slip at Pukerua Bay on the Kapiti coast which caused one lane on State Highway 1 to be closed. Two slips occurred in the Manawatu Gorge. Several slips along State Highway 60 between Riwaka and Takaka reduced the highway to one lane.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Alexandra	22	12th	1983	3rd-highest
Lumsden	35	22nd	1982	Equal 3rd-highest
Dunedin	50	22nd	1962	4th-highest

Temperatures

In the early hours of 3 May temperatures were very warm in many eastern parts of the country. In Christchurch (Riccarton), the temperature between 2 a.m. and 3 a.m. reached a maximum of 23.3°C.

On 11 May, a foehn effect initiated by north-westerly winds contributed to the warmest day in May on record being observed at several eastern South Island locations.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Kaitaia	24.2	6th	1948	Highest
Kaikohe	23.3	3rd	1973	Highest
Mokohinau	22.7	3rd	1994	Highest
Auckland (Whangaparaoa)	22.5	3rd	1982	Highest
Taupo	21.5	6th	1949	Highest
Whatawhata	23.3	9th	1952	Highest
Masterton	25.3	3rd	1906	Highest
Hicks Bay	23.0	4th	1969	Highest
Hawera	21.3	4th	1977	Highest
Hanmer Forest	25.9	11th	1906	Highest
Dunedin (Airport)	26.5	4th	1962	Highest
Dunedin (Musselburgh)	25.7	11th	1947	Highest
Lumsden	22.0	7th	1982	Highest
Lauder	24.0	4th	1924	Highest
Gore	22.2	7th	1971	Highest
Tiwai Point	21.3	7th	1970	Highest
Nugget Point	22.2	11th	1970	Highest
Kerikeri	24.6	3rd	1981	Equal highest
Nelson	22.8	5th	1943	Equal highest
Ranfurly	22.0	4th	1975	Equal highest
Auckland (Mangere)	24.5	3rd	1959	2nd-highest
Waione	25.2	11th	1991	2nd-highest
Waipawa	24.4	4th	1945	2nd-highest
Reefton	21.9	5th	1960	2nd-highest
Motueka	24.1	5th	1956	2nd-highest
Blenheim	24.4	3rd	1932	2nd-highest
Le Bons Bay	22.6	4th	1984	2nd-highest
Cromwell	23.9	7th	1949	2nd-highest
Alexandra	24.1	4th	1983	2nd-highest
Dannevirke	24.0	11th	1951	Equal 2nd-highest
Castlepoint	22.7	11th	1972	Equal 2nd-highest
Appleby	23.7	5th	1932	Equal 2nd-highest
Cheviot	25.0	1st	1982	Equal 2nd-highest
Timaru	25.6	11th	1885	Equal 2nd-highest
Cape Reinga	22.0	5th	1951	3rd-highest
Hastings	24.9	2nd	1965	3rd-highest
Mahia	23.1	3rd	1990	3rd-highest
Puysegur Point	19.7	10th	1978	3rd-highest
Mt Cook	20.3	8th	1929	3rd-highest
Lake Tekapo	21.0	11th	1925	3rd-highest
Tara Hills	20.9	4th	1949	3rd-highest
Invercargill	21.1	4th	1905	3rd-highest

Whitianga	22.7	3rd	1962	Equal 3rd-highest
Palmerston North	23.3	11th	1918	Equal 3rd-highest
Wanganui	23.9	4th	1937	Equal 3rd-highest
Christchurch (Riccarton)	26.7	11th	1863	Equal 3rd-highest
Auckland (Whenuapai)	23.2	3rd	1945	4th-highest
Auckland (North Shore)	23.1	3rd	1995	4th-highest
Waiau	25.2	11th	1974	4th-highest
Te Puke	22.3	7th	1973	Equal 4th-highest
Motu	20.4	7th	1990	Equal 4th-highest
Ngawi	22.6	11th	1972	Equal 4th-highest
Waipara West	25.9	11th	1973	Equal 4th-highest
Low records or near-records				
None observed				

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Mokohinau	19.0	6th	1994	Highest
Port Taharoa	17.3	12th	1974	Highest
New Plymouth	18.0	5th	1944	Highest
Waione	17.9	4th	1993	Highest
Martinborough	17.9	4th	1986	Highest
Ngawi	18.1	4th	1972	Highest
Paraparaumu	17.5	4th	1972	Highest
Wellington	18.0	4th	1972	Highest
Farewell Spit	17.5	5th	1972	Highest
Westport	16.0	5th	1966	Highest
Milford Sound	13.2	9th	1935	Highest
Secretary Island	15.1	8th	1988	Highest
Kaikoura	16.6	3rd	1972	Highest
Culverden	17.0	3rd	1930	Highest
Mt Cook	12.6	2nd	1929	Highest
Wanakae	13.5	2nd	1972	Highest
Manapourie	13.3	2nd	1973	Highest
Tiwai Point	13.0	2nd	1972	Highest
South West Cape	13.9	2nd	1991	Highest
Masterton	17.2	12th	1992	Equal highest
Le Bons Bay	15.4	3rd	1984	Equal highest
Cape Reinga	18.0	11th	1971	2nd-highest
Auckland (Whangaparaoa)	17.9	11th	1982	2nd-highest
Dannevirke	16.8	4th	1951	2nd-highest
Castlepoint	17.6	5th	1972	2nd-highest
Hicks Bay	17.9	12th	1972	2nd-highest
Mahia	16.7	12th	1990	2nd-highest

Puysegur Point	15.5	2nd	1978	2nd-highest
Waipara West	17.2	3rd	1973	2nd-highest
Orari Estate	10.6	5th	1972	2nd-highest
Lumsden	13.1	3rd	1982	2nd-highest
Cromwell	15.4	2nd	1949	2nd-highest
Gore	14.2	3rd	1972	2nd-highest
Kaikohe	17.3	12th	1973	Equal 2nd-highest
Levin	16.8	4th	1950	Equal 2nd-highest
Whangarei	18.2	12th	1967	3rd-highest
Paeroa	17.5	6th	1971	3rd-highest
Gisborne	18.0	12th	1940	3rd-highest
Wanganui	16.8	5th	1972	3rd-highest
Reefton	14.4	5th	1972	3rd-highest
Blenheim	16.6	3rd	1972	3rd-highest
Cheviot	13.1	13th	1982	3rd-highest
Taupo	15.0	6th	1950	Equal 3rd-highest
Stratford	14.7	5th	1972	Equal 3rd-highest
Nelson	16.0	5th	1943	Equal 3rd-highest
Auckland (Mangere)	17.9	12th	1961	4th-highest
Te Kuiti	16.4	6th	1959	4th-highest
Taumarunui	16.0	6th	1947	4th-highest
Hastings	17.4	12th	1972	4th-highest
Invercargill	12.4	2nd	1905	4th-highest
Nugget Point	11.7	2nd	1972	4th-highest
Rotorua	15.7	12th	1972	Equal 4th-highest
Hawera	15.5	5th	1977	Equal 4th-highest
Greymouth	14.6	5th	1972	Equal 4th-highest
Low records or near-records				
None observed				

Wind

On 12 May, strong winds struck many parts of the country. In Wellington, a glass pane was blown out of a CBD high-rise, the Cook Strait ferry was cancelled and two Air New Zealand flights were forced to turn back to Auckland in the evening after high winds whipping around the capital stopped them from landing. In Carterton, 1500 homes lost power which was quickly restored. Motorists were warned to take care on SH1 from Blenheim to Kaikoura, SH73 from Arthur's Pass to Springfield and SH7 from Hanmer Springs to Springs Junction due to strong winds. Small tornadoes were reported on the West Coast. One tornado blew a 2000-litre water tank off its stand. State Highway 1 was partially closed north of Christchurch after trees were knocked over by strong gusts. Strong winds were also blamed for two vehicles rolling in Canterbury. State Highway 6 was closed at Haast Pass due to fallen trees but no detour was available. In Dunedin, air passengers experienced delays and cancellations because of the winds. The combination of winds and high tide also caused flooding along a coastal road in Dunedin.

On 13 May, wild weather continued overnight in Wellington. Rimutaka Hill Road between Wellington and Wairarapa was closed at 1am due to high winds causing a risk to motorists and a yacht broke its

mooring and smashed into the rocks in Evans Bay, Wellington. Downed power lines, roofs flying off buildings, and windows being smashed in were reported across greater Wellington.

On 16 May, strong winds overnight lifted roofs and knocked over powerlines in Canterbury. Power was cut to about 300 homes in Selwyn and Banks Peninsula but was restored by the morning.

On 20 May a tornado was reported in the Waikato, near Te Awamutu. The tornado lifted roofs, uprooted trees and tore down powerlines.

On 21 May strong gales in Canterbury closed the Christchurch Gondola for the day.

On 21 and 22 May strong winds drove large swell along North Island west coast. The swell caused the New Plymouth port to be closed for commercial ships. The huge swell also left debris strewn along the New Plymouth coastal walkway

On 24 May, in the early morning hours, what is thought to have been a tornado left behind a path of destruction at Foxton beach caravan park (Manawatu).

On 29 May strong winds caused a tree to come down on a power line in Titirangi (Auckland) knocking out power to several houses. There were also reports of trees falling on houses in other parts of the Auckland region.

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

Location	Extreme wind gust (km/hr)	Date of extreme gust	Year records began	Comments
Motu	93	24th	1991	Highest
Cape Reinga	159	21st	1974	Equal highest
Auckland (North Shore)	76	29th	1994	2nd-highest
Manapouri	80	23rd	1991	2nd-highest
Hamilton	82	29th	1991	Equal 2nd-highest
Paeroa	83	16th	1991	3rd-highest
Westport	111	18th	1973	3rd-highest
Puysegur Point	152	12th	1986	3rd-highest
Oamaru	91	12th	1984	3rd-highest
Dannevirke	85	16th	1961	Equal 3rd-highest
Kaukau	150	12th	1969	Equal 3rd-highest
Kaikohe	82	21st	1986	4th-highest
Hanmer Forest	100	12th	1995	4th-highest
Kaitaia	96	21st	1985	Equal 4th-highest
Milford Sound	122	12th	1974	Equal 4th-highest
Queenstown	83	14th	1972	Equal 4th-highest

Lightning and hail

On 12 May, Pukekura (West Coast) was hit by a 30-minute hail storm, including thunder and lightning.

On 16 May, more than 30,000 lightning strikes were recorded across the country associated with an active cold front. A second front brought further thunder and lightning overnight. One lightning strike split a tree on a Hamilton property in half.

On 18 May, an active front brought lightning to the North Island from Taranaki through to Northland.

On 20 May, thunder and lightning was observed in the Waikato overnight associated with a squall line.

On 24 May more than a thousand lightning strikes were recorded across the top of the South Island and bottom of the North overnight. 18,000 people in Wellington were left without power following the lightning strikes.

On 25 May Auckland experienced a short bout of thunder, lightning and hail as front passed through. Two lightning strikes were reported to have hit houses.

Cloud and fog

On 3 May, early morning fog in Auckland caused delays to the Birkenhead and Northcote Point ferry services.

On 4 May, fog in Auckland caused the delay or cancellation of at least 30 flights. Ferry services were also delayed by the poor visibility.

On 6 May, several flights were cancelled due to heavy fog at New Plymouth Airport.

On 11 May, low-lying cloud and poor weather in Nelson led to the cancellation of eight flights.

Snow and ice

On 16 and 17 May a light accumulation of snowfall was observed at most New Zealand ski areas.

On 22 May overnight snow caused disruptions in several parts of the country. 36 people travelling through remote Central Otago were hit by a sudden snowstorm and were trapped in their vehicles overnight. Continued bad weather slowed down rescue efforts and snow banks of up to 2m prevented a land-based rescue. Snow in the Crown Range also led to 12 vehicles sliding off the road and a further 20 vehicles were stranded before the pass was eventually closed. All motorists were rescued. Snow flurries had also been reported on Arthur's, Porters and Lindis Passes. In the North Island, Rimutaka Hill between Wellington and Wairarapa got a dusting of snow. Mt Ruapehu also received its second snowfall of the season.

On 23 May overnight snow caused the Lindis Pass and Pomahaka Bridge on State Highway 90 to be closed. Warnings were also in place for Arthurs Pass, Lewis Pass, and Porter Pass, with authorities urging all motorists using those routes to bring chains.

On 31 May snow was falling steadily on State Highway 73 between Springfield and Arthurs Pass. Motorists were advised to travel with chains.

For further information, please contact:

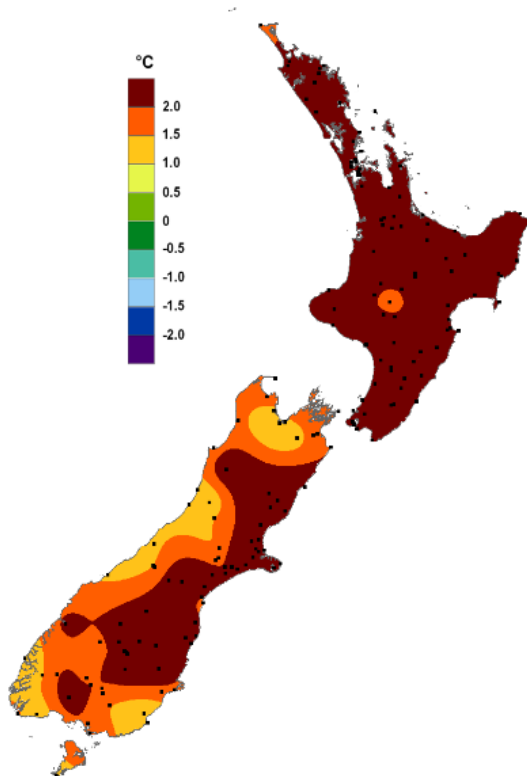
Mr Chris Brandolino

Principal Scientist – Forecasting, NIWA National Climate Centre
Tel. 09 375 6335, Mobile 027 886 0014

For climate data enquiries, please contact:

Miss Nava Fedaeff

Climate Scientist, NIWA Auckland
Tel. 09 375 6337



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

It was the warmest May on record for numerous locations in New Zealand. May temperatures were well above average (>1.20°C) for the entire North Island as well as the majority of the South Island.

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