

## Warm, dry and sunny for most of New Zealand.

<b>Temperature</b>	April temperatures were well above average ( $>1.20^{\circ}\text{C}$ ) or above average ( $+0.51^{\circ}\text{C}$ to $+1.20^{\circ}\text{C}$ ) in most parts of New Zealand. It was an especially warm month for much of Southland where mean temperatures were $2.0^{\circ}\text{C}$ or more above average.
<b>Rainfall</b>	Rainfall was well below normal ( $<50\%$ of normal) for parts of Northland, Auckland, Waikato, Hawke's Bay, Whanganui, Manawatu, Wairarapa, Wellington, Nelson, Tasman, Marlborough, Canterbury and Otago. Conversely, rainfall was well above normal ( $>149\%$ of normal) or above normal ( $120\text{-}149\%$ of normal) in the southwest of the South Island and Stewart Island.
<b>Sunshine</b>	Sunshine was well above normal ( $>125\%$ of normal) or above normal ( $110\text{-}125\%$ of normal) in many parts of the country. The exception was parts of Northland, Auckland, Waikato, Bay of Plenty and Southland where sunshine was near normal ( $90\text{-}109\%$ of normal).
<b>Soil Moisture</b>	As at 1 May 2016, soil moisture levels were below normal for the time of year for eastern and inland parts of the South Island, and extensive parts of the North Island. Soil moisture levels were above normal in parts of Fiordland.

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### Overview

During April 2016, a west to east oriented belt of significantly higher than normal pressure was present over New Zealand. This pressure pattern resulted in a settled month of weather, with warm temperatures, low rainfall and high sunshine hours characterising the month for many parts of the country. April temperatures were well above average ( $>1.20^{\circ}\text{C}$  above the April average) or above average ( $+0.51^{\circ}\text{C}$  to  $+1.20^{\circ}\text{C}$  above the April average) in parts of every region of the country. It was a particularly warm month for much of Southland which recorded temperatures more than  $2.0^{\circ}\text{C}$  above the April average. Isolated parts of Waikato, Gisborne, West Coast and Canterbury observed near average April temperatures ( $-0.51^{\circ}\text{C}$  to  $+0.50^{\circ}\text{C}$  of the April average). The nationwide average temperature in April 2016 was  $14.1^{\circ}\text{C}$  ( $0.9^{\circ}\text{C}$  above the 1981-2010 April average from NIWA's seven station temperature series which begins in 1909), making April 2016 the 13th-warmest April on record using this series. The first four months of 2016 have all been warmer than normal, and January-April

2016 is the equal 2nd-warmest January-April period in the seven station temperature record (equaled by 1998 and 1999, and exceeded only by 1938).

The prevalence of high pressure systems during the month contributed to a lack of meaningful rainfall in many parts of the country. Rainfall was well below normal (<50% of the April normal) for parts of Northland, Auckland, Waikato, Hawke's Bay, Whanganui, Manawatu, Wairarapa, Wellington, Nelson, Tasman, Marlborough, Canterbury and Otago. Rainfall was typically below normal (50-79% of the April normal) in remaining areas of the country. The exception was isolated parts of eastern Northland, Coromandel, Gisborne and Kapiti Coast where rainfall was near normal (80-119% of the April normal), and parts of coastal Southland and Stewart Island where rainfall was above normal (120-149% of the April normal) or well above normal (>149% of the April normal).

As at 1 May 2016, soil moisture levels were below normal for the time of year for extensive parts of New Zealand. Soil moisture levels were considerably below normal in western parts of Northland, Auckland and Waikato, the East Cape, the lower half of the North Island, and eastern parts of Canterbury. Soil moisture levels were near normal for the time of year in Nelson and Tasman despite a very dry April in these parts, which may be attributed to the considerable rainfall which occurred there in March 2016. Soil moisture levels were above normal in parts of Fiordland.

April sunshine was well above normal (>125% of the April normal) in Taranaki, Kapiti Coast, Nelson, Cheviot, Rangiora and Queenstown, and above normal (110-125% of the April normal) for most remaining areas of New Zealand. The exception was areas of Northland, Auckland, Waikato, Bay of Plenty and Southland where April sunshine was near normal (90-109% of the April normal).

**Further Highlights:**

- The highest temperature was 28.3°C, observed at Christchurch (Riccarton) on 3 April.
- The lowest temperature was -4.0°C, observed at Pukaki Aerodrome on 28 April.
- The highest 1-day rainfall was 142 mm, recorded at North Egmont on 1 April.
- The highest wind gust was 146 km/hr, observed at South West Cape on 29 April.
- Of the six main centres in April 2016, Auckland was the warmest, Christchurch was the coolest and 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 – 30 April) were Richmond (1121 hours), New Plymouth (1030 hours), Blenheim (1002 hours) and Takaka (961 hours).

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## Temperature: Another warm month across New Zealand

It has been an exceptionally warm start to the year. April has continued the trend, as it was another warm month for many locations throughout New Zealand. Considerably more stations observed record or near-record high mean maximum temperatures compared to record or near-record high mean minimum temperatures. This could be attributed to the prevalence of high pressure systems and associated clear skies during the month, which would enhance daytime heating, but also radiative cooling at night. The nationwide average temperature in April 2016 was 14.1°C (0.9°C above the 1981-2010 April average from NIWA's seven station temperature series which begins in 1909).

### Record<sup>1</sup> or near-record mean air temperatures for April were recorded at:

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
<b>High records or near-records</b>				
Tiwai Point	13.6	2.4	1970	Highest
Kaikohe	17.9	2.1	1973	2nd-highest
Puysegur Point	13.4	1.6	1978	2nd-highest
Lumsden	11.9	2.0	1982	2nd-highest
Whatawhata	16.8	2.1	1952	3rd-highest
Farewell Spit	16.1	1.5	1971	3rd-highest
Manapouri	11.8	2.3	1963	3rd-highest
South West Cape	11.9	1.1	1991	3rd-highest
Kaitaia	17.8	0.9	1985	4th-highest
Auckland (Mangere)	17.7	1.5	1959	4th-highest
Masterton	14.3	1.6	1992	4th-highest
Waipara West	14.4	1.5	1973	4th-highest
Le Bons Bay	13.6	1.4	1984	4th-highest
Dunedin (Musselburgh)	13.2	1.5	1947	4th-highest
Invercargill	12.4	2.0	1905	4th-highest
Balclutha	12.4	1.7	1964	4th-highest
Nugget Point	12.0	1.2	1970	4th-highest
<b>Low records or near-records</b>				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
<b>High records or near-records</b>				
Kaikohe	21.8	2.5	1973	Highest

<sup>1</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.

Whatawhata	21.9	2.3	1952	Highest
Masterton	22.0	3.0	1992	Highest
Ngawi	19.7	1.7	1972	Highest
Takaka	20.4	1.7	1978	Highest
Farewell Spit	19.8	1.3	1971	Highest
Nelson	19.8	1.7	1943	Highest
Appleby	20.8	2.2	1932	Highest
Hanmer Forest	20.6	2.9	1906	Highest
Dunedin (Airport)	19.4	2.8	1962	Highest
Tiwai Point	17.9	3.4	1970	Highest
Hicks Bay	21.0	1.8	1969	2nd-highest
Paraparaumu	19.7	2.0	1953	2nd-highest
Wellington (Airport)	18.8	1.4	1962	2nd-highest
Hawera	19.1	1.7	1977	2nd-highest
Puysegur Point	15.6	1.4	1978	2nd-highest
Mt Cook	17.2	2.5	1929	2nd-highest
Christchurch (Riccarton)	20.9	3.5	1863	2nd-highest
Dunedin (Musselburgh)	17.7	2.4	1947	2nd-highest
Manapouri	16.8	1.9	1963	2nd-highest
Lumsden	17.5	2.1	1982	2nd-highest
Balclutha	17.9	2.1	1964	2nd-highest
Motu	18.3	2.2	1990	3rd-highest
Te Kuiti	21.1	1.4	1959	3rd-highest
New Plymouth	20.3	1.8	1944	3rd-highest
Levin	20.4	2.1	1895	3rd-highest
Stratford	18.3	1.4	1960	3rd-highest
Motueka	20.7	2.1	1956	3rd-highest
Cheviot	20.2	2.0	1982	3rd-highest
Turangi	18.8	1.2	1968	4th-highest
Waione	20.5	1.0	1991	4th-highest
Whanganui	21.0	2.4	1937	4th-highest
Waiau	20.6	2.3	1974	4th-highest
Waipara West	20.5	2.0	1973	4th-highest
Le Bons Bay	17.1	1.7	1984	4th-highest
Ranfurly	17.4	1.6	1975	4th-highest
Cromwell	19.2	1.9	1949	4th-highest
Invercargill	17.1	2.2	1905	4th-highest
Low records or near-records				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kaikohe	13.9	1.7	1973	2nd-highest
Lumsden	6.3	1.8	1982	2nd-highest
Tiwai Point	9.4	1.6	1970	2nd-highest

Puysegur Point	11.2	1.9	1978	3rd-highest
Invercargill	8.1	2.3	1905	3rd-highest
South West Cape	10.0	1.5	1991	3rd-highest
Secretary Island	11.0	1.4	1985	4th-highest
Le Bons Bay	10.0	1.0	1984	Equal 4th-highest
<b>Low records or near-records</b>				
None observed				

## Rainfall: A dry month for many.

April was a dry month for many locations in New Zealand, although record or near-record low rainfall was only observed at seven stations. A large proportion of rain which did fall tended to occur in a single event. For example, 68% (121 mm of the 178 mm) of rainfall recorded in Whitianga occurred on 17 April. In Wellington, 56% (19 mm of the 34 mm) of rainfall recorded occurred in the six hours from 4 a.m. to 10 a.m. on 2 April. Conditions were slightly more unsettled along the Southland coast relative to the remainder of the country, with Invercargill observing at least 1 mm of rainfall on 16 days of the month.

### Record or near-record April 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	221	213	1991	2nd-highest
<b>Low records or near-records</b>				
Waione	14	26	1991	Lowest
Masterton	23	35	1992	2nd-lowest
Mahia	52	41	1990	2nd-lowest
Hanmer Forest	18	27	1905	3rd-lowest
Dargaville	29	41	1943	4th-lowest
Taupo	21	31	1949	4th-lowest
Lincoln	10	22	1881	4th-lowest

## Sunshine: Plentiful sunshine across the country.

April sunshine was abundant in many parts of the country, and nine stations observed record or near-record sunshine hours for the month. It was an especially sunny month in western parts of the North Island; Stratford, Paraparaumu and New Plymouth observed 136%, 130% and 127% of normal sunshine respectively.

Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2016 so far (1 January – 30 April) were Richmond (1121 hours), New Plymouth (1030 hours), Blenheim (1002 hours) and Takaka (961 hours).

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

<b>Location</b>	<b>Sunshine hours</b>	<b>Percentage of normal</b>	<b>Year records began</b>	<b>Comments</b>
<b>High records or near-records</b>				
Paraparaumu	215	130	1953	Highest
Stratford	210	136	1963	Highest
Nelson	248	126	1948	Highest
Appleby	253	130	1995	Highest
Cheviot	209	127	1983	2nd-highest
Queenstown	185	127	1930	2nd-highest
New Plymouth	225	127	1972	3rd-highest
Wellington (Kelburn)	201	124	1928	3rd-highest
Timaru	196	123	1930	3rd-highest
<b>Low records or near-records</b>				
None observed				

## April climate in the six main centres

April temperatures were well above average (>1.20°C above the April average) or above average (+0.50°C to +1.20°C above average) for all main centres except Christchurch. Relatively little rainfall was recorded in all main centres, particularly in Christchurch which received just one-third of normal April rainfall. It was a very sunny month in Wellington which observed its third-highest April sunshine total on record. Of the six main centres in April 2016, Auckland was the warmest, Christchurch was the coolest and driest, Wellington was the sunniest, and Tauranga was the wettest and cloudiest.

### April 2016 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland <sup>a</sup>	17.7	+1.5	Well above average (4th-highest on record)
Tauranga <sup>b</sup>	16.6	+1.0	Above average
Hamilton <sup>c</sup>	14.9	+0.7	Above average
Wellington <sup>d</sup>	15.0	+1.3	Well above average
Christchurch <sup>e</sup>	12.3	+0.4	Near average
Dunedin <sup>f</sup>	13.2	+1.5	Well above average (4th-highest on record)
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland <sup>a</sup>	37	44%	Well below normal
Tauranga <sup>b</sup>	87	73%	Below normal
Hamilton <sup>c</sup>	40	45%	Well below normal
Wellington <sup>d</sup>	34	40%	Well below normal
Christchurch <sup>e</sup>	15	34%	Well below normal
Dunedin <sup>f</sup>	27 <sup>2</sup>	53%	Below normal
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland <sup>a</sup>	165	102%	Near normal
Tauranga <sup>b</sup>	119	65%	Well below normal
Hamilton <sup>g</sup>	152	92%	Near normal
Wellington <sup>d</sup>	201	124%	Above normal (3rd-highest on record)
Christchurch <sup>e</sup>	177 <sup>3</sup>	109%	Near normal
Dunedin <sup>f</sup>	120 <sup>4</sup>	95%	Near 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

<sup>2</sup> Missing 4 days of data.

<sup>3</sup> Missing 2 days of data.

<sup>4</sup> Missing 7 days of data.

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## Highlights and extreme events

### Rain and slips

On 17 April heavy rain fell over north-eastern parts of the North Island. The Coromandel Peninsula was particularly hard-hit, where flooding and slips closed roads and damaged farm fencing. Five people were flooded out of the Waikawau Department of Conservation campsite, and SH25 was closed east of Coromandel due to a slip which had blocked both lanes. Numerous other rural roads were affected, and Colville, Port Charles and Waikawau Bay were isolated for a time by floodwaters and large slips.

The highest 1-day rainfall total in April was 142 mm, recorded at North Egmont on 1 April.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Whitianga	121	17th	1961	2nd-highest
South West Cape	53	6th	1991	2nd-highest
Te Kuiti	80	1st	1957	3rd-highest

### Temperatures

Northerly airflows in early April resulted in unseasonable warmth for many parts of the country. On 2 April, Auckland (Mangere), Whangarei and Kaikohe observed their highest April temperature on record.

The highest April temperature was 28.3°C, observed at Christchurch (Riccarton) on 3 April. The lowest April temperature was -4.0°C, observed at Pukaki Aerodrome on 28 April.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Kaikohe	27.5	2nd	1973	Highest
Whangarei	27.3	2nd	1967	Highest
Auckland (Mangere)	26.7	2nd	1959	Highest
Takaka	26.0	3rd	1978	Highest
Kerikeri	27.2	3rd	1981	2nd-highest
Masterton	27.7	3rd	1992	2nd-highest
Hastings	27.7	3rd	1965	2nd-highest
Le Bons Bay	24.6	3rd	1984	2nd-highest
Whangaparaoa	25.0	2nd	1982	3rd-highest
North Shore, Auckland	25.9	2nd	1995	3rd-highest
Hicks Bay	24.5	3rd	1969	3rd-highest
Hawera	23.2	2nd	1977	3rd-highest
Appleby	27.1	7th	1932	3rd-highest



Auckland (Airport)	25.7	2nd	1959	4th-highest
Waipawa	27.6	3rd	1945	4th-highest
Wellington (Airport)	23.7	1st	1962	4th-highest
<b>Low records or near-records</b>				
Campbell Island	4.9	24th	1991	Equal 4th-lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
<b>High records or near-records</b>				
Campbell Island	10.8	3rd	1991	Highest
Hicks Bay	19.0	3rd	1972	Equal 2nd-highest
Kaikohe	18.5	3rd	1973	3rd-highest
Whangaparaoa	18.4	2nd	1982	Equal 3rd-highest
Taupo	16.5	3rd	1950	4th-highest
Gore	13.6	29th	1972	4th-highest
Cape Reinga	18.3	3rd	1971	Equal 4th-highest
South West Cape	13.6	11th	1991	Equal 4th-highest
<b>Low records or near-records</b>				
None observed				

## Wind

The highest wind gust during April was 146 km/hr recorded at South West Cape on 29 April.

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

Location	Extreme wind gust (km/hr)	Date of extreme gust	Year records began	Comments
None observed				

## Lightning and hail

On 3 April, a lightning strike set a hay barn alight near Rotorua.

**For further information, please contact:**

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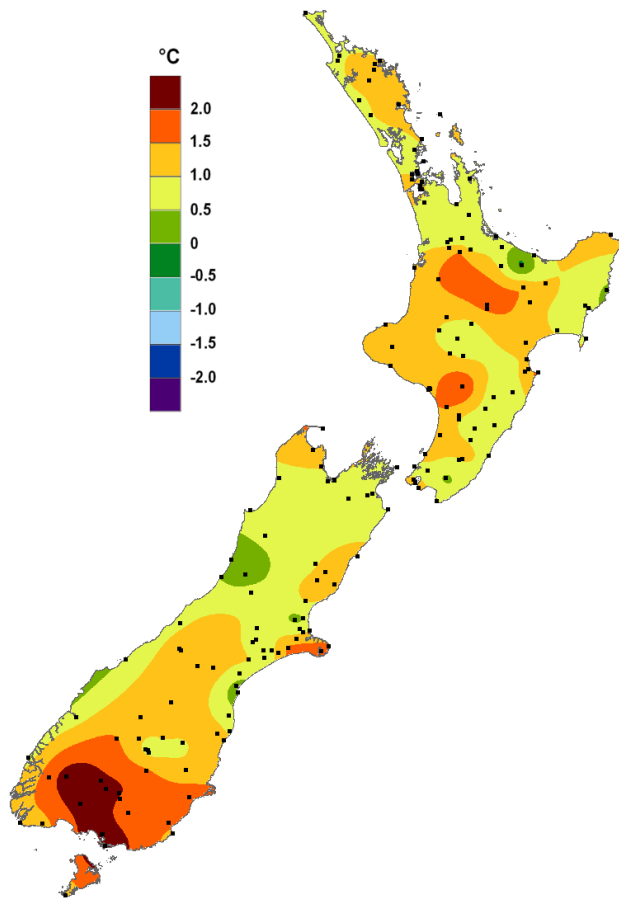
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*April 2016 mean temperature, expressed as a departure from average (1981-2010 average).*

*It was a warm month for the majority of New Zealand, but particularly in Southland where meant temperatures of 2.0°C or more above average were observed (as indicated by the red colour on the map).*

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