

Monthly Climate Summary

National Climate Summary: **October 2013**

Issued: 4 November 2013

Very dry in the north and east of the North Island. A warm month for eastern parts of the North and South Islands.

Rainfall	Considerable variations in rainfall anomalies were observed across the country. Well below normal rainfall (less than 50 percent of October normal) throughout Northland, Auckland, Gisborne, and parts of Waikato, Bay of Plenty and Hawke's Bay. In contrast, well above normal rainfall (more than 150 percent of October normal) near and west of the Southern Alps, and in parts of Southland, Central Otago and Tasman.
Temperature	Near average temperatures (within 0.5°C of October average) recorded in western and southern parts of Southland and Otago, the Canterbury High Country, Westland, northwest Tasman, northern Taranaki, and northern parts of Waikato, Auckland and Northland. Above average temperatures (0.5-1.2°C above October average) throughout most remaining areas of New Zealand, with well above average temperatures (more than 1.2°C above October average) recorded in parts of Hawke's Bay and north Canterbury near Kaikoura.
Soil moisture	As at 1 November 2013, soils were drier than normal in north-eastern parts of New Zealand, especially about Northland, northern Auckland and coastal Bay of Plenty. Soils were wetter than normal about eastern Southland and Otago, the Southern Lakes, northern Canterbury and Whanganui.
Sunshine	A very sunny month for Northland, Gisborne, Hawke's Bay and mid-Canterbury (well above normal sunshine totals, more than 125% of October normal). Above normal sunshine (110-125 percent of normal October sunshine) throughout central parts of the North Island, Bay of Plenty and northern Auckland. Below normal sunshine (75-90 percent of normal October sunshine) for the northwest and southwest of the South Island.

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Overview

October 2013 was characterised by mean sea level pressure anomalies that were strongly negative around the New Zealand region, particularly in the south-western sector. These regional pressure patterns resulted in frequent west to south-west flows across New Zealand. These flows resulted in considerable October rainfall totals along and west of the Southern Alps, and frequent episodes of warm air temperatures to the east of the Southern Alps due to the foehn effect.

Considerable variations in rainfall anomalies were observed across the country. Well below normal rainfall (less than 50 percent of October normal) was recorded throughout Northland, Auckland and Gisborne. Rainfall was either well below normal or below normal (50-79 percent of October normal) in Waikato (with the exception of the southwest of the region), Bay of Plenty and Hawke's Bay. Below normal rainfall was also recorded in coastal mid-Canterbury and north-eastern Marlborough. In contrast, well above normal rainfall (more than 150 percent of October normal) occurred near and west of the Southern Alps, and in south-western parts of Southland, eastern Central Otago and northwest Tasman. Rainfall was generally above normal (120-149 percent of October normal) for the remainder of New Zealand, with the exception of rather limited areas including Dunedin, the Canterbury Plains, Marlborough and parts of the south-western North Island where near normal rainfall (within 20 percent of October normal) was recorded. As at 1 November 2013, soils were drier than normal in north-eastern parts of New Zealand, especially about Northland, northern Auckland and coastal Bay of Plenty. In contrast, soils were wetter than normal about eastern Southland and Otago, the Southern Lakes, northern Canterbury and Whanganui. Soil moisture levels were mostly near normal for the remainder of the country.

Near average temperatures (within 0.5°C of October average) were recorded in western and southern parts of Southland and Otago, the Canterbury High Country, Westland, northwest Tasman, northern Taranaki, and northern parts of Waikato, Auckland and Northland. Above average temperatures (0.5-1.2°C above October average) occurred throughout most remaining areas of New Zealand, with well above average temperatures (more than 1.2°C above October average) recorded in parts of Hawke's Bay and north Canterbury near Kaikoura. The nation-wide average temperature in October 2013 was 12.9°C, (0.8°C above the 1971-2000 October average from NIWA's seven-station temperature series which begins in 1909).

October was a very sunny month for Northland, Gisborne, Hawke's Bay and mid-Canterbury (well above normal sunshine totals, more than 125% of October normal). Above normal sunshine (110-125 percent of normal October sunshine) occurred throughout central parts of the North Island, Bay of Plenty and northern Auckland. Below normal sunshine (75-90 percent of normal October sunshine) was recorded for the northwest and southwest of the South Island. Sunshine was near normal elsewhere (within 10 percent of normal October sunshine).

Further Highlights:

- The highest temperature was 28.9 °C, recorded at Christchurch (Riccarton) on 24 October.
- The lowest temperature was -4.9°C, observed at Takahe Valley (Southland) on 27 October.
- The highest 1-day rainfall was 247 mm, recorded at Milford Sound, on 21 October.
- The highest wind gust was 167 km/hr, at Mt Kaukau (Wellington) on 14 October.

- In October 2013, Auckland was the warmest, Christchurch was the coolest, Tauranga was the driest and sunniest, and Wellington was the wettest and cloudiest of the six main centres.
- Of the available, regularly reporting sunshine observation sites, the sunniest four centres so far in 2013 (January to October) are: Whakatane (2246 hours), New Plymouth (2099 hours), Tauranga (2023 hours) and Waipawa (1967 hours).

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Rainfall: Very dry October for the north and east of the North Island. Wet month most remaining areas of the country.

Considerable variances in rainfall totals for October were observed across New Zealand. It was a very wet month for many western and southern parts of the South Island, and a very dry month for northern parts of the North Island. It was the wettest October on record for Invercargill, whilst persistent westerly airflows (and the associated orographic effect) dumped huge rainfall totals along and west of the Southern Alps. Milford Sound and Arthurs Pass recorded in excess of 1000 mm of rain in October, with Milford Sound exceeding the average annual rainfall of Auckland. In stark contrast, record or near-record low rainfall totals for October were recorded throughout the upper North Island. This lack of rainfall was reflected in the drier than normal soil moisture levels observed in these areas at 1 November 2013.

Record¹ or near-record October rainfall totals were recorded at:

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
Milford Sound	1295	202	1929	2nd-highest
Mt Cook	918	221	1928	4th-highest
Ranfurly	88	240	1943	3rd-highest
Lumsden	114	147	1982	4th-highest
Invercargill	180	189	1900	Highest
Tiwai Point	188	196	1970	2nd-highest
South West Cape	173	163	1991	2nd-highest
Campbell Island	180	154	1992	Highest

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.

Low records or near-records				
Cape Reinga	12	20	1919	2nd-lowest
Kaitaia	34	34	1985	2nd-lowest
Kerikeri	27	21	1981	2nd-lowest
Kaikohe	36	36	1956	4th-lowest
Dargaville	25	29	1943	3rd-lowest
Whangarei	24	29	1937	Equal 3rd-lowest
Leigh	24	29	1966	4th-lowest
Toenepi	11	12	1951	Lowest
Tauranga	15	17	1898	3rd-lowest
Te Puke	28	20	1973	2nd-lowest
Whakatane	24	24	1952	2nd-lowest
Dannevirke	18	17	1951	2nd-lowest
Mahia	20	26	1990	4th-lowest

Temperature: A warm month for eastern areas of the North Island and South Island. Near average or above average temperatures for most of New Zealand.

The predominant westerly airflow and resultant foehn effect during October gave rise to a warm month for many eastern areas of the North Island and South Island. This was particularly reflected in the mean maximum air temperatures, which were more than 2.0°C above average in a number of locations. It was an especially warm month for Gisborne and Hastings, where respective mean air temperatures were well above their October average.

The nation-wide average temperature in October 2013 was 12.9°C, (0.8°C above the 1971-2000 August average) from NIWA's seven-station temperature series which begins in 1909.

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Dargaville	15.7	1.4	1943	3rd-highest
Tauranga	15.3	1.2	1913	4th-highest
Te Puke	14.4	1.1	1973	4th-highest
Motu	11.9	1.7	1990	2nd-highest
Masterton	13.6	1.5	1992	2nd-highest
Waione	14.2	0.8	1991	4th-highest
Ngawi	14.8	1.1	1972	3rd-highest
Gisborne	15.7	2.0	1905	3rd-highest
Hastings	15.0	2.3	1965	4th-highest
Waipawa	13.5	1.3	1945	2nd-highest
Wairoa, North Clyde	15.7	1.8	1964	3rd-highest
Mahia	14.8	1.5	1990	2nd-highest

Farewell Spit	13.8	0.7	1971	4th-highest
Nelson	13.4	1.0	1943	3rd-highest
Kaikoura	13.4	1.7	1963	3rd-highest
Waiau School	13.0	1.7	1974	3rd-highest
Cheviot	12.6	1.3	1982	2nd-highest
Waipara West	13.3	1.2	1973	4th-highest
Le Bons Bay	11.7	1.2	1984	4th-highest
Ranfurly	9.9	0.8	1975	4th-highest
Nugget Point	11.1	1.2	1970	2nd-highest

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
High records or near-records				
Kerikeri	20.3	1.3	1981	2nd-highest
Kaikohe	18.4	1.5	1973	Highest
Whangarei	20.9	2.2	1967	Highest
Whangaparaoa	18.9	1.1	1982	2nd-highest
Tauranga	20.3	2.2	1913	Highest
Te Puke	20.0	1.8	1973	Highest
Whakatane	19.9	1.6	1974	2nd-highest
Motu	18.1	3.5	1990	Highest
Auckland (Mangere)	18.9	1.3	1959	Equal 4th-highest
Hamilton	20.1	2.1	1906	Highest
Turangi	17.4	1.2	1968	3rd-highest
Masterton	19.2	1.2	1992	3rd-highest
Dannevirke	18.1	1.7	1951	2nd-highest
Ngawi	17.9	1.1	1972	3rd-highest
Gisborne	21.3	2.3	1905	3rd-highest
Hastings	20.7	2.5	1965	3rd-highest
Waipawa	19.6	2.0	1945	3rd-highest
Wairoa, North Clyde	21.7	2.9	1964	2nd-highest
Mahia	18.5	2.1	1990	2nd-highest
Kaikoura	17.7	2.4	1963	3rd-highest
Waiau School	19.6	2.1	1974	3rd-highest
Cheviot	18.8	1.7	1982	3rd-highest
Le Bons Bay	15.5	1.6	1984	3rd-highest
Dunedin Airport	17.6	1.4	1962	4th-highest
Nugget Point	15.3	1.9	1970	Highest

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
High records or near-records				
Dargaville	11.8	0.7	1943	4th-highest
Masterton	8.1	1.9	1992	3rd-highest
Waione	9.5	0.9	1991	3rd-highest
Ngawi	11.7	1.2	1972	2nd-highest
Mahia	11.1	1.0	1990	3rd-highest
Stratford	8.1	1.4	1960	4th-highest
Wanganui	10.9	1.3	1937	4th-highest
Farewell Spit	10.9	1.3	1971	3rd-highest
Culverden	6.7	1.6	1928	4th-highest
Cheviot	6.4	0.9	1982	3rd-highest
South West Cape	7.5	0.6	1991	4th-highest
Low records or near-records				
Kaitaia	9.5	-1.0	1985	3rd-lowest

Sunshine: Very sunny for the north and east of the North Island. Below normal sunshine for the northwest and southwest of the South Island.

Sunshine hours for October were above normal across many northern and eastern parts of the North Island. Kaitaia and Dargaville observed their highest total October sunshine hours on record. Persistent westerlies contributed to cloudiness along and west of the Southern Alps, and below normal sunshine hours were observed throughout these areas.

Record or near-record October sunshine hours were recorded at:

Location	Sunshine hours	Percentage of normal	Year records began	Comments
High records or near-records				
Kaitaia	248	129	1985	Highest
Dargaville	229	130	1943	Highest
Auckland, Mangere	218	124	1963	4th-highest
Gisborne	265	121	1905	4th-highest
Cheviot	233	126	1983	3rd-highest
Low records or near-records				
Hokitika	98	58	1912	2nd-lowest
Mt Cook	91	60	1930	2nd-lowest

October climate in the six main centres

It was a warm, dry and sunny October for Auckland and Tauranga. Auckland recorded its fourth sunniest October on record, whilst Tauranga recorded its fourth warmest October and third driest October on record. Mean air temperatures were at least above average throughout the main centres, with the exception of Hamilton where the mean air temperature for October was near average. Rainfall varied considerably between the main centres, with Wellington recording ten times more October rainfall than was recorded in Tauranga. Sunshine hours were above normal in Auckland and Tauranga, and near normal at the remaining four main centres.

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

October 2013 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland ^a	15.5	1.1	Above average
Tauranga ^b	15.3	1.2	4th warmest October on record
Hamilton ^c	13.1	0.1	Near average
Wellington ^d	12.7	0.7	Above average
Christchurch ^e	11.9	0.5	Above average
Dunedin ^f	12.1	1.2	Well above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland ^a	28	31%	Well below normal
Tauranga ^b	15	17%	3rd driest October on record
Hamilton ^c	58	59%	Below normal
Wellington ^d	155	133%	Above normal
Christchurch ^e	57	116%	Near normal
Dunedin ^f	60	98%	Near normal
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland ^a	218	124%	4th sunniest October on record
Tauranga ^b	259	122%	Above normal
Hamilton ^g	182	102%	Near normal
Wellington ^d	175	91%	Near normal
Christchurch ^e	214	105%	Near normal
Dunedin ^f	176	105%	Near normal

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

Highlights and extreme events

Wind

October was a windy month, with windier than average conditions experienced across all of New Zealand (see table below). The flow was dominated by anomalous westerly pressure gradients with several vigorous and damaging storms affecting much of the country.

Percentage of days in October with wind gusts exceeding 60 km/hr at selected airports

Location	1995-2013 average	2013	2013 rank (since 1995)	Highest recorded since 1995 (year)
Auckland	18%	23%	Equal 4th-highest	36% (1998)
Wellington	54%	65%	Equal 5th-highest	74% (1998)
Christchurch	18%	26%	Equal 3rd-highest	39% (2007)
Invercargill	37%	50%	Equal 5th-highest	65% (2012)

On 2 October, motorcyclists and drivers of high sided vehicles were warned to take extra care on SH 1 (Milton to Gore), SH8 (Milton to Raes Junction) and SH 90 (Raes Junction to Gore) due to high winds.

On 8 October, motorcyclists and drivers of high sided vehicles were warned to take extra care on SH 1 at the Desert Road due to high winds. In the early evening, a damaging downburst of wind in the Auckland suburb of Devonport flattened a number of trees, lifted roofs, and briefly knocked out electricity.

On 9 October, strong southerly winds in Wellington resulted in the cancellation of flights, and the East by West ferry service between Days Bay and central Wellington. In addition, the Fire Service was called out to a blown in window in Island Bay.

On 14 October, damaging winds were experienced throughout New Zealand. In Wellington, at least 40 flights were cancelled, whilst power was cut to hundreds of homes and uprooted trees were reported. Further north, power outages had occurred in Bulls, Kimbolton and parts of Dannevirke, mostly as a result of trees falling on power lines. Wairarapa Police warned motorists to be wary of “extreme” wind gusts in the Mt Bruce area, where a truck had been blown over. SH 1 at the Rimutaka Hill was closed due to strong winds, with 140 km/hr gusts reported there. Caution was advised to motorcyclists and drivers of high sided vehicles on SH 1 at the Desert Road, SH 73 from Springfield to Arthurs Pass and SH 7 from Hanmer turnoff to Springs Junction due to strong winds. In Canterbury, strong winds brought down trees, with trees falling on power lines causing a loss of power for more than 2000 homes in areas including Geraldine and Temuka. A number of controlled burn offs had reignited, and a small plantation fire on Orari Estate Road was triggered by downed powerlines. In Marlborough, downed trees were reported in Blenheim, and had caused traffic delays on SH 6 near Long Valley Road. Downed trees on powerlines and lifting roofs were reported throughout the Nelson region.

On 15 October, strong winds in Auckland cancelled flights, brought down powerlines in South Auckland, and caused minor damage to numerous buildings across the city.

On 16 October, motorcyclists and drivers of high sided vehicles were warned to take extra care on SH 1 at the Desert Road due to high winds.

On 18 October, caution was advised to motorists because of high winds on SH 73 from Springfield to Otira (including Porters Pass and Arthurs Pass), SH 7 from Hanmer Turnoff to Springs Junction and SH 2 from Upper Hutt to Featherston (Rimutaka Hill).

On 22 October, motorcyclists and drivers of high sided vehicles were warned to take extra care on SH 1 at the Desert Road and SH 2 at Rimutaka Hill due to high winds.

On 24 October, strong winds in Wellington forced the diversion and cancellation of a couple of flights, and late-afternoon East by West Ferries sailings were cancelled. Motorcyclists and drivers of high sided vehicles were warned to take extra care because of high winds on SH 1 at the Desert Road, SH 2 at Rimutaka Hill, SH 1 from Ward to Hapuku, SH 7 from Hanmer Turnoff to Springs Junction (Lewis Pass) and SH 87 from Middlemarch to Kyeburn. Most of these warnings remained in place on 25 October, when a similar warning for SH 2 at Mt Bruce was issued.

On 25 October, further flights in and out of Wellington were diverted, delayed or cancelled. Further north, strong winds downed powerlines which sparked a fire across 4 hectares of farmland near Masterton.

On 26 October, strong winds knocked trees into power lines, leaving a number of communities in Canterbury temporarily without electricity. Customers in Bishopdale, Courtenay, Halkett, Harewood, Ellesmere, Lincoln, Lincoln University, Rolleston, Springston, Springston south, Weedons, West Melton and Yaldhursts were all without power. Police warned members of the public avoid McLeans Island Road in Christchurch due to fallen trees, and urged motorists to take care while travelling on Johns Road for the same reason. Caution was advised to motorists along the entire length of SH 1 in Canterbury due to high winds. A provincial rugby final in Ashburton was also struck by the strong winds. Comically, a kick-off was blown back beyond the kicking teams own in-goal area. Further north, motorists were warned of high winds on SH 2 at Rimutaka Hill. The Waimakariri District Council closed the Southbrook Transfer Station for safety reasons because of high winds.

On 31 October, motorcyclists and drivers of high sided vehicles were warned to take extra care on SH 1 at the Desert Road and SH 2 at Rimutaka Hill due to high winds. As a result of strong winds, four flights were cancelled at Wellington Airport, whilst two further flights were forced to pull out of their first landing attempt, each landing successfully on their second attempt respectively.

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

Location	Extreme wind gust (km/hr)	Date of extreme gust	Year records began	Comments
Cape Reinga	124	11th	1974	Equal 4th-highest
Kaitaia	95	11th	1972	4th-highest
Paeroa	96	15th	1991	2nd-highest
Motu	102	15th	1991	2nd-highest
Auckland (Mangere)	100	15th	1971	Equal 2nd-highest

Pukekohe	76	11th	1986	3rd-highest
Palmerston North	96	14th	1991	Equal 2nd-highest
Wellington Airport	126	14th	1972	Equal 3rd-highest
Wanganui	95	9th	1977	Equal 2nd-highest
Puysegur Point	154	2nd	1986	3rd-highest
Nelson	91	14th	1972	Equal 4th-highest
Blenheim Airport	93	14th	1972	3rd-highest
Timaru Airport	98	14th	1972	4th-highest

Rain and slips

On 2 October, heavy rain resulted in further movement of a slip on SH 6 at Diana Falls near Haast Pass. The road was closed between Makarora and Haast.

On 14 October, SH 6 from the Gates of Haast to Haast Pass was closed due to heavy rain causing further slips. Caution was advised to motorists travelling on SH6 from Haast to Harihari and on SH 73 from Arthurs Pass to Kumara due to surface flooding.

On 15 October, traffic delays were caused by a slip across one lane of SH 2 at the Rimutaka Hill, whilst the Turakina Valley Road in Manawatu was closed due to numerous slips. Surface flooding resulting from persistent rain was reported across many parts of the North Island, including Palmerston North, Fielding and Ohakune.

On 15 and 16 October, 100 houses and 50 businesses in Whanganui were evacuated as the Whanganui River burst its banks. A local state of emergency was declared by the Whanganui Mayor, and floodwaters were considered contaminated due to sewerage system overflows in some places. Residents of the small Turakina Beach settlement were isolated by 3 metre deep floodwaters which closed the only road out of the township. Flooding and slips affected numerous roads in the western North Island. SH 56 at Opiki and SH 43 at Tangarakau Gorge were closed, whilst motorists were warned to be cautious and expect delays on SH 4 from Raetihi to Whanganui, SH 3 from Uruti Valley to Mount Messenger, and SH 3 at Whangaehu Bridge. In Fiordland, the managers of Gunn's Camp and a whitebaiter were isolated by a major slip on the Lower Hollyford Road.

On 18 October, rockfalls closed SH 6 from the Gates of Haast to Haast Pass.

On 22 October, SH 43 from Stratford to Taumarunui was reduced to a single lane in places due to a slip.

On 24 October, caution was required on SH 73 from Arthurs Pass to Kumara Junction due to surface flooding.

On 25 October, SH 7 from Reefton to Greymouth was closed due to a slip, and SH 73 from Arthurs Pass to Jaksons was closed because of flooding.

On 26 October, the flooded Inangahua River eroded the old Reefton landfill that was closed in 2004. Waste including old rubbish bags and bottles were washed out.

Heavy rain on 31 October caused a slip onto SH 2 on the Featherston side of Rimutaka Hill. Waterfall Rd in Raumati South was closed to all except local residents due to a slip. Block Road and the

Riverbank Carpark in Melling (Lower Hutt) were closed due to the risk of flooding from the rising Hutt River.

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
Martinborough	54	11th	1924	3rd-highest
Ohakune	61	14th	1961	3rd-highest
Motueka	91	8th	1956	3rd-highest
Waipara West	35	8th	1973	3rd-highest
Ranfurly	30	14th	1943	3rd-highest
Lumsden	32	14th	1982	4th-highest
Invercargill	40	14th	1939	4th-highest
Tiwai Point	36	21st	1970	4th-highest

Temperatures

The highest temperature was 28.9 °C, recorded at Christchurch (Riccarton) on 24 October.

The lowest temperature was -4.9°C, observed at Takahe Valley (Southland) on 27 October.

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
High records or near-records				
Kerikeri	23.6	23rd	1981	Equal 4th-highest
Whangarei	25.0	25th	1967	2nd-highest
Leigh	24.4	5th	1966	2nd-highest
Whangaparaoa	22.3	25th	1982	Equal 2nd-highest
Motu	24.0	4th	1990	2nd-highest
Auckland Airport	23.0	25th	1959	3rd-highest
Wairoa, North Clyde	28.2	21st	1964	4th-highest
Mahia	23.8	15th	1990	4th-highest
Kaikoura	27.4	14th	1963	2nd-highest
Cheviot	25.6	2nd	1982	3rd-highest
Christchurch (Riccarton)	28.9	24th	1863	4th-highest
Gore	23.7	24th	1971	3rd-highest
Low records or near-records				
New Plymouth	10.9	9th	1944	Equal 4th-lowest

Hawera	9.9	9th	1977	Equal 2nd-lowest
Greymouth	9.7	8th	1972	3rd-lowest
Cape Campbell	9.0	9th	1972	3rd-lowest
Hanmer Forest	4.7	9th	1972	4th-lowest
Arthurs Pass	0.9	8th	1973	2nd-lowest
Cheviot	7.7	8th	1982	3rd-lowest
Winchmore	6.0	8th	1928	2nd-lowest
Ashburton	6.2	8th	1928	3rd-lowest
Waipara West	6.8	8th	1973	2nd-lowest
Christchurch Airport	7.0	8th	1863	Equal 4th-lowest
Lincoln	6.8	8th	1881	Equal 2nd-lowest
Le Bons Bay	5.2	8th	1984	Lowest
Orari Estate	6.6	8th	1972	2nd-lowest
South West Cape	6.8	27th	1991	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
High records or near-records				
Whitianga	16.1	24th	1971	Equal 3rd-highest
Port Taharoa	15.4	25th	1974	Equal 4th-highest
Masterton	14.9	25th	1992	4th-highest
Takapau Plains	14.6	25th	1972	Equal 3rd-highest
Paraparaumu	14.6	25th	1972	Equal 4th-highest
Takaka	14.1	25th	1978	Equal 4th-highest
Farewell Spit	14.5	25th	1972	2nd-highest
Reefton	13.8	4th	1972	Equal 2nd-highest
Milford Sound	15.8	24th	1935	Highest
Blenheim	15.9	25th	1972	Equal 3rd-highest
Kaikoura	14.8	27th	1972	Highest
Waiau School	15.9	22nd	1974	4th-highest
Cheviot	14.7	22nd	1982	4th-highest
Manapouri	12.5	2nd	1973	3rd-highest
Invercargill	16.0	2nd	1905	Highest
South West Cape	12	2nd	1991	Equal highest
Low records or near-records				
Christchurch Airport	-4.0	10th	1863	3rd-lowest
Orari Estate	-2.1	10th	1972	Equal 2nd-lowest
Timaru	-3.2	10th	1885	Equal 3rd-lowest

Snow and ice

On the morning of 8 October, SH 73 between Springfield and Otira (including Porters Pass and Arthurs Pass) was closed to towing vehicles due to snow, and chains were essential for all other vehicles. Later in the day, SH 73 from Springfield to Arthurs Pass was closed to all vehicles because of snow. On 9 October, snow was reported to have fallen and settled in many areas of Canterbury, including Methven, Darfield and Hanmer Springs.

On 15 October, SH 94 from Te Anau to Milford Sound (the Milford Road) was closed due to snow.

On 25 October, motorists were cautioned to carry chains on SH 94 from Te Anau to Milford Sound because of snow.

On 26 October, SH 94 from Te Anau to Milford Sound was closed because of snow.

On 27 October, the Milford Road remained closed because of snow. Snow showers fell to lake level in Queenstown throughout the day, and snow was reported to have fallen to between 100 m and 200 m above sea level in Southland in the late evening. No substantial amounts of snow accumulated at low elevations of Southland and Otago, but considerable accumulations occurred in the mountains, especially the more southerly and westerly ranges.

Lightning and hail

On 14 October, 5000 lightning strikes were recorded between 10 a.m. and noon. Most lightning occurred on the West Coast. However, lightning strikes occurring east of the Southern Alps resulted in dangerous conditions which hampered efforts to repair damaged powerlines (brought down by falling trees in strong winds). A tree in Winscombe (near Fairlie, Canterbury) caught fire when struck by lightning.

For further information, please contact:

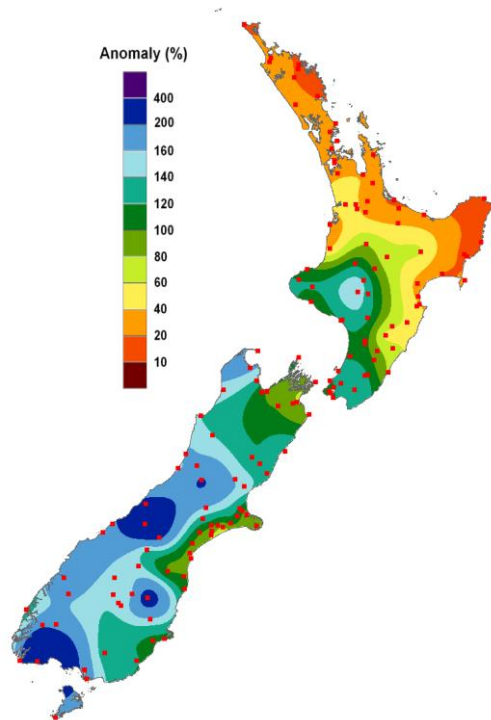
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October 2013 rainfall totals, expressed as a percentage of normal (%).

This map highlights the considerable discrepancy in rainfall anomalies observed across New Zealand. Dark blue colour indicates that rainfall was 200-400% of the October normal in parts of Southland, Central Otago and Westland. Orange colours indicates that rainfall was just 10-40% of the October normal for northern and north-eastern parts of the North Island. Low October rainfall in the upper North Island is also reflected in soil moisture levels, which were below normal in these areas as at 1 November 2013.

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