

# Monthly Climate Summary

National Climate Summary: **November 2013**

Issued: 3 December 2013

## Warmer than average November for much of New Zealand.

<b>Temperature</b>	Temperatures were above average (0.5-1.2°C above November average), or well above average (more than 1.2°C above November average), throughout most of New Zealand. The exceptions were limited eastern parts of Otago, Canterbury, Marlborough, Gisborne, and northern parts of Northland, where near average temperatures (within 0.5°C of November average) were recorded. Numerous record or near-record high temperatures occurred across the country.
<b>Rainfall</b>	Below normal rainfall (50-79 percent of November normal) or well below normal (less than 50 percent of November normal) was recorded across much of the South Island, the Kapiti Coast and coastal parts of northern Taranaki, with record or near-record low rainfall totals observed in the southeast of the South Island. Well above normal rainfall (more than 150 percent of November normal) was observed in southeastern parts of the North Island, with above normal rainfall (120-149 percent of November normal) observed across parts of the Central Plateau, Bay of Plenty and Waikato. Near normal rainfall (within 20 percent of November normal) was recorded for the remainder of the North Island.
<b>Soil moisture</b>	As at 1 December 2013, soils were much drier than normal in Northland, Auckland, and Waikato, but much wetter than normal along the southeast of the North Island. Soils were typically drier than normal across most of the South Island.
<b>Sunshine</b>	A very sunny month (well above normal sunshine totals, more than 125% of November normal) for South Otago, the central South Island from the east to the west coasts, northern Taranaki and Gisborne. In contrast, below normal sunshine (75-90 percent of normal November sunshine) for most northern parts of the North and South Islands, including Nelson, Marlborough, Auckland and Northland.

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## Overview

November 2013 was characterised by mean sea level pressure anomalies that were strongly positive over the South Island, with such anomalies extending well east, west and south of New Zealand. However, across northern New Zealand pressure anomalies were below normal. These regional pressure patterns resulted in frequent easterly flows across New Zealand.

Temperatures were above average (0.5-1.2°C above November average) or well above average (more than 1.2°C above November average) throughout most of New Zealand. The exceptions were limited eastern parts of Otago, Canterbury, Marlborough, Gisborne, and northern parts of Northland, where near average temperatures (within 0.5°C of November average) were recorded. It was a particularly warm month about Fiordland, the Southern Lakes, Westland, Manawatu, Taranaki, the Central Plateau, Tauranga, Auckland and southwest Northland where temperatures were well above average, and a number of record or near-record high temperatures occurred in these parts. The nation-wide average temperature in November 2013 was 15.1°C, (1.4°C above the 1971-2000 November average from NIWA's seven-station temperature series which begins in 1909).

Rainfall was below normal (50-79 percent of November normal) or well below normal (less than 50 percent of November normal) across much of the South Island. It was especially dry in the southeast of the South Island, where record or near-record low rainfall totals were observed. Rainfall was also well below normal in parts of Canterbury and Westland. In the North Island, well above normal rainfall (more than 150 percent of November normal) was observed in southeastern parts, with above normal rainfall (120-149 percent of November normal) observed across parts of the Central Plateau, Bay of Plenty and Waikato. In contrast, well below normal rainfall was recorded on the Kapiti Coast and coastal parts of northern Taranaki. Rainfall totals were near normal (within 20 percent of November normal) for the remainder of the North Island. As at 1 December 2013, soils were much drier than normal in Northland, Auckland, and Waikato, but much wetter than normal along the southeast of the North Island. Elsewhere, soils were typically wetter than normal for remaining parts of the North Island, and drier than normal across most of the South Island.

Well above normal sunshine totals (more than 125% of November normal) were recorded in South Otago, the central South Island from the east to the west coasts, northern Taranaki and Gisborne. In contrast, below normal sunshine (75-90 percent of normal November sunshine) was recorded across most northern parts of the North and South Islands, including Nelson, Marlborough, Auckland and Northland. Sunshine was largely near normal elsewhere (within 10 percent of normal November sunshine).

### Further Highlights:

- The highest temperature was 30.3°C, recorded at Clyde on 19 November.
- The lowest temperature was -2.4°C, observed at Hanmer Forest on 1 November.
- The highest 1-day rainfall was 186.6 mm, recorded at Ngawi on 26 November.
- The highest wind gust was 146 km/hr, at Akitio on 30 November.
- In November 2013, Auckland was the warmest, Dunedin was the coolest and driest, Wellington was the wettest, Tauranga was the sunniest, and Christchurch was the cloudiest of the six main centres.

- Of the available, regularly reporting sunshine observation sites, the sunniest four centres so far in 2013 (January to November) are: Whakatane (2539 hours), New Plymouth (2385 hours), Tauranga (2292 hours) and Lake Tekapo (2219 hours).

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**Temperature: Above average temperatures for most of New Zealand, with the exception of some eastern and far northern parts.**

Record mean air temperatures for the month of November were recorded at sixteen locations across the country, from as far north as Dargaville to as far south as Secretary Island. Higher than usual average daily maximum temperatures were especially prevalent. Twenty-one locations recorded their highest average daily maximum temperature for November, with such temperatures reminiscent of those typically recorded in December.

The nation-wide average temperature in November 2013 was 15.1°C, (1.4°C above the 1971-2000 November average from NIWA's seven-station temperature series which begins in 1909).

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Dargaville	17.7	2.1	1943	Highest
Whangarei Airport	17.6	1.1	1967	4th-highest
Whangaparaoa	17.3	1.2	1982	Highest
Auckland, Whenuapai	16.5	1.1	1945	4th-highest
Tauranga Airport	17.7	1.8	1913	Highest
Te Puke	16.9	2.0	1973	Highest
Whakatane Airport	17.0	1.7	1974	Highest
Rotorua Airport	15.4	1.5	1964	3rd-highest
Motu	14.0	2.0	1990	Highest
Auckland, Mangere	17.8	1.7	1959	2nd-highest
Auckland Airport	17.6	1.4	1959	3rd-highest
Pukekohe	16.9	1.8	1969	3rd-highest
Hamilton, Ruakura	16.6	1.7	1906	3rd-highest

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<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.

Port Taharoa	16.9	1.4	1973	4th-highest
Te Kuiti	16.1	1.3	1959	4th-highest
Masterton	15.8	1.9	1992	Highest
Dannevirke	15.5	1.9	1951	3rd-highest
Waione	16.2	1.3	1991	2nd-highest
Martinborough	15.5	1.5	1986	4th-highest
Ngawi	16.1	0.7	1972	4th-highest
Mahia	15.6	0.7	1990	3rd-highest
Paraparaumu Airport	15.1	1.2	1953	4th-highest
Palmerston North	16.2	2.1	1928	Highest
Levin	15.5	1.5	1895	3rd-highest
Stratford	14.5	2.0	1960	Highest
Hawera	14.4	1.3	1977	3rd-highest
Wanganui	16.5	1.6	1937	2nd-highest
Takaka	15.3	1.3	1978	Highest
Farewell Spit	16.3	1.6	1971	Highest
Westport Airport	15.5	2.3	1937	Highest
Hokitika Airport	14.6	2.0	1866	3rd-highest
Reefton	15.8	2.4	1960	Highest
Greymouth Airport	14.9	1.9	1947	Highest
Haast	13.1	1.2	1949	3rd-highest
Milford Sound	13.9	1.7	1934	2nd-highest
Secretary Island	13.1	1.2	1985	Highest
Motueka	15.4	1.2	1956	4th-highest
Nelson	16.3	1.7	1943	Highest
Cheviot	13.9	0.9	1982	4th-highest
Ranfurly	12.6	1.3	1975	3rd-highest
Manapouri Airport	12.9	1.9	1963	4th-highest
Gore	12.9	1.5	1971	3rd-highest
Nugget Point	12.3	1.1	1970	3rd-highest
South West Cape	11.5	0.9	1991	3rd-highest

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kaitia Airport	21.1	1.5	1948	3rd-highest
Kerikeri	22.0	1.3	1981	4th-highest
Kaikohe	20.9	2.1	1973	Highest
Dargaville	21.9	2.9	1943	Highest
Whangarei Airport	22.0	1.4	1967	4th-highest
Whangaparaoa	21.2	1.7	1982	Highest
Auckland, Whenuapai	21.4	1.9	1945	2nd-highest
Whitianga Airport	21.8	1.6	1962	4th-highest

Paeroa	22.5	1.7	1947	4th-highest
Tauranga Airport	22.3	2.2	1913	Highest
Te Puke	22.1	2.1	1973	Highest
Whakatane Airport	21.9	1.6	1974	2nd-highest
Rotorua Airport	20.7	2.1	1964	Highest
Motu	20.0	3.4	1990	Highest
Auckland, Mangere	21.8	2.4	1959	Highest
Pukekohe	21.8	2.6	1969	Highest
Whatawhata	20.8	1.8	1952	4th-highest
Hamilton, Ruakura	23.6	3.7	1906	Highest
Hamilton Airport	22.1	2.2	1946	Highest
Port Taharoa	20.9	1.9	1973	3rd-highest
Te Kuiti	22.3	2.3	1959	Highest
Turangi	20.9	2.2	1968	2nd-highest
New Plymouth	19.6	1.9	1944	4th-highest
Dannevirke	20.7	2.5	1951	Highest
Waione	21.5	1.4	1991	3rd-highest
Martinborough	20.6	1.3	1986	4th-highest
Hicks Bay	20.1	1.8	1969	4th-highest
Paraparaumu Airport	19.5	1.9	1953	Highest
Palmerston North	20.9	2.3	1928	Highest
Levin	20.4	2.4	1895	2nd-highest
Stratford	19.0	2.0	1960	Highest
Hawera	18.2	1.5	1977	4th-highest
Wanganui	21.0	2.4	1937	Highest
Farewell Spit	19.6	1.2	1971	3rd-highest
Westport Airport	19.5	2.8	1937	Highest
Hokitika Airport	18.6	2.2	1866	4th-highest
Reefton	21.8	2.9	1960	4th-highest
Greymouth Airport	18.4	1.9	1947	Highest
Haast	17.5	2.0	1949	Highest
Milford Sound	18.3	1.5	1934	2nd-highest
Motueka	21.4	1.6	1956	2nd-highest
Nelson	20.8	1.9	1943	Highest
Wanaka Airport	21.2	2.0	1955	4th-highest
Ranfurly	19.5	1.6	1975	3rd-highest
Manapouri Airport	18.9	2.2	1963	2nd-highest
South West Cape	14.5	0.9	1991	4th-highest

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Dargaville	13.6	1.5	1943	2nd-highest
Te Puke	11.6	1.7	1973	2nd-highest

Whakatane Airport	12.1	1.7	1974	3rd-highest
Motu	8.1	0.7	1990	4th-highest
Masterton	10.4	2.6	1992	Highest
Waione	10.8	1.2	1991	3rd-highest
Martinborough	10.3	1.6	1986	3rd-highest
Gisborne	12.4	2.0	1905	Highest
Hastings	11.8	2.7	1965	4th-highest
Waipawa	10.1	1.5	1945	4th-highest
Mahia	12.8	1.3	1990	Highest
Palmerston North	11.8	1.8	1928	2nd-highest
Stratford	9.9	1.9	1960	3rd-highest
Hawera	10.6	1.1	1977	4th-highest
Farewell Spit	13.0	2.1	1971	Highest
Westport Airport	11.5	1.8	1937	2nd-highest
Reefton	9.8	2.0	1960	2nd-highest
Greymouth Airport	11.5	2.0	1947	2nd-highest
Milford Sound	9.4	1.8	1934	2nd-highest
Secretary Island	9.9	1.1	1985	2nd-highest
Nelson	11.9	1.6	1943	3rd-highest
Blenheim	11.2	1.8	1941	2nd-highest
Kaikoura	10.7	1.0	1963	Equal 4th-highest
Cheviot	8.6	1.4	1982	2nd-highest
Waipara West	9.5	1.4	1973	4th-highest
Lincoln	9.7	1.6	1881	4th-highest
Le Bons Bay	9.3	0.9	1984	4th-highest
Orari Estate	8.4	1.4	1972	4th-highest
Timaru	10.3	1.9	1885	Highest
Alexandra	8.8	1.8	1983	4th-highest
Invercargill Airport	8.2	1.2	1905	Equal 4th-highest
Nugget Point	8.9	1.4	1970	2nd-highest
South West Cape	8.6	1.0	1991	3rd-highest

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## Rainfall: Very dry November for the southeast of the South Island, but very wet for the southeast of the North Island.

Record or near-record low rainfall totals for November were recorded in the southeast of the South Island, with Dunedin and Balclutha observing just 17 mm of rainfall – well below normal for the time of year. Most of the remainder of the South Island received less than normal rainfall for the month. In contrast, well above normal rainfall was recorded in the southeast of the North Island, with more than 200% of normal November rainfall recorded in coastal parts there. Castlepoint recorded its third-highest rainfall total for November since records began there in 1902. A large proportion of the rainfall recorded in the southeast of the North Island was associated with a rainfall event occurring in late November. Prior to this event, much of the North Island had below-average rainfall totals for the month. Many areas of the North Island would likely have recorded near-record low

rainfall totals for November, had it not been for the rainfall which occurred during the last week of the month.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
Masterton	123	178	1992	3rd-highest
Takapau Plains	161	223	1962	3rd-highest
Waione	140	204	1991	3rd-highest
Castlepoint	169	238	1902	3rd-highest
Campbell Island	162	153	1992	3rd-highest
Low records or near-records				
Dunedin Airport	13	25	1962	2nd-lowest
Dunedin, Musselburgh	17	29	1918	Lowest
Balclutha	17	34	1964	3rd-lowest
South West Cape	63	58	1991	4th-lowest

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## Sunshine: Below normal sunshine for most northern parts of both islands

Sunshine hours for November were below normal across Northland, Auckland, northern Waikato, Nelson and Marlborough. The exception was Kaitaia, where sunshine hours recorded were the second-highest for November since records began there in 1985. Above normal sunshine hours were recorded in many parts of the central South Island, as well as Taranaki and Gisborne. New Plymouth recorded its highest November sunshine hours since records began in 1972.

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

Location	Sunshine hours	Percentage of normal	Year records began	Comments
High records or near-records				
Kaitaia	233	115	1985	2nd-highest
Turangi	244	125	1976	2nd-highest
New Plymouth	287	139	1972	Highest
Low records or near-records				
Cheviot	172	90	1983	3rd-lowest

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## November climate in the six main centres

November temperatures were above average or well above average across all main centres. Mean temperature for November was the highest on record for Tauranga (records began in 1913) and the second-highest on record for Auckland (records began 1959). It was an especially dry month in Dunedin, which recorded its driest November since records began in 1918. Below normal rainfall was recorded in Christchurch, whereas all remaining main centres recorded near normal rainfall. Sunshine hours were above normal in Tauranga and Hamilton, below normal in Christchurch, and near normal at the remaining main centres.

In November 2013, Auckland was the warmest, Dunedin was the coolest and driest, Wellington was the wettest, Tauranga was the sunniest, and Christchurch was the cloudiest of the six main centres.

### November 2013 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland <sup>a</sup>	17.8	1.7	2nd warmest November on record
Tauranga <sup>b</sup>	17.7	1.8	Warmest November on record
Hamilton <sup>c</sup>	16.1	1.4	Well above average
Wellington <sup>d</sup>	14.6	1.2	Well above average
Christchurch <sup>e</sup>	14.0	0.5	Above average
Dunedin <sup>f</sup>	13.1	0.7	Above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland <sup>a</sup>	68	103%	Near normal
Tauranga <sup>b</sup>	65	88%	Near normal
Hamilton <sup>c</sup>	74	83%	Near normal
Wellington <sup>d</sup>	94	96%	Near normal
Christchurch <sup>e</sup>	27	58%	Below normal
Dunedin <sup>f</sup>	17	29%	Lowest November rainfall on record
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland <sup>a</sup>	208	108%	Near normal
Tauranga <sup>b</sup>	269	120%	Above normal
Hamilton <sup>g</sup>	223	118%	Above normal
Wellington <sup>d</sup>	198	95%	Near normal
Christchurch <sup>e</sup>	169	75%	Below normal
Dunedin <sup>f</sup>	170	101%	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



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## Highlights and extreme events

### Temperatures

Most of New Zealand, especially the upper North Island, experienced very high temperatures for the time of year on 22-24 November, due to a 'blocking high' which created settled weather conditions over the region.

The highest temperature was 30.3°C, recorded at Clyde on 19 November.

The lowest temperature was -2.4°C, observed at Hanmer Forest on 1 November.

**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				
Kaitaia Airport	26.1	22nd	1948	2nd-highest
Kaitaia	26.3	22nd	1967	Highest
Kaikohe	25.3	24th	1973	2nd-highest
Dargaville	25.8	22nd	1943	4th-highest
Whangarei Airport	27.0	24th	1967	2nd-highest
Warkworth	25.4	26th	1966	4th-highest
Whangaparaoa	25.5	24th	1982	Highest
Auckland, Whenuapai	25.8	23rd	1945	3rd-highest
Whitianga Airport	26.9	24th	1962	2nd-highest
Paeroa	27.0	24th	1947	2nd-highest
Te Puke	27.4	11th	1973	Equal highest
Motu	25.7	25th	1990	2nd-highest
Auckland, Mangere	26.8	23rd	1959	Highest
Pukekohe	26.9	23rd	1969	2nd-highest
Hamilton, Ruakura	28.4	23rd	1906	Highest
Port Taharoa	25.1	19th	1973	4th-highest
Masterton	28.2	24th	1992	4th-highest
Waione	29.3	24th	1991	3rd-highest
Martinborough	28.0	24th	1986	2nd-highest
Stratford	24.1	19th	1960	Equal 3rd-highest
Wanganui	26.8	19th	1937	4th-highest
Farewell Spit	24.6	24th	1971	4th-highest
Westport Airport	24.6	6th	1937	Equal highest
Hokitika	24.6	6th	1866	4th-highest
Reefton	27.6	7th	1960	3rd-highest
Greymouth Airport	24.0	7th	1947	3rd-highest

Haast	24.4	26th	1949	4th-highest
Milford Sound	24.4	28th	1934	4th-highest
Secretary Island	23.0	27th	1985	4th-highest
Cheviot	29.8	10th	1982	4th-highest
Manapouri Airport	25.4	19th	1963	4th-highest
Low records or near-records				
Campbell Island	3.4	1st	1991	Lowest

**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
High records or near-records				
Masterton	16.2	30th	1992	3rd-highest
Farewell Spit	16.0	30th	1972	3rd-highest
Greymouth Airport	16.0	21st	1972	Equal 2nd-highest
Campbell Island	9.3	20th	1991	Equal highest

## Rain and slips

On 2 November, a 1000 cubic metre slip in the Otaki Gorge on the Kapiti Coast cut off a small number of houses and stranded trampers.

On 6-7 November, motorists were advised to take caution in the Manawatu Gorge, due to small slips and surface flooding.

On 7 November, surface flooding closed some roads in western Bay of Plenty for a time. A slip closed part of SH 94 between Te Anau and Milford Sound. Localised flooding occurred in parts of Auckland and northern Waikato due to short periods of intense rainfall.

On 18 and 19 November, thunderstorms caused minor surface flooding in parts of the central North Island.

On 26 November, a series of thunderstorms moved over the central North Island. Heavy rain caused localised surface flooding in Gisborne and Hawke's Bay, washing away a section of road and causing slips in parts of Napier.

On 28 November, SH 2 at the Rimutaka Hill was closed due to slips that resulted from heavy rain.

**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
Masterton	37	27th	1992	3rd-highest
Waione	43	28th	1991	3rd-highest
Castlepoint	63	28th	1907	2nd-highest
Campbell Island	23	7th	1991	Equal 4th-highest

## **Wind**

On 1 November and on 5 November, caution was advised for high-sided vehicles, caravans, and motorcycles due to high winds on SH 1 at the Desert Road.

On 6 November, caution was advised for high-sided vehicles, caravans, and motorcycles due to high winds on SH 6 between Harihari and Haast.

On 21 November, a mini-tornado swept through the Hastings suburb of Raureka. It caused minimal damage but littered properties with hay.

On 30 November, strong winds forced the delay or cancellation of flights from Wellington Airport.

Note that no record or near record November extreme wind gusts were recorded in New Zealand.

## **Lightning and hail**

On 1 November, thunder and hail lashed much of the Canterbury region. Large hailstones lay on roads and car windscreens in Geraldine.

On 18 November, over 900 lightning strikes were recorded as thunderstorms passed over parts of the country. Lightning hit a transformer in Marlborough, but this did not cut power.

On 19 November, a scrub fire near Kawerau was thought to have been started by a lightning strike during a thunderstorm.

## **Cloud and fog**

On 8 November, fog caused all flights in and out of Wellington airport to be cancelled for much of the day.

## **For further information, please contact:**

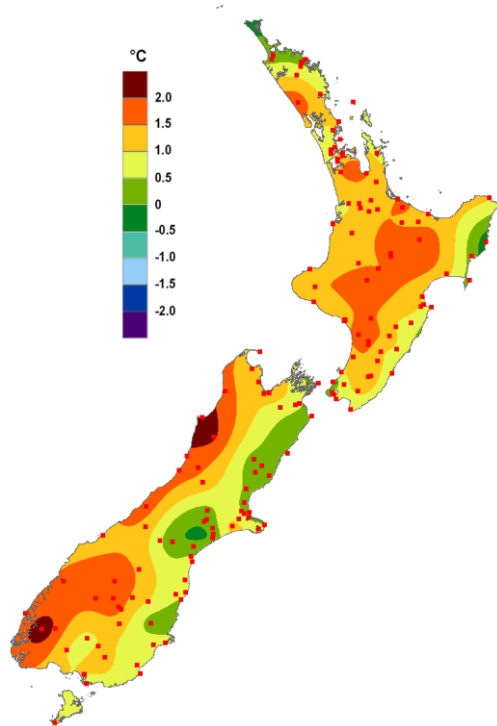
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*November 2013 mean temperatures, expressed as a difference from average (°C).*

*Red colour indicates that temperatures more than 2.0°C above the November average occurred in parts of Westland and western Southland. Dark orange colours indicate temperatures more than 1.5°C above the winter average, which were recorded across many parts of the North and South Islands. Mean temperatures were at least above average (between 0.5 to 1.2°C above the winter average) across the majority of New Zealand. The exception was areas of the Far North, Gisborne, Marlborough, Canterbury and North Otago, where near average temperatures were recorded (within 0.5°C of the winter average temperature, as indicated by green colours on the map).*

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