

## A month of large temperature swings; very wet in Northland

Temperature	Temperatures were above average (0.51°C to 1.20°C above average) or well above average (>1.20°C above average) in much of Northland, Auckland, northern Waikato, the Coromandel, Bay of Plenty, Gisborne, parts of northern and interior Canterbury, coastal South Canterbury, and eastern Otago. Below average temperatures (0.51°C to 1.20°C below average) were observed in the central and lower West Coast. Near average temperatures ( $\pm 0.50^\circ\text{C}$ of average) occurred in western Waikato, the lower half of the North Island, Tasman, Nelson, Marlborough, central and interior Canterbury, much of the West Coast, interior Otago, and Southland.
Rainfall	Rainfall was above normal (120-149% of normal) or well above normal (>149% of normal) in much of Northland, coastal Gisborne, and interior South Canterbury. Below normal (50-79% of normal) or well below normal (<50% of normal) rainfall was observed in southern Auckland, much of Waikato, Bay of Plenty, Hawke's Bay, Taranaki, Manawatū-Whanganui, Wellington, Tasman, Nelson, Marlborough, coastal Canterbury, the upper West Coast, much of Otago, and Southland. Near normal rainfall (80-119% of normal) was observed elsewhere.
Soil Moisture	At the end of the month, soil moisture levels were higher than normal across Northland, northern Auckland, the Coromandel, the east coast of the North Island, northern and central Canterbury, interior Otago, and the lower West Coast. Below normal soil moisture was observed in interior Hawke's Bay, Nelson, Marlborough Sounds, coastal central Canterbury, and western Southland. Elsewhere, soil moisture levels were generally near normal.

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

[Overview](#)

[Temperature](#)

[Rainfall](#)

[October 2023 climate in the six main centres](#)

[Highlights and extreme events](#)

### Overview

October 2023 was characterised by higher than normal mean sea level pressure (MSLP) over the Tasman Sea and the North Island, with lower than normal pressure located south of Aotearoa New Zealand. This produced more westerly airflows than normal, particularly over the South Island, which is typical of an El Niño pattern. In fact, there were several strong to damaging wind events through the month that affected the South Island and lower North Island (see *Highlights and extreme events* section for details). Twenty-one locations experienced record or near-record maximum wind gusts for October. However, the month also featured periodic fronts from the Southern Ocean which brought occasional cold spells and even low-elevation snow to the South Island. This included snow to lake level in Queenstown and flurries in Dunedin's CBD on 27 October. In addition, the end of October saw

the remnants of ex-Tropical Cyclone Lola move out of the tropics and affect the upper North Island with heavy rainfall and strong winds.<sup>1</sup>

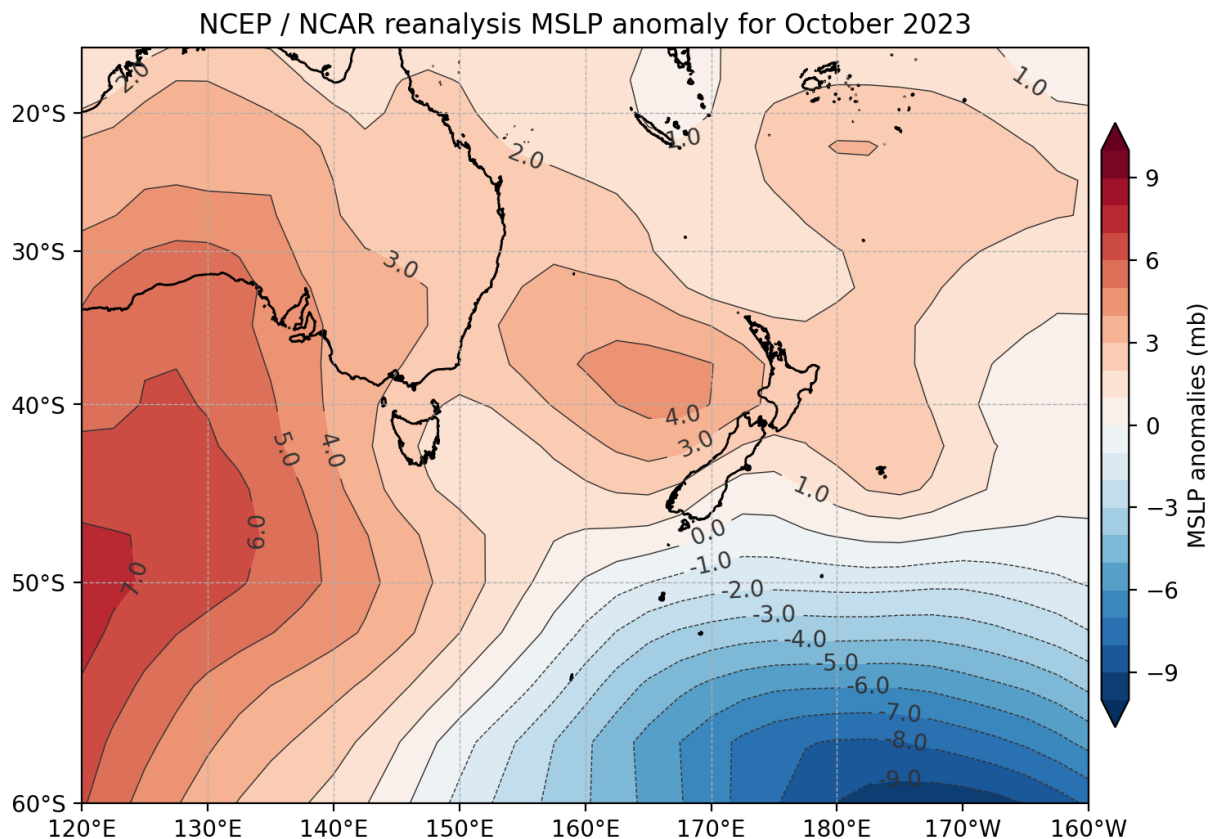


Figure: Mean Sea Level Pressure (MSLP) anomaly map for October 2023.

Temperatures were above average (0.51°C to 1.20°C above average) or well above average (>1.20°C above average) in much of Northland, Auckland, northern Waikato, the Coromandel, Bay of Plenty, Gisborne, parts of northern and interior Canterbury, coastal South Canterbury, and eastern Otago. Below average temperatures (0.51°C to 1.20°C below average) were observed in the central and lower West Coast. Near average temperatures (-0.50°C to +0.50°C of average) occurred in western Waikato, the lower half of the North Island, Tasman, Nelson, Marlborough, central and interior Canterbury, much of the West Coast, interior Otago, and Southland.

The nationwide average temperature in October 2023 was 12.5°C. This was 0.4°C above the 1991-2020 October average from NIWA's seven station temperature series which begins in 1909. While westerly winds delivered above average to well above average temperatures at times through the month, this was offset by periods of sharply cooler southerlies, leading to a near average month for the country as a whole.

---

<sup>1</sup> <https://twitter.com/NiwaWeather/status/1716643611960643884?s=20>

Rainfall was above normal (120-149% of normal) or well above normal (>149% of normal) in much of Northland, coastal Gisborne, and interior South Canterbury. Below normal (50-79% of normal) or well below normal (<50% of normal) rainfall was observed in southern Auckland, much of Waikato, Bay of Plenty, Hawke's Bay, Taranaki, Manawatū-Whanganui, Wellington-Wairarapa, Tasman, Nelson, Marlborough, coastal Canterbury, the upper West Coast, much of Otago, and Southland. Near normal rainfall (80-119% of normal) was observed elsewhere.

**Further Highlights:**

- The highest October temperature was 29.0°C, observed at Kaikōura on 26 October.
- The lowest October temperature was -5.3°C, observed at Mount Cook Airport on 28 October.
- The highest 1-day rainfall was 150 mm, recorded at Kaikohe on 29 October.
- The highest wind gust was 232 km/h, observed at Cape Foulwind on 26 October.
- Of the six main centres in October 2023, Auckland was the warmest and least sunny, Christchurch was the coolest and sunniest, Tauranga was the wettest, and Dunedin was the driest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2023 so far are wider Nelson (2133 hours), Mackenzie Basin (2080 hours), Tasman (2077 hours), and Taranaki (2042 hours).

**For further information, please contact:**

Seth Carrier

Meteorologist/Forecaster – NIWA Auckland

Tel. 09 375 4508

## Temperature: A month of large temperature swings, but near average overall

The mix of sharply warmer and colder periods during the month of October meant that mean temperatures generally ended up near average for most locations. This is illustrated by the fact that no location had a record high or low mean temperature for the month, although six locations had near-records. However, many locations set records or near-records for one-day maximum and minimum temperatures, indicative of the month's consistent temperature rollercoaster.

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
<b>High records or near-records</b>				
Whakatāne	15.0	1.0	1974	3rd-highest
Motu	12.2	1.7	1990	3rd-highest
Mt Ruapehu (Chateau)	7.7	1.2	2000	3rd-highest
Whangaparāoa	15.4	0.8	1982	4th-highest
Taupō	13.1	1.9	1949	4th-highest
<b>Low records or near-records</b>				
Kawerau	12.8	-1.5	1954	4th-lowest

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
<b>High records or near-records</b>				
Mt Ruapehu (Chateau)	12.5	1.5	2000	Highest
Whangaparāoa	19.1	1.1	1982	2nd-highest
Matamata	19.2	1.3	1999	2nd-highest
Whakatāne	20.1	1.2	1974	2nd-highest
Windsor	17.8	1.7	2000	2nd-highest
Waipounamu	16.4	1.3	1980	2nd-highest
Chatham Island	16.0	1.5	1878	2nd-highest
Motu	17.6	2.4	1990	3rd-highest
Oamaru	16.7	1.3	1967	3rd-highest
Middlemarch	18.3	1.7	2000	Equal 3rd-highest
Dunedin (Airport)	17.7	1.4	1962	4th-highest
Te Puke	19.4	0.9	1973	Equal 4th-highest
<b>Low records or near-records</b>				
None observed				

<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.

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
<b>High records or near-records</b>				
Kaitaia	12.6	2.0	1948	2nd-highest
Auckland (Western Springs)	11.9	1.2	1948	4th-highest
<b>Low records or near-records</b>				
Kawerau	6.9	-1.7	1954	4th-lowest
Ōkārīto	5.9	-1.2	1982	4th-lowest
Waipounamu	4.2	-0.6	1980	4th-lowest

**Rainfall: Generally dry for most regions, but late-month heavy rain in Northland**

High pressure brought drier than normal conditions to large parts of New Zealand during October, although only three locations experienced record or near-record low rainfall. Conversely, heavy rainfall from the remnants of ex-Tropical Cyclone Lola at the end of the month brought several records or near-records to Northland. Five locations experienced record or near-record one-day rainfall on 29 October, including 150 mm at Kaikohe. This helped Kaikohe record its wettest October on record, with 321% of its normal monthly rainfall. Meanwhile, Russell had its 2<sup>nd</sup>-wettest October since 1919, with 297% of its normal rainfall.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
<b>High records or near-records</b>				
Kaikohe	303	321	1956	Highest
Purerua	154	239	1983	2nd-highest
Russell	242	297	1919	2nd-highest
Mokohinau Island	87	155	1994	4th-highest
Campbell Island	140	123	1992	4th-highest
<b>Low records or near-records</b>				
Mt Ruapehu (Chateau)	95	34	2000	Lowest
Nugget Point	21	30	1930	3rd-lowest
Lumsden	57	66	1982	4th-lowest

---

## October climate in the six main centres

October temperatures were near average in Wellington and Christchurch, and above average in the other main centres. Rainfall was below normal in all main centres except Tauranga and Christchurch, where it was near normal. Of the six main centres in October 2023, Auckland was the warmest and least sunny, Christchurch was the coolest and sunniest, Tauranga was the wettest, and Dunedin was the driest.

### October 2023 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland <sup>a</sup>	15.3	+0.8	Above average
Tauranga <sup>b</sup>	14.9	+0.6	Above average
Hamilton <sup>c</sup>	14.0	+1.0	Above average
Wellington <sup>d</sup>	12.3	+0.2	Near average
Christchurch <sup>e</sup>	11.6	+0.3	Near average
Dunedin <sup>f</sup>	11.9	+0.9	Above average

Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland <sup>a</sup>	53	65	Below normal
Tauranga <sup>b</sup>	84	104	Near normal
Hamilton <sup>c</sup>	73	74	Below normal
Wellington <sup>d</sup>	68	58	Below normal
Christchurch <sup>e</sup>	43	87	Near normal
Dunedin <sup>f</sup>	34	57	Below normal

Sunshine	
Location	Sunshine (hours)
Auckland <sup>a</sup>	175
Tauranga <sup>b</sup>	216 <sup>3</sup>
Hamilton <sup>g</sup>	199
Wellington <sup>d</sup>	224
Christchurch <sup>e</sup>	247
Dunedin <sup>f</sup>	233

<sup>a</sup> Māngere <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>3</sup> Missing one day of data.

---

## Highlights and extreme events

### Temperatures

The highest October temperature was 29.0°C, observed at Kaikōura on 26 October.

The lowest October temperature was -5.3°C, observed at Mount Cook Airport on 28 October.

On 4-5 October, westerly winds delivered a warm Australian air mass to the South Island, where high temperatures were generally 6-10°C above average. On 5 October, the temperature at Aoraki/Mt Cook reached 24.5°C, which is over 10°C warmer than average for the time of year.

On 31 October, record-setting warmth was observed in the lower North Island, including at New Plymouth and Porirua. In addition, Wellington (Kelburn) observed its second-warmest October temperature since records began there in 1928.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
<b>High records or near-records</b>				
Matamata	24.9	21st	1999	Highest
Mt Ruapehu (Chateau)	23.8	5th	2000	Highest
New Plymouth	24.3	31st	1944	Highest
Porirua	24.5	31st	1968	Highest
Kaikōura	28.1	26th	1963	2nd-highest
Levin	25.5	31st	1895	2nd-highest
Mt Cook (Airport)	25.3	5th	1929	2nd-highest
Waiouru	22.6	5th	1962	2nd-highest
Wellington (Kelburn)	22.9	31st	1928	2nd-highest
Whatawhata	24.2	19th	1952	2nd-highest
Reefton	26.0	31st	1960	Equal 2nd-highest
Whangaparāoa	23.0	21st	1982	Equal 2nd-highest
Hamilton (Airport)	23.9	19th	1946	3rd-highest
Arapito	22.0	31st	1978	Equal 3rd-highest
Te Kuiti	24.6	19th	1959	Equal 3rd-highest
Kaitaia	23.4	26th	1948	4th-highest
Ohakune	23.4	5th	1962	4th-highest
Rotorua	23.0	5th	1964	4th-highest
South West Cape	20.1	24th	1991	4th-highest
Purerua	22.4	31st	1983	Equal 4th-highest
Waikeria	23.6	20th	1957	Equal 4th-highest
<b>Low records or near-records</b>				
Cape Reinga	13.1	28th	1971	3rd-lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
<b>High records or near-records</b>				
Chatham Island	14.1	27th	1878	Equal highest
Kaitaia	17.3	31st	1948	2nd-highest
Māhia	15.7	27th	1990	2nd-highest
Balclutha	13.8	26th	1972	2nd-highest
Whitianga	17.0	27th	1971	3rd-highest
Waipara West	17.0	26th	1973	3rd-highest
South West Cape	12.2	5th	1991	3rd-highest
Wairoa	18.4	27th	1972	Equal 3rd-highest
<b>Low records or near-records</b>				
South West Cape	0.3	27th	1991	Lowest
Kawerau	-0.6	4th	1954	2nd-lowest
Tūrangi	-4.2	4th	1968	2nd-lowest
Takapau Plains	-2.7	4th	1962	2nd-lowest
Martinborough	-1.6	4th	1986	2nd-lowest
Nugget Point	-0.1	28th	1970	2nd-lowest
Taumarunui	-2.5	4th	1947	Equal 2nd-lowest
Te Kuiti	-1.1	4th	1959	3rd-lowest
Clyde	-3.2	11th	1978	3rd-lowest
Paraparaumu	-0.9	28th	1953	4th-lowest
Secretary Island	2.2	27th	1985	4th-lowest

**Rain and slips**

The highest 1-day rainfall was 150 mm, recorded at Kaikohe on 29 October.

On 2 October, a 3-kilometre line of cars built through Haast due to a slip at Muddy Creek Bridge.

On 29-30 October, the remnants of ex-Tropical Cyclone Lola brought heavy rain to parts of the upper North Island. Multiple schools in the Coromandel Peninsula were closed due to slips and flooded roadways, including parts of SH25. In Whangārei, multiple streets in the CBD were closed due to flooding made worse by a king tide. In Gisborne, SH35 at Rototahi was closed for a time due to flooding.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Kaikohe	150	29th	1956	Highest
Russell	127	29th	1919	Highest
Whangārei	114	29th	1943	2nd-highest
Mokohinau Island	43	29th	1994	2nd-highest
Purerua	46	29th	1983	3rd-highest



## Wind

The highest wind gust was 232 km/h, observed at Cape Foulwind on 26 October.

On 2 October, strong westerly winds gusting to 130 km/h or more affected much of the South Island. This resulted in more than 25 flights being cancelled between Air New Zealand and Jetstar, including 19 flights at Wellington Airport alone. In addition, several sailings of the Interislander and Bluebridge ferries were cancelled on both 2 October and 3 October. In Christchurch, damage to powerlines caused power cuts. A campervan was blown onto its side on SH80 (Mount Cook Road). In Auckland, strong gusts resulted in the speed limit being set to 50 km/h on the Harbour Bridge.

On 14 October, an area of low pressure moving across the South Island delivered damaging winds to Canterbury in particular, with some gusts exceeding 150 km/h. More than 8,000 homes were left without electricity, while FENZ had more than 25 responses underway by early afternoon due to downed power lines, fallen trees, lifting roofs, and a tree that had fallen onto a car in central Christchurch. The Southern Cross hospital in Christchurch had part of its roof destroyed by the high winds. At least 21 flights in and out of Christchurch Airport were cancelled, while an Emirates A380 had to circle the city for an hour before successfully landing. SH1 was closed for a time due to a fallen tree south of Cheviot.

Another round of strong winds occurred on 15 October, causing delays and disruptions at Wellington Airport. This included a Fiji Airways flight from Nadi that was unable to land and had to divert to Auckland.

On 17 October, gusty winds in the lower North Island caused more than a dozen flights in and out of Wellington to be cancelled.

On 26 October, strong winds exceeding 100 km/h returned to the South Island and lower North Island. This resulted in the cancellation of multiple flights to and from Wellington, while a flight from Hamilton to Wellington was forced to divert to Palmerston North. Strong winds also tipped over a truck at the intersection of SH1 and SH7. Near Amberley, nearly 2,300 homes lost power after a tree fell onto a power line.

On 29-30 October, the remnants of ex-Tropical Cyclone Lola affected the upper North Island, bringing wind gusts in excess of 100 km/h from Northland to the Coromandel Peninsula. This resulted in multiple cancelled ferry services in Auckland, along with more than 6,000 power outages across Northland and additional outages in much of Waiheke Island and parts of northern Auckland.

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

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
Whitianga	87	10th	1991	Highest
Rangiora	102	14th	1999	Highest
Clyde	100	2nd	1983	Highest
Mokohinau Island	122	29th	1994	Equal highest
Te Puke	61	2nd	1987	Equal highest

Mt Kaukau (Wellington)	146	15th	1969	2nd-highest
Secretary Island	154	2nd	1994	2nd-highest
Lincoln	93	2nd	1999	2nd-highest
Windsor	104	2nd	2001	2nd-highest
Alexandra	113	2nd	2001	2nd-highest
Cape Reinga	143	29th	1974	Equal 2nd-highest
Waiouru	106	17th	1970	Equal 2nd-highest
Oamaru	96	2nd	1984	3rd-highest
Ranfurly	89	2nd	2000	3rd-highest
Upper Hutt	93	2nd	1999	Equal 3rd-highest
Bromley	96	14th	1972	Equal 3rd-highest
Martinborough	111	26th	2001	4th-highest
Timaru	100	2nd	1972	4th-highest
Kaitaia	96	29th	1972	Equal 4th-highest
Puysegur Point	154	6th	1986	Equal 4th-highest
Christchurch (Airport)	100	14th	1972	Equal 4th-highest

### **Lightning, hail, and tornadoes**

On 2 October, approximately 6,500 lightning strikes were recorded over the western South Island and nearby Tasman Sea.

On 8 October, thunderstorms brought accumulating hail to multiple locations around the upper North Island, including Langs Beach, Mangawhai, Auckland, Whitianga, and Okere Falls.

### **Snow and ice**

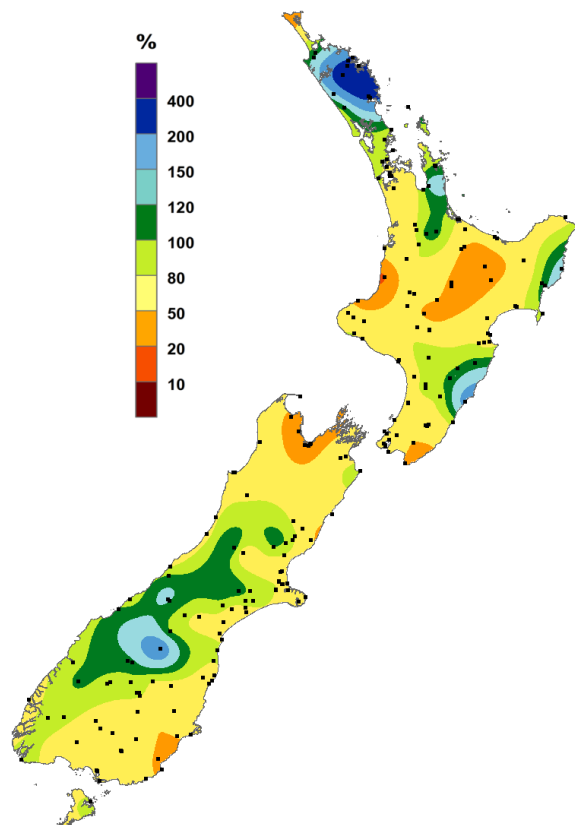
On the morning of 17 October, up to 8 cm of snow settled on Crown Range Road.

On 27 October, a strong cold front brought snow to low elevations in the lower South Island. This included snow falling to lake level in Queenstown, and flurries of snow in Dunedin's CBD. Due to heavy snow, SH87 was closed between Kyeburn and Outram.

---

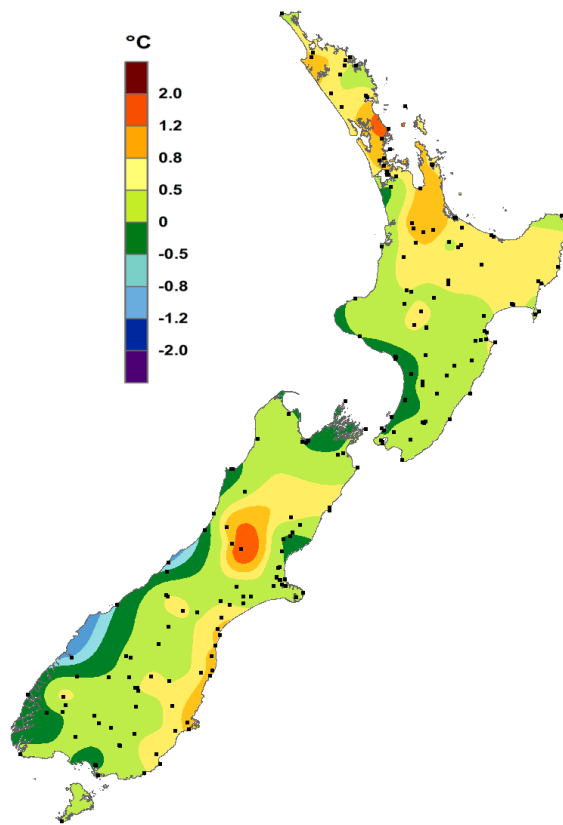
### **For further information, please contact:**

Seth Carrier  
 Meteorologist/Forecaster – NIWA Auckland  
 Tel. 09 375 4508



**October rainfall**

Expressed as a percentage of the 1991-2020 normal.



**October temperature**

Expressed as a departure from the 1991-2020 average in degrees Celsius.

<https://www.niwa.co.nz/our-science/climate>

© Copyright NIWA 2023.

All rights reserved. Information presented in this summary is based on data available at the time of publication, which is subject to ongoing quality assurance procedures.