NIWA National Climate Centre

Monthly Climate Summary

NIWA Taihoro Nukurangi

New Zealand Climate Summary: **November 2017** Issued: 5 December 2017

Hot in the south and dry countrywide to end spring

Rainfall	Rainfall was well below normal (<50% of normal) for much of Canterbury, the West Coast, Tasman, Nelson, Marlborough, Wellington, Wairarapa, Manawatu-Whanganui, parts of Hawke's Bay, Auckland, and Bay of Plenty. Isolated pockets of above normal (120-149% of normal) rainfall occurred in Northland, the Queenstown-Lakes District, and about Roxburgh (Central Otago). Rainfall was below normal (50-79% of normal) or below normal (80-119%) elsewhere.
Temperature	Temperatures were well above average (>1.20°C of average) in parts of Southland, interior Otago, interior Canterbury, the West Coast, and interior Waikato. Temperatures were above average (0.51-1.20°C above average) for most of the rest of the country, except for some eastern coastal areas of both Islands that recorded near (-0.50°C to +0.50°C of average) average temperatures.
Sunshine	Sunshine was well above normal (>125% of normal) or above normal (110-125% of normal) for much of the South Island and western North Island. Sunshine was near normal (90-110% of normal) for most other parts of the country, except for areas in Gisborne, Bay of Plenty, Coromandel Peninsula, and Northland where sunshine was below normal (75-89% of normal).
Soil Moisture	As of 1 December, soils were significantly drier than normal for the time of year across a large portion of the South Island, particularly in the west, as well as the lower and western North Island. Soil moisture was slightly below normal or near normal in Central Otago, the Central Plateau, Gisborne, Coromandel Peninsula, and northern Northland. Soil moisture was near or above normal in the Aupouri Peninsula and Great Barrier Island.

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Overview

November 2017 was characterised by higher than normal sea level pressure over New Zealand and the surrounding seas, particularly to the south of the country. This pressure setup, consistent with La Niña conditions, resulted in a long period of dry, settled, and very warm weather across the country during the second half of the month.

Several locations across the South Island and lower North Island observed exceptional dryness and, in some cases, came close to or broke rainfall records that had stood for over a century. Therefore, soil

moisture levels decreased significantly across country, particularly during the second half of the month. At the end of November, the driest soils compared to normal for the time of year were found in the western part of both Islands. Low rainfall and very dry soils are concerning both from a meteorological and hydrological perspective, especially as New Zealand is heading into what is usually the driest season of the year.

The persistence of higher than normal pressure also resulted in warmer than average temperatures over much of the country during the month and contributed to long periods of tranquillity

In turn, sea surface temperatures (SSTs) in New Zealand coastal waters, the Tasman Sea, and near eastern Australia soared to record or near-record levels. SSTs were generally 1 to 3°C above average for the time of year and up to 6°C above average in some areas.

Due to the persistent ridge of high pressure, it was a sunny month across much of the South Island and western North Island. Most areas recorded above normal or well above normal sunshine. However, normal or below normal sunshine hours were recorded in the northeast of the North Island.

Further Highlights:

- The highest temperature was 33.3°C, observed at Cromwell on 23 November.
- The lowest temperature was -1.6°C, observed at Hanmer Forest on 15 November.
- The highest 1-day rainfall was 104.4 mm, recorded at Secretary Island on 7 November.
- The highest wind gust was 169 km/h, observed at Akitio on 8 November.
- Of the six main centres in November 2017, Auckland was the warmest, Auckland and Hamilton were the least sunny, Dunedin was the coldest, Christchurch was the driest, Wellington was the sunniest, and Tauranga was the wettest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2017 so far (1 January – 30 November) are Richmond (2296 hours), Blenheim (2285 hours), Whakatane (2225 hours) and Lake Tekapo (2215 hours).

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Rainfall: Record dryness in parts of the South Island breaks century-old records

Oamaru, Waimate, Orari Estate, Lincoln, Christchurch (Airport), Waipara, Ashburton, and Hanmer Forest in the South Island all recorded their driest November on record. At the end of November, Christchurch a 35-day dry spell (less than 1 mm of rain on any day) and Lincoln a 35-day dry spell. Additionally, Christchurch (Airport) had its driest November on record in at least 154 years while Lincoln had its 2nd-driest month overall since records began in 1881.

In the lower North Island, Levin recorded just 6 mm, making it the driest November in the town since records began in 1895. With just 19 mm recorded, Palmerston North had its 2nd-driest November on record.

Well below normal rainfall was not just confined to central and southern New Zealand, however, as Auckland (Western Springs) had its 4th-driest November on record, and Whakatu its 3rd-driest November on record.

Rainfall was also below or well below normal (50-79% or <50% of normal, respectively) in Southland, parts of Otago, the West Coast, Tasman, Nelson, Marlborough, Manawatu-Whanganui, Taranaki, Wellington, Wairarapa, Hawke's Bay, and western Northland. Isolated pockets of above normal (120-149% of normal) rainfall occurred in Northland, the Queenstown-Lakes District, and about Roxburgh (Central Otago). Rainfall was below normal (50-79% of normal) or below normal (80-119%) elsewhere.

As of 1 December, soils were significantly drier than normal for the time of year across a large portion of the South Island, particularly in the west, as well as the lower and western North Island. Soil moisture levels were generally near normal elsewhere.

Record[1] or near-record November rainfall totals[2] were recorded at:

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
None observed				
Low records or near-records				
Levin	16	16	1895	Lowest
Hawera	21	23	1977	Lowest
Hanmer Forest	11	11	1905	Lowest
Ashburton	6	10	1909	Lowest
Waipara West	2	3	1973	Lowest
Christchurch (Airport)	1	3	1863	Lowest
Lincoln, Broadfield	0	1	1881	Lowest
Orari Estate	9.9	18	1897	Lowest
Waimate	8	19	1898	Lowest
Oamaru	6	15	1941	Lowest
Masterton	8	11	1926	2nd-lowest
Palmerston North	19	24	1928	2nd-lowest
Wellington (Airport)	11	14	1958	2nd-lowest
Arapito	54	27	1978	2nd-lowest
Akaroa	16	23	1977	2nd-lowest
Martinborough	6	10	1924	3rd-lowest
Whakatu	5	9	1870	3rd-lowest
Wellington (Kelburn)	17	18	1928	3rd-lowest
Upper Hutt	22	22	1924	3rd-lowest
Whanganui (Spriggens Park)	21	28	1890	3rd-lowest
Farewell Spit	13	17	1874	3rd-lowest

[1] 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.

[2] Rainfall totals are rounded to the nearest whole number.

Kaikoura	7	11	1898	3rd-lowest
Wairoa, North Clyde	23	30	1964	Equal 3rd-lowest
Auckland (Western Springs)	39	48	1948	4th-lowest
New Plymouth	41	39	1944	4th-lowest
Paraparaumu	20	29	1945	4th-lowest
Greymouth	68	34	1947	4th-lowest
Timaru	8	17	1881	4th-lowest
South West Cape	61	56	1991	4th-lowest

Temperature: A warmer than average month, record-breaking in the south

The nationwide average temperature in November 2017 was 14.8°C (1.1°C above the 1981-2010 November average from NIWA's seven station temperature series which begins in 1909). November 2017 was the 6th-warmest November on record for New Zealand using the seven-station series.

November temperatures were well above average (>1.20°C of average) in parts of Southland, interior Otago, interior Canterbury, the West Coast, and interior Waikato. Temperatures were above average (0.51-1.20°C above average) for most of the rest of the country, except for some eastern coastal areas of both Islands that recorded near (-0.50°C to +0.50°C of average) average temperatures.

Consistent with record and near-record high mean temperatures for many locations, record and near-record high mean maximum (day time) and mean minimum (night time) temperatures were also experienced. For the second consecutive month, Cromwell experienced a well above average mean maximum temperature (25.1°C). This was 4.8°C above the long-term average for November and warmer than the average mean maximum temperature during January (24.4°C), which is typically the warmest month of the year.

From 19-30 November, Cromwell recorded 12 consecutive days with a maximum temperature at or above 25 degrees, the longest such streak during November on record. It beat the previous November record of 8 days during 1974. Cromwell also observed 3 days with a maximum temperature of higher than 30 degrees during the month. This was the most days for November on record, eclipsing 2 days in 2010 and 2 days in 1974.

Record 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				
Cromwell	17.4	3.7	1949	Highest
Lauder	15.4	3.3	1924	Highest
Reefton	15.9	2.5	1960	Highest
Secretary Island	13.7	1.8	1985	Highest
Farewell Spit	16.2	1.5	1971	2nd-highest
Lumsden	13.3	1.9	1982	2nd-highest
Milford Sound	14.0	1.8	1934	2nd-highest
Puysegur Point	12.4	1.3	1978	2nd-highest
Ranfurly	13.6	2.3	1897	2nd-highest
Te Anau	13.6	2.3	1963	2nd-highest
Wanaka	15.9	2.9	1955	2nd-highest
Wellington (Kelburn)	14.7	1.3	1927	2nd-highest
Westport	14.9	1.7	1937	2nd-highest
Whatawhata	16.4	1.7	1952	2nd-highest
Arapito	15.1	1.6	1978	3rd-highest
Clyde	15.7	2.1	1978	3rd-highest
Five Rivers	13.2	1.8	1982	3rd-highest
Manapouri	13.5	2.8	1971	3rd-highest
Masterton	15.5	1.6	1906	3rd-highest
Ngawi	16.3	0.9	1972	3rd-highest
South West Cape	11.8	1.2	1991	3rd-highest
Te Kuiti	16.3	1.5	1959	3rd-highest
Akaroa	15.5	1.5	1978	4th-highest
Alexandra	16.0	1.8	1929	4th-highest
Cheviot	14.2	1.2	1982	4th-highest
Leigh	17.4	1.2	1966	4th-highest
Manapouri	13.1	2.1	1963	4th-highest
Mt Cook (Village)	13.2	2.3	1929	4th-highest
Orari Estate	14.1	1.3	1972	4th-highest
Queenstown	14.9	2.3	1871	4th-highest
Whangaparaoa	16.9	0.8	1982	4th-highest
Low records or near-records				
None observed				

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				
Cromwell	25.1	4.8	1949	Highest
Lauder	22.9	4.4	1924	Highest

Manapouri	19.4	4.3	1971	Highest
Whatawhata	21.6	2.6	1952	Highest
Clyde	22.9	2.8	1978	2nd-highest
Farewell Spit	19.8	1.4	1971	2nd-highest
Lumsden	19.5	2.6	1982	2nd-highest
Manapouri	19.6	2.9	1963	2nd-highest
Milford Sound	18.9	2.1	1934	2nd-highest
New Plymouth	19.9	2.2	1944	2nd-highest
Ngawi	20.1	1.2	1972	2nd-highest
Paraparaumu	19.4	1.8	1953	2nd-highest
Ranfurly	20.5	2.6	1897	2nd-highest
Reefton	22.1	3.2	1960	2nd-highest
Te Kuiti	22.0	2.0	1959	2nd-highest
Wanaka	22.7	3.5	1955	2nd-highest
Westport	18.7	2.0	1937	2nd-highest
Arapito	19.4	1.7	1978	3rd-highest
Arthurs Pass	17.9	4.0	1973	3rd-highest
Auckland (Mangere)	21.3	1.9	1959	3rd-highest
Five Rivers	19.1	2.2	1982	3rd-highest
Hanmer Forest	21.7	2.8	1906	3rd-highest
Levin	20.3	2.3	1895	3rd-highest
Mt Cook (Village)	20.3	3.8	1929	3rd-highest
Puysegur Point	14.9	1.3	1978	3rd-highest
Queenstown	21.4	3.1	1871	3rd-highest
Secretary Island	17.1	2.1	1985	3rd-highest
Tara Hills	22.0	3.1	1949	3rd-highest
Te Anau	19.3	2.4	1963	3rd-highest
Milford Sound	18.3	2.3	1934	4th-highest
Palmerston North	20.6	2.3	1928	4th-highest
Wellington (Kelburn)	18.0	1.5	1927	4th-highest
Low records or near-records				
None observed				

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				
Alexandra	9.7	2.7	1929	Highest
Orari Estate	9.1	2.1	1972	Highest
Cheviot	8.8	1.6	1982	2nd-highest
Cromwell	9.6	2.5	1949	2nd-highest
Dunedin (Musselburgh)	10.3	1.7	1947	2nd-highest
Farewell Spit	12.5	1.6	1971	2nd-highest
Gore	8.6	1.8	1907	2nd-highest
Lauder	7.9	2.1	1924	2nd-highest
Le Bons Bay	9.8	1.4	1984	2nd-highest
Puysegur Point	9.9	1.3	1978	2nd-highest

Roxburgh	9.1	2.9	1950	2nd-highest
Secretary Island	10.4	1.6	1985	2nd-highest
South West Cape	9.2	1.6	1991	2nd-highest
Te Anau	7.9	2.2	1963	2nd-highest
Te Puke	11.8	1.9	1973	2nd-highest
Tiwai Point	10.1	1.7	1970	2nd-highest
Whakatane	12.5	1.8	1974	2nd-highest
Akaroa	10.5	1.8	1978	3rd-highest
Alexandra	9.2	2.2	1929	3rd-highest
Arapito	10.8	1.6	1978	3rd-highest
Culverden	9.0	2.0	1928	3rd-highest
Five Rivers	7.4	1.4	1982	3rd-highest
Gore	8.4	1.6	1907	3rd-highest
Invercargill	8.9	1.8	1905	3rd-highest
Nugget Point	8.8	1.3	1970	3rd-highest
Ranfurly	6.6	2.0	1897	3rd-highest
Reefton	9.7	1.9	1960	3rd-highest
Wanaka	9.2	2.3	1955	3rd-highest
Invercargill	8.9	1.9	1905	4th-highest
Kaikoura	10.8	1.1	1963	4th-highest
Lumsden	7.1	1.1	1982	4th-highest
Milford Sound	9.1	1.5	1934	4th-highest
Mokohinau	14.7	0.5	1994	4th-highest
Oamaru	8.9	0.8	1967	4th-highest
Low records or near-records				
None observed				

Sunshine: A sunny month overall

It was a sunny November across the South Island and western North Island, with Greymouth, Upper Hutt, Paraparaumu, and New Plymouth experiencing their sunniest November on record. Most of the South Island and western North Island recorded above normal (110-124% of the November normal) or well above normal (>125% of the November normal) sunshine.

Sunshine was near normal (90-110% of normal) for most other parts of the country, except for areas in Gisborne, Bay of Plenty, Coromandel Peninsula, and Northland where sunshine was below normal (75-89% of normal).

Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2017 so far (1 January – 30 November) are Richmond (2296 hours), Blenheim (2285 hours), Whakatane (2225 hours) and Lake Tekapo (2215 hours).

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				
Greymouth	252	151	1947	Highest
New Plymouth	310	150	1972	Highest
Paraparaumu	281	142	1953	Highest
Upper Hutt, Trentham	268	154	1939	Highest
Cromwell	291	126	1979	2nd-highest
Hokitika	263	143	1912	2nd-highest
Mt Cook (Village)	222	134	1930	2nd-highest
Gore	231	147	1941	3rd-highest
Invercargill	223	123	1913	3rd-highest
Dunedin (Musselburgh)	214	127	1980	4th-highest
Queenstown	278	129	1930	4th-highest
Stratford	242	124	1963	4th-highest
Low records or near-records				
Whangarei	153	88	1954	3rd-lowest
Rotorua	170	84	1976	4th-lowest

November climate in the six main centres

November was a warm month for all the main centres, with well above average temperatures observed in Auckland, Hamilton, Wellington, and Dunedin and above average temperatures elsewhere. Rainfall was well below normal in Auckland, Wellington, Christchurch, and Dunedin and below normal in Tauranga. It was a sunny month for Dunedin and Wellington. Near normal sunshine was recorded in Auckland, Hamilton, and Christchurch and below normal sunshine was recorded in Tauranga.

Of the six main centres in November 2017, Auckland was the warmest, Auckland and Hamilton were the least sunny, Dunedin was the coldest, Christchurch was the driest, Wellington was the sunniest, and Tauranga was the wettest.

November 2017 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland[a]	17.4	1.3	Well above average
Tauranga[b]	16.7	0.8	Above average
Hamilton[c]	16.2	1.3	Well above average
Wellington[d]	14.7	1.3	Well above average
Christchurch[e]	14.3	0.8	Above average
Dunedin[f]	13.7	1.3	Well above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland[a]	29	44	Well below normal
Tauranga[b]	49	66	Below normal
Hamilton[c]	36	43	Well below normal
Wellington[d]	17	18	Well below normal (3rd lowest)
Christchurch[e]	1	3	Well below normal (lowest)
Dunedin[f]	25	44	Well below normal
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland[a]	189	98	Near normal
Tauranga[b]	196	87	Below normal
Hamilton[g]	189	100	Near normal
Wellington[d]	252	120	Above normal
Christchurch[e]	236	106	Near normal
Dunedin[f]	214	127	Well above normal

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

Highlights and extreme events

Rain and slips

On 8 November, houses in the Monaco and Tahunanui areas of Nelson were flooded by storm surge as a powerful low moved across the South Island. A group of campers on waterfront reserve area in the Mapua and Ruby Bay area were given help to evacuate, citing water to 'knee-level.'

On 8 November, 773 children had the day off school with snow and floodwaters closing seven schools and two early learning services in Otago and Southland. Farther north, children had to be helped to school by police in Thames after flooding and broken powerlines left a road impassable.

On 14 November, a cold pocket of air aloft, associated with upper level low pressure, caused several heavy showers and thunderstorms across the upper North Island. Whitianga in the Coromandel recorded 29 mm of rain in one hour, making it the wettest November hour on record since hourly records began in 1995.

On 14 November, a downpour caused the roof on the Honey Centre in Warkworth (north of Auckland) to cave in. The town received as much as 8.8 mm of rain in one hour during the day.

On the morning of 20 November, a 39-day dry spell ended in Hastings (Hawke's Bay) when 1.2 mm of rain was recorded between midnight and 3:00 am. Surface pressures had been higher than normal in the eastern North Island during the preceding 39 days, a key contributor to the dry spell.

On 21 November, a funnel cloud was spotted amidst a heavy thunderstorm in the Waikato town of Te Aroha. The storm also caused surface water to pool on the road near Eureka, Waikato.

On 23 November, Wellington Water issued a garden watering restriction due to a prolonged dry spell across the region and urged residents to cut back on their water use. Garden water restrictions took effect from the weekend of 24th November.

On 26 November, isolated thunderstorms caused downpours across the interior South Island. Roxburgh in Central Otago was particularly hard hit, where residents in seven households were evacuated from their homes due to flash flooding. The town was cut off entirely from the south for a time with slips and surface flooding on SH 8 and Teviot Rd. Roxburgh School was also closed on 27 and 28 November. The pipe to the town's reservoir was ruptured during the flood on 26 November, thus the town's water supply was also cut off and water tankers and portaloos were brought into the town for residents.

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
Waipara West	37	7th	1973	3rd-highest

Temperatures

During the early morning of 8 November (12:00-1:00 am), the temperature at Kaikoura reached 24.6°C as a strong foehn wind flow occurred on the northern side of deep low pressure in the South Island.

On 20 November, Auckland and Hamilton recorded its warmest temperature in 231 and 237 days, respectively. The mercury reached 25.5°C in Auckland and 25.2°C in Hamilton. This occurred as low pressure rotated (warming) winds in the Waikato and Auckland regions.

On 23 November, Cromwell reached 33.3°C, its hottest November (and spring) temperature on record since records began in 1949. It was the warmest temperature observed in the country since February 2017. A large dome of high pressure provided bright sunshine across the interior South Island, prompting the mercury to soar.

From 19-30 November, Cromwell recorded 12 consecutive days with a maximum temperature at or above 25°C, the longest such streak during November on record. It beat the previous November record of 8 days during 1974.

During November 2017, Cromwell observed 3 days with a maximum temperature of higher than 30°C. This was the most days on record, eclipsing 2 days in 2010 and 2 days in 1974.

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				
Cromwell	33.3	23rd	1949	Highest
Manapouri	27.5	23rd	1971	Highest
Tara Hills	29.9	23rd	1949	Equal highest
Lauder	30.7	23rd	1924	2nd-highest
Mt Cook (Village)	28.5	23rd	1929	2nd-highest
Wanaka	30.6	23rd	1955	2nd-highest
Arthurs Pass	25.8	23rd	1973	3rd-highest
Manapouri	26.4	27th	1963	3rd-highest
Reefton	28.6	23rd	1960	3rd-highest
Taupo	27.9	23rd	1949	3rd-highest
Te Kuiti	27.3	24th	1959	3rd-highest
Wanaka	29.4	22nd	1955	3rd-highest
Farewell Spit	24.9	28th	1971	Equal 3rd-highest
Five Rivers	25.5	26th	1982	4th-highest
Lumsden	25.6	30th	1982	4th-highest
Taumarunui	28.6	23rd	1947	4th-highest
Whatawhata	26.4	27th	1952	4th-highest
Low records or near-records				
None observed				

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				
Farewell Spit	16.8	30th	1972	Highest
South West Cape	12.9	1st	1991	Equal 2nd-highest
Reefton	14.5	26th	1972	Equal 3rd-highest
Westport	15.5	26th	1966	4th-highest
Secretary Island	14.1	2nd	1988	Equal 4th-highest
Low records or near-records				
Kaikoura	2.0	9th	1963	Equal 2nd-lowest

Wind

On 7 November, wind warnings were issued for parts of the mid and upper South Island and lower North Island in advance of a strong area of Tasman Sea low pressure.

On 8 November, a maximum wind gust of 154 km/h was recorded at Wellington's Mt Kaukau as a powerful low pressure system moved across the South Island.

On 8 November, strong winds across the top of the South Island left a catamaran beached in Nelson. The boat blocked access to a property at Martin St in the suburb of Monaco. Widespread power

outages were also reported across the area and a couple of houses in Nelson had their doors blown off.

On 8 November, Fire and Emergency New Zealand attended about 14 weather-related incidents between 12:00 and 3:00 am in the South Island as strong low pressure battered the region. This included a call out to a trampoline blowing into a powerline near Greymouth, which caused a fire in a transformer on a power pole.

On 11 November, severe southeast gales blew the roof off a two-story house in Ōpōtiki in the Bay of Plenty.

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

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
Hokitika	107	7th	1972	Highest
Richmond	95	8th	1972	Highest
Nelson	93	8th	1972	Equal highest
Kaukau	154	8th	1969	2nd-highest
Waiouru	104	7th	1970	2nd-highest
Hawera	96	7th	1986	3rd-highest
Hicks Bay	126	11th	1975	3rd-highest
Oamaru	87	30th	1984	Equal 3rd-highest
Westport	93	8th	1973	4th-highest

Lightning and hail

On 14 November, a cold pocket of air aloft, associated with upper level low pressure, caused several heavy showers and thunderstorms across the upper North Island. Pea sized hail blanketed the ground in Karaka, south Auckland, and was captured pelting cars in Takanini and New Lynn. Hailstones blocked storm water pipes in Takanini, sending water gushing into a block of shops around 1:00 pm. The hail was reported to have damaged some gardens across the region. Elsewhere, children competing at a Te Atatū school cross country race were caught in the hail storm, but the event was called off when lightning started. Cloud-to-ground lightning was common from the Waikato into southern Northland from the late morning through the afternoon, including a 27-strike burst in 5 minutes associated with the storm that caused hail in Karaka.

On 30 November, thunderstorms around Taranaki caused ping pong ball-sized hail in Urenui, about 30 km from New Plymouth. The storms were caused by a warm, humid airmass along with converging winds in the lower atmosphere.

For further information, please contact:

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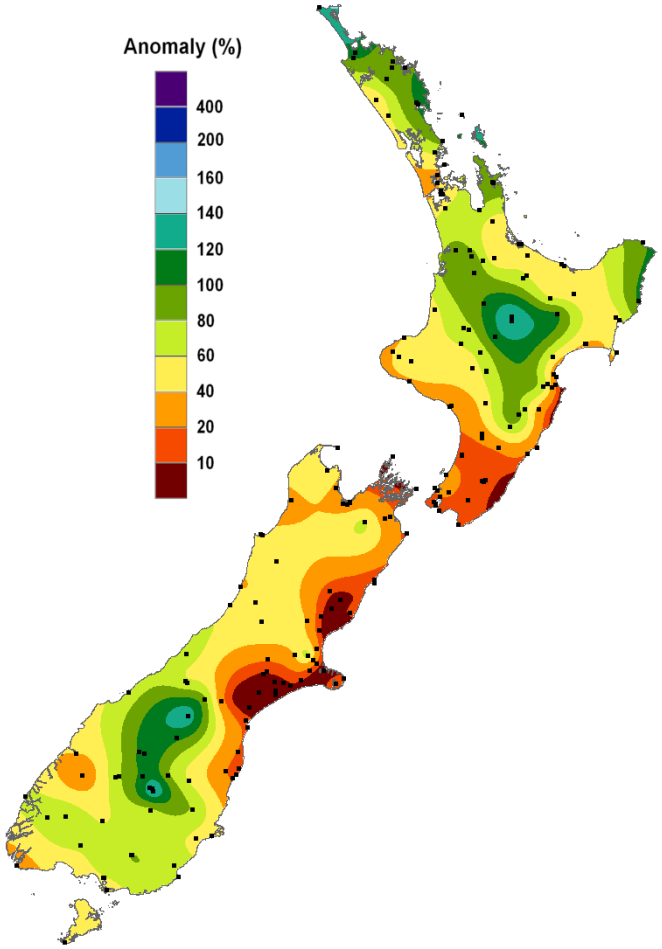

November 2017 rainfall, expressed as a percentage of normal (1981-2010 normal).

The South Island had a very dry November and some locations broke low rainfall records that were over a century old.

Below or well below normal rainfall extended into parts of the lower and western North Island as well.