

## A cold November, but dry and sunny for many regions.

<b>Temperature</b>	A cold November across New Zealand, with eastern areas affected most.
<b>Rainfall</b>	Very dry across much of North Island (except Gisborne and northern Hawkes Bay), as well as Nelson, Marlborough, Buller, and the West Coast of the South Island. Also rather dry in Fiordland and Southland. Wetter than usual for much of south Canterbury and Otago. Near normal rainfall for north Canterbury.
<b>Sunshine</b>	Extremely sunny on the West Coast of the South Island; also rather sunny for much of the North Island and Nelson/Marlborough. Near normal sunshine recorded in the eastern South Island, as well as in Auckland. In contrast, below normal sunshine in Northland and across the Wairarapa.
<b>Soil moisture</b>	Unusually low soil moisture levels for the time of year across much of the North Island (except Gisborne and northern Hawkes Bay), as well as Nelson and Buller. Wetter than usual soils in south Canterbury. Close to normal soil moisture levels elsewhere.

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### Overview

It was a cold November across New Zealand, due to more frequent southerly winds than normal. The southerly winds were the result of much higher than usual pressures over the central and southern Tasman Sea, and lower than normal pressures east of the Chatham Islands. The higher pressures also extended across most of New Zealand, as far east as Gisborne, meaning it was also a rather dry month for many regions.

Well below average temperatures (more than 1.2°C below the November average) were observed in eastern areas of both Islands, as well as inland North Island areas from the Waikato extending

southwards to Palmerston North. Temperatures were generally below average (between 0.5°C and 1.2°C below the November average) everywhere else. It was the coldest November on record for Te Kuiti and Cape Campbell. The nation-wide average temperature in November 2012 was 12.8°C (0.9°C below the 1971-2000 November average), using NIWA's seven-station temperature series which begins in 1909.

It was a very dry November for much of the North Island, as well as Nelson, Marlborough, Buller, and the West Coast of the South Island. Rainfall was also below normal for Fiordland and Southland. It was the driest November on record for Te Puke and Rotorua. November rainfall was less than 50 percent of November normal in south Auckland, Waikato/Coromandel, Bay of Plenty, between Wanganui and Wellington, parts of the Wairarapa, Nelson, Marlborough, Buller, and on the West Coast northwards of Hokitika. Below normal November rainfall (between 50 and 79 percent of November normal) was generally observed elsewhere. The notable exceptions were Gisborne and northern Hawkes Bay (with double normal November rainfall), and south Canterbury and much of Otago (with above normal rainfall, between 120 and 149 percent of November normal).

As at December 1st, soils were unusually dry for the time of year across much of the North Island (except for Gisborne and northern Hawkes Bay, where soil moistures remain elevated after heavy rainfall on the 12th), as well as Nelson and Buller. In contrast, soils remain wetter than usual for the time of year across much of south Canterbury. Elsewhere, levels were closer to normal.

It was an extremely sunny November for the West Coast of the South Island, with sunshine totals between 125 percent and 150 percent of November normal. It was the sunniest November on record for Hokitika and Greymouth. It was also rather sunny across much of the North Island and Nelson/Marlborough. Sunshine totals were well above normal (exceeding 125 percent of November normal) for Nelson, around New Plymouth and Tamarunui, and the Central Plateau. For the eastern South Island and Auckland, sunshine totals were close to November normal. In contrast, below normal sunshine was experienced in Northland and the Wairarapa.

Further Highlights:

- The highest temperature was 30.1°C, observed at Blenheim on 25 November.
- The lowest temperature was -5.1°C, recorded at Waiouru on 7 November.
- The highest 1-day rainfall experienced was 137 mm at Milford Sound on 1 November.
- The highest gust recorded was 161 km/hr at Cape Turnagain, on 18 November.
- Of the six main centres in November 2012, Tauranga was the driest and sunniest, Dunedin the wettest and coolest, and Auckland the warmest but cloudiest.

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## Temperature: A cold November across New Zealand, with eastern areas affected most.

Well below average temperatures (more than 1.2°C below the November average) were observed in eastern areas of both Islands, as well as inland North Island areas from the Waikato extending southwards to Palmerston North. Temperatures were generally below average (between 0.5°C and 1.2°C below the November average) everywhere else. It was the coldest November on record for Te Kuiti and Cape Campbell, in records which began in 1959 and 1953, respectively.

The nation-wide average temperature in November 2012 was 12.8°C (0.9°C below the 1971-2000 November average), using NIWA's seven-station temperature series which begins in 1909<sup>1</sup>.

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

Location	Mean air temp. (°C)	Departure from normal <sup>3</sup> (°C)	Year records began	Comments
Record low or near-record low				
Kaitaia	14.9	-1.0	1985	3rd-lowest
Kerikeri	14.8	-1.0	1981	3rd-lowest
Warkworth	14.0	-1.2	1966	4th-lowest
Te Kuiti	12.8	-2.0	1959	Lowest
Taumarunui	12.7	-1.6	1947	4th-lowest
Martinborough	12.7	-1.3	1986	2nd-lowest
Hawera	12.0	-1.1	1977	4th-lowest
Wanganui	13.2	-1.3	1987	4th-lowest
Cape Campbell	12.3	-1.4	1953	Lowest
Kaikoura	11.8	-1.5	1963	4th-lowest
Cheviot	11.4	-1.6	1982	3rd-lowest
Le Bons Bay	10.5	-1.5	1984	4th-lowest

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<sup>1</sup> Interim monthly value

<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.

<sup>3</sup> This climate summary uses the updated 'normal' period, 1981-2010, unless otherwise stated. (A 'normal' period is a 30 year window of time from which the normal (average) and percentage of normal are calculated from).

Rainfall: Very dry across much of North Island (except Gisborne and northern Hawkes Bay), as well as Nelson, Marlborough, Buller, and the West Coast of the South Island. Also rather dry in Fiordland and Southland. Wetter than usual for south Canterbury and Otago; near normal rain for north Canterbury.

Higher pressures than usual over the Tasman Sea and extending across the country produced a very dry November for much of the North Island, as well as Nelson, Marlborough, Buller, and the West Coast of the South Island. It was also a rather dry November for Fiordland and Southland.

It was the driest November on record for Te Puke (18 mm observed) and Rotorua (13 mm received), in records that began in 1973 and 1963, respectively. November rainfall was well below normal (less than 50 percent of November normal) for south Auckland, Waikato/Coromandel, Bay of Plenty, between Wanganui and Wellington, parts of the Wairarapa, Nelson, Marlborough, Buller, and on the West Coast northwards of Hokitika. Below normal November rainfall (between 50 and 79 percent of November normal) was generally observed elsewhere. The notable exceptions were Gisborne and northern Hawkes Bay (with double normal November rainfall); south Canterbury and Otago (with above normal rainfall, between 120 and 149 percent of November normal), and north Canterbury (with near normal rainfall between 80 and 119 percent of November normal).

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
<b>Record high or near-record high</b>				
Wairoa, North Clyde	174	231	1964	4th-highest
<b>Record low or near-record low</b>				
Whitianga	31	30	1961	2nd-lowest
Te Puke	18	18	1973	Lowest
Whakatane	17	22	1952	3rd-lowest
Rotorua	13	14	1963	Lowest
Taupo	19	28	1949	3rd-lowest
Pukekohe	23	23	1944	2nd-lowest
Whatawhata	31	24	1952	3rd-lowest
Hamilton	29	33	1935	4th-lowest
Palmerston North	20	25	1928	2nd-lowest
Takaka	34	21	1976	3rd-lowest
Reefton	51	32	1960	4th-lowest
Motueka	7	7	1943	3rd-lowest
Blenheim	7	14	1941	4th-lowest

As at December 1st, soils were unusually dry for the time of year across much of the North Island (except for Gisborne and northern Hawkes Bay, where soil moistures remain elevated after heavy rainfall on 12 November), as well as Nelson and Buller. In contrast, soils remain wetter than usual for the time of year across much of south Canterbury. Elsewhere, soil moisture levels are close to normal for the time of year.

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**Sunshine:** Extremely sunny on the West Coast of the South Island; also rather sunny for much of the North Island and Nelson/Marlborough. Near normal sunshine recorded in the eastern South Island, as well as in Auckland. In contrast, below normal sunshine in Northland and across the Wairarapa.

It was an extremely sunny November for the West Coast South Island, with sunshine totals between 125 percent and 150 percent of November normal. It was the sunniest November on record for Hokitika and Greymouth in records which began in 1912 and 1947, respectively. It was also rather sunny across much of the North Island and Nelson/Marlborough. Sunshine totals were well above normal (exceeding 125 percent of November normal) for Nelson, around New Plymouth and Taumarunui, and the Central Plateau. For the eastern South Island and Auckland, sunshine totals were close to November normal. In contrast, below normal sunshine was experienced in Northland and the Wairarapa in November (with totals between 75 and 90 percent of November normal).

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

Location	Sunshine hours	Percentage of normal	Year records began	Comments
Record high or near-record high				
New Plymouth	269	130	1972	2nd-highest
Takaka	281	107	1985	2nd-highest
Hokitika	268	145	1912	Highest
Greymouth	248	148	1947	Highest
Nelson	293	125	1948	4th-highest
Balclutha	245	146	1964	2nd-highest

## November climate in the six main centres

All of the four North Island main centres (Auckland, Tauranga, Hamilton and Wellington) were much drier than normal in November 2012. And for all of the six main centres except Auckland, it was a cold November. Tauranga was the driest and sunniest, Dunedin the wettest and coolest, and Auckland the warmest but cloudiest, of the six main centres.

### November 2012 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland <sup>a</sup>	15.8	-0.3	Near average
Tauranga <sup>b</sup>	15.3	-0.6	Below average
Hamilton <sup>c</sup>	13.3	-1.4	Well below average
Wellington <sup>d</sup>	12.8	-0.6	Below average
Christchurch <sup>e</sup>	11.6	-1.9	Well below average
Dunedin <sup>f</sup>	11.5	-0.9	Below average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland <sup>a</sup>	33	51%	Below normal
Tauranga <sup>b</sup>	27	36%	Well below normal
Hamilton <sup>c</sup>	29	33%	Well below normal
Wellington <sup>d</sup>	33	33%	Well below normal
Christchurch <sup>e</sup>	44	96%	Near normal
Dunedin <sup>f</sup>	48	85%	Near normal
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland <sup>a</sup>	182	94%	Near normal
Tauranga <sup>b</sup>	251	112%	Above normal
Hamilton <sup>g</sup>	197	105%	Near normal
Wellington <sup>d</sup>	242	115%	Above normal
Christchurch <sup>e</sup>	218	98%	Near normal
Dunedin <sup>f</sup>	194	116%	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

### Temperatures

The highest temperature was 30.1°C, observed at Blenheim on 25 November. The lowest temperature was -5.1°C, recorded at Waiouru on 7 November.

An unseasonably cold southerly (which dragged very cold air from about 60°S up and over the country) occurred on 5 and 6 November, and resulted in some extremely low afternoon temperatures in Canterbury on the 5th. Ridging (high pressures) then affected New Zealand on 7 and 8 November, meaning that clear skies and light winds produced a recipe for unusually late-in-the-year frosts. Morning (minimum) temperatures in many regions of the country were record or near-record low on these two days (see Tables below and overleaf). And then an unusually cold southeast air stream affected the east coast of the North Island on 13 November, with near-record low daytime (maximum) temperatures observed in Gisborne and Hawkes Bay (see Table overleaf).

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
Low records or near-records				
Kaitaia	5.7	9th	1985	Equal 3rd-lowest
Kerikeri	3.7	8th	1981	Equal 3rd-lowest
Taupo	-3.3	7th	1949	4th-lowest
Taumarunui	-1.1	7th	1947	2nd-lowest
Turangi	-2.3	7th	1968	Lowest
Martinborough	0.0	8th	1986	Equal 3rd-lowest
Paraparaumu	0.5	8th	1953	4th-lowest
Palmerston North	-0.7	7th	1918	2nd-lowest
Wanganui	2.1	7th	1987	2nd-lowest
Motueka	0.8	4th	1956	2nd-lowest
Christchurch (Airport)	-2.0	8th	1863	2nd-lowest
Le Bons Bay	2.0	4th	1984	4th-lowest
Ranfurly	-4.7	6th	1975	2nd-lowest
Dunedin (Airport)	-2.1	6th	1962	Equal 2nd-lowest
Lumsden	-3.6	6th	1982	Lowest
Alexandra	-1.3	6th	1983	3rd-lowest
Tiwai Point	0.0	7th	1970	Lowest
Balclutha	-1.1	6th	1964	Lowest

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Leigh	25.5	25th	1966	2nd-highest
Low records or near-records				
Kerikeri	15.2	20th	1981	4th-lowest
Dargaville	14.9	4th	1951	Equal 4th-lowest
Whitianga	14.8	7th	1971	4th-lowest
Takapau Plains	8.9	13th	1972	4th-lowest
Castlepoint	9.6	6th	1972	3rd-lowest
Gisborne	12.8	13th	1940	3rd-lowest
Napier	11.4	13th	1940	Equal 2nd-lowest
Hastings	11.5	13th	1972	Equal 2nd-lowest
Waipawa	10.0	13th	1945	Equal lowest
Wairoa	11.6	13th	1972	3rd-lowest
Cape Campbell	10.9	6th	1972	4th-lowest
Cheviot	9.1	5th	1982	2nd-lowest
Waipara West	10.1	5th	1973	4th-lowest
Le Bons Bay	8.4	5th	1984	Equal 3rd-lowest
Lake Tekapo	5.0	3rd	1928	2nd-lowest
Orari Estate	8.0	5th	1972	2nd-lowest
Timaru	8.0	5th	1885	Lowest

**Rain and slips**

The highest 1-day rainfall experienced in November was 137 mm at Milford Sound on 1 November.

On 2 November, a slip came down on SH94 after heavy overnight rain. The road was closed mid-afternoon between Lower Hollyford and the Chasm.

Rainfall on 12/13 November in Gisborne and northern Hawkes Bay was very intense for November (see Table below). On 13 November, heavy rain affected the Gisborne region, causing surface flooding on the Poverty Bay flats, with minor problems in the city.

On 17 November, heavy rain caused flash flooding in Mosgiel, inundating some properties.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Gisborne	72	12th	1937	2nd-highest
Wairoa	85	12th	1967	3rd-highest
Waipara West	39	11th	1973	2nd-highest



## Wind

The highest wind gust recorded in November was 161 km/hr at Cape Turnagain, on 18 November.

A gale force northwesterly air stream affected the South Island and lower North Island on 2 November, resulting in record high November wind gusts at Winchmore, South Canterbury, and near-record high wind gusts at Tara Hills, Central Otago.

On 17 November, a bouncy castle was blown away in Whangarei, injuring four children, none seriously.

On 29 November, high winds forced the cancellation of a visit by the cruise ship Pacific Dawn to Port Chalmers.

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

Location	Extreme wind gust (km/hr)	Date of extreme gust	Year records began	Comments
Winchmore	93	2nd	1970	Highest
Tara Hills	93	2nd	1985	Equal 3rd-highest

## Lightning and hail

On 13 November, a severe thunderstorm accompanied by hail swept through southern and eastern suburbs of Auckland, and the Coromandel Peninsula.

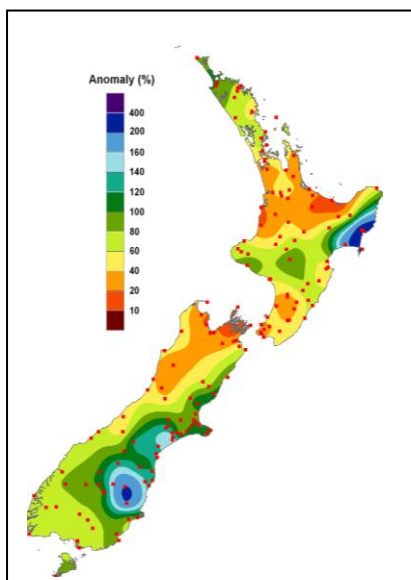
On 18 November, a mid-afternoon hailstorm struck Nelson.

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*November 2012 rainfall, expressed as a difference from normal November conditions. Rainfall is shown as a percent of November normal. The dark blue colour indicates rainfall exceeding 200 percent of November normal (e.g. double normal), such as is seen in Gisborne. An orange colour indicates rainfall less than 40 percent of November normal, yellow indicates less than 60 percent, and a light green shade shows rainfall between 60 and 80 percent of November normal.*

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