

National Climate Summary – October 2011: Wet and cloudy for many regions; easterlies prevail

- **Rainfall: Very wet in the north and west of the North Island, and the north and east of the South Island. Very dry in Gisborne. Below normal rainfall in the Wairarapa, and across the west and south of the South Island.**
- **Temperatures: Above average on the West Coast, and northern half of the North Island. Below average for the eastern South Island. Near average elsewhere.**
- **Sunshine: Extremely cloudy from Taranaki to Wellington, Marlborough and Canterbury, and cloudier than normal in most other regions. Sunny for Invercargill and Balclutha.**
- **Soil moisture: Drier than usual for the eastern North Island. Wetter than usual in the north and east of the South Island.**

October 2011 was characterised by periods of northeasterly winds over New Zealand. Higher pressures than normal were observed south of the country, with lower pressures than normal over the north Tasman Sea. The easterly events produced a wet and cloudy month for many regions, and a cooler October for the east coast of the South Island. In comparison, it was unusually warm, sunny and dry along the West Coast.

October 2011 rainfall totals were above normal or well above normal (exceeding 120 percent of October normal) across much of the north and west of the North Island, as well as the north and east of the South Island. Rainfall totals were extremely high (with totals exceeding 200 percent of normal) in parts of: Bay of Plenty, Nelson, Canterbury, the Lakes District and Central Otago. In marked contrast, it was a very dry month in Gisborne (with less than 50 percent of normal rainfall), and it was drier than normal in parts of the Wairarapa and across the west and south of the South Island (with totals less than 80 percent of normal). Soils remain drier than usual for the time of year in the eastern North Island, but are wetter than usual in the north and east of the South Island.

October 2011 was rather cloudy, with many regions of the country experiencing below normal sunshine hours (between 75 and 90 percent of October normal). In particular, Taranaki to Wellington, Marlborough and Canterbury experienced extremely low sunshine totals (generally less than 75 percent of normal). It was the cloudiest October on record for the Hutt Valley, and Christchurch, since records began at those sites in the 1930s. In contrast, it was sunnier than normal for Invercargill and Balclutha. Across the southwest of the South Island, including along the West Coast of the South Island, as well as in Northland, Auckland, and parts of the Bay of Plenty, sunshine hours were close to normal.

Mean temperatures in October were above average (between 0.5°C and 1.2°C above October average) across much of the northern North Island, as well as along the West Coast. In contrast, temperatures were below average (between 0.5°C and 1.2°C below average) for much of the eastern South Island. Elsewhere, temperatures were close to average (within 0.5°C of October average). The average temperature in October 2011 was 12.4°C (0.3°C above the 1971–2000 October average) using NIWA's seven-station temperature series which begins in 1909.

Further Highlights:

- The highest temperature was 26.8°C, observed at Motueka on 21 October (2nd highest for October at this site).
- The lowest temperature was -5.0°C, at Tara Hills on 9 October (4th lowest for October at this site).
- The highest 1-day rainfall experienced was 166 mm at North Egmont on 3 October.
- The highest gust recorded was 183 km/hr at Southwest Cape, Stewart Island, on 24 October.
- Of the six main centres in October 2011, Auckland was the warmest, Tauranga the sunniest, Hamilton the wettest, and Dunedin the driest and coolest.

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RAINFALL: VERY WET IN THE NORTH AND WEST OF THE NORTH ISLAND, AND THE NORTH AND EAST OF THE SOUTH ISLAND. VERY DRY IN GISBORNE, PARTS OF WAIRARAPA, AND ALONG THE WEST AND SOUTH OF THE SOUTH ISLAND.

October rainfall was above normal or well above normal (exceeding 120 percent of October normal) across much of the north and west of the North Island, as well as the north and east of the South Island. Rainfall totals were extremely high (with totals exceeding 200 percent of October normal) in parts of: Bay of Plenty, Nelson, Canterbury, the Lakes District and Central Otago. In marked contrast, it was a very dry month in Gisborne with less than half of October normal rainfall recorded, and it was drier than normal in parts of the Wairarapa, and across the entire west and south of the South Island (with totals less than 80 percent of October normal).

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
Lake Tekapo	125	220	1925	3rd-highest
Tara Hills	99	206	1949	3rd-highest
Cromwell	67	171	1949	4th-highest
Milford Sound	205	30	1929	3rd-lowest
Balclutha	30	44	1964	4th-lowest

SUNSHINE: EXTREMELY CLOUDY TARANAKI TO WELLINGTON, MARLBOROUGH AND CANTERBURY. NEAR NORMAL OCTOBER SUNSHINE FOR THE SOUTHWEST SOUTH ISLAND, AS WELL AS NORTHLAND, AUCKLAND, BAY OF PLENTY. RATHER SUNNY FOR INVERCARGILL AND BALCLUTHA. BELOW NORMAL SUNSHINE HOURS ELSEWHERE.

October 2011 was rather cloudy, with many regions of the country experiencing below normal sunshine hours (between 75 and 90 percent of October normal). In particular, Taranaki to Wellington, Marlborough and Canterbury experienced extremely low sunshine totals (generally less than 75 percent of normal). It was the cloudiest October on record for the Hutt Valley, and Christchurch, since records began at those sites in the 1930s. In contrast, it was rather sunny for Invercargill and Balclutha. Across the southwest of the South Island, including along the West Coast, as well as in Northland, Auckland, and parts of the Bay of Plenty, sunshine hours were close to normal.

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

Location	Sunshine (hours)	Percentage Of normal	Year records began	Comments
Balclutha	212	135	1964	4th-highest
New Plymouth	153	80	1972	2nd-lowest
Martinborough	145	77	1986	3rd-lowest
Wellington	127	66	1928	3rd-lowest
Wallaceville	97	57	1939	Lowest
Stratford	113	66	1963	2nd-lowest
Blenheim	166	74	1947	2nd-lowest
Cheviot	159	84	1983	2nd-lowest
Christchurch	141	71	1930	Lowest

TEMPERATURE: ABOVE AVERAGE NORTH OF TAUPO, AND ALONG THE WEST COAST. BELOW AVERAGE FOR THE EASTERN SOUTH ISLAND. NEAR AVERAGE ELSEWHERE.

Mean temperatures in October were above average (between 0.5°C and 1.2°C above October average) across much of the North Island north of about Taupo, as well as along the West Coast. In contrast, temperatures were below average (between 0.5°C and 1.2°C below average) for much of the eastern South Island (North Otago, Canterbury, and the Kaikoura coast). Elsewhere, temperatures were close to average (within 0.5°C of October average).

The average temperature in October was 12.4°C (0.3°C above the 1971–2000 October average) using NIWA’s seven-station temperature series which begins in 1909¹.

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

Location	Mean minimum air temperature (°C)	Departure from normal (°C)	Year records began	Comments
Kerikeri	11.0	1.6	1981	3rd-highest
Kaikohe	11.6	1.7	1973	2nd-highest
Dargaville	11.8	1.5	1943	3rd-highest
Whangarei	11.9	1.2	1967	4th-highest
Whenuapai	10.9	1.6	1945	4th-highest
Te Puke	10.0	1.5	1973	4th-highest
Ohakune	7.1	1.9	1962	2nd-highest
Cheviot	5.9	0.3	1982	4th-highest
Lumsden	3.0	-1.8	1982	Lowest

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

Location	Mean maximum air temperature (°C)	Departure from normal (°C)	Year records began	Comments
Kaitaia	18.9	0.3	1985	4th-highest
Kaikohe	18.2	1.4	1973	2nd-highest
Leigh	19.4	1.9	1966	Highest
Whangaparaoa	18.3	1.5	1982	4th-highest
Port Taharoa	18.7	1.4	1973	2nd-highest
Ohakune	16.0	1.7	1962	3rd-highest
Lake Rotoiti	15.6	1.4	1965	4th-highest
Milford Sound	16.1	1.7	1934	4th-highest
Cape Campbell	13.9	-2.9	1953	3rd-lowest
Cheviot	16.2	-0.9	1982	4th-lowest
Orari	14.4	-2.3	1972	4th-lowest

¹ Interim monthly value.

OCTOBER CLIMATE IN THE SIX MAIN CENTRES

All of the six main centres experienced a wetter than normal October with extremely cloudy conditions also common for all centres except Dunedin). Of the six main centres, Auckland was the warmest, Tauranga the sunniest, Hamilton the wettest, and Dunedin the driest and coolest.

October 2011 main centre climate statistics:

Location	Mean temp. (°C)	Departure from normal (°C)		Rainfall (mm)	% of normal		Sunshine (hours)	% of normal	
Auckland ^a	15.1	0.6	Above average	120	139%	Above normal	167	93%	Near normal
Tauranga ^b	15.0	1.2	Well above average	134	149%	Above normal	170	85%	Below normal
Hamilton ^c	13.8	0.9	Above average	149	156%	Well above normal	145 ^g	82%*	Below normal
Wellington ^d	12.2	0.2	Near average	145	126%	Above normal	127	66%	3rd lowest for October since 1928
Christchurch ^e	11.3	-0.4	Near average	91	187%	Well above normal	141	71%	Lowest for October since 1930
Dunedin ^f	10.9	-0.1	Near average	89	125%	Above normal	169	116%	Above normal

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

*One day of missing data in the month

HIGHLIGHTS AND EXTREME EVENTS

• Rain and slips

The highest 1-day rainfall experienced in October 2011 was 166 mm recorded at North Egmont on the 3rd. On this date, record high October rainfall was also observed at New Plymouth and Stratford, with the entire Taranaki region affected by a strong, moist, northeasterly airstream. Embedded in this north-easterly flow were numerous thunderstorms, which caused an estimated 20,000 lightning strikes to western North Island areas that day.

On 2 October, heavy rain caused the cancellation of the Big Tahuna festival in Nelson.

On 3 October, heavy rain caused the cancellation of planned outdoor performances in the Nelson Arts Festival. Some roads in Matai Valley were closed by flooding. Nelson Council closed Waimea Inlet and Nelson Haven to shellfish collection and swimming, partly because of the high storm-water run-off. Farmers in Bay of Plenty were warned to shift stock to high ground after very heavy rain in the region.

On 18 October, heavy rain caused surface flooding and slips in and around Dunedin, Oamaru and Temuka. October daily rainfall records were broken on the 18th for Winchmore, Timaru, Oamaru, and Dunedin. Roads closed included Three Mile Hill from Mosgiel to Dunedin, SH88 from Sawyers Bay to Port Chalmers, Portobello Road, Toko Mouth Road, near Milton, Silverstream Valley Road, SH90 from Tapanui to McNab, and SH6 north of Dipton. Downed trees blocked roads in Oamaru and Waimate. Further north, heavy rain caused another massive slip on SH3 in the Manawatu Gorge.

On 19 October, heavy rain caused flooding in Little River, with SH75 closed from Birdlings Flat to Little River. In Christchurch, the Heathcote River breached its banks in several areas, with many roads closed by flooding. SH1 north of Oamaru, was closed by flooding at Hilderthorpe, and also flooded to the south near Moeraki, where one lane was closed. In the Waitaki District, flooding closed many rural roads. In Southland, heavy rain caused rivers and streams to swell, closing roads in eastern and northern Southland, and isolating the township of Waikaia. SH90 was closed between Tapanui and McNab.

On 25 October, flooding affected SH6 between Harihari and Franz Josef.

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
Te Puke	79	11th	1973	3rd-highest
New Plymouth	102	3rd	1944	Highest
Stratford	137	3rd	1960	Highest
Nelson	85	2nd	1941	2nd-highest
Winchmore	59	18th	1927	Highest
Lake Tekapo	55	18th	1925	3rd-highest
Timaru	66	18th	1881	Highest
Oamaru	70	18th	1898	Highest
Tara Hills	43	25th	1949	Highest
Ranfurly	27	25th	1943	4th-highest
Dunedin (Musselburgh)	55	18th	1918	Highest
Lumsden	53	17th	1982	Highest
Gore	34	17th	1967	4th-highest
Invercargill	38	17th	1939	4th-highest

• **Temperatures**

The highest temperature was 26.8°C, observed at Motueka on 21 October (this is the 2nd highest recorded temperature for October at this site). The entire North Island was affected by a warm, long-fetch, northeasterly air stream originating in the sub-tropics during the 21st, and as the air was dragged over the North Island and onto the Nelson region, foehn warming occurred, producing a hot, dry afternoon in Nelson.

The lowest temperature was -5.0°C, at Tara Hills on 9 October (the 4th lowest for October there).

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

Location	Extreme maximum temperature (°C)	Date of extreme temperature	Year Records Began	Ranking
Kaitaia	22.6	30th	1985	2nd-highest
Kerikeri	24.0	21st	1981	Highest
Kaikohe	22.4	21st	1973	Highest
Leigh	23.8	21st	1966	Highest
Whakatane	25.7	21st	1975	4th-highest
Hicks Bay	22.6	21st	1969	4th-highest
Mahia	23.1	26th	1990	4th-highest
Hawera	21.2	31st	1977	3rd-highest
Wanganui	22.5	11th	1987	Equal 4th-highest
Takaka	26.1	21st	1978	Equal 2nd-highest
Haast	21.9	19th	1949	Equal 4th-highest
Milford Sound	23.8	19th	1934	Highest
Motueka	26.8	21st	1956	2nd-highest
Nelson	24.5	21st	1943	3rd-highest
Manapouri	22.3	20th	1963	4th-highest
Hanmer Forest	4.9	19th	1972	4th-lowest
Cheviot	7.5	4th	1982	2nd-lowest
Waipara West	7.7	4th	1973	4th-lowest
Le Bons Bay	6.1	4th	1984	4th-lowest
Lake Tekapo	2.9	18th	1928	4th-lowest

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

Location	Extreme minimum Temperature (°C)	Date of extreme temperature	Year records Began	Ranking
Kaikohe	15.5	12 th	1973	Equal 4th-highest
Port Taharoa	15.4	12 th	1974	4th-highest
Hokitika	13.5	31 st	1964	3rd-highest
Haast	13.2	31 st	1949	Equal 4th-highest
Martinborough	-0.8	10 th	1986	3rd-lowest
Cheviot	-2.1	9 th	1982	4th-lowest
Tara Hills	-5.0	9 th	1949	4th-lowest

• Wind

On 18 October, wind warnings were issued for SH1 from Waimate to Palmerston, SH83 from Pukeuri to Omarama, and SH87 from Outram to Kyburn. In South Canterbury, downed trees blocked roads and caused power outages.

The highest gust recorded during October 2011 was 183 km/hr observed at Southwest Cape, Stewart Island, on 24 October. On the 24th, severe winds brought down power poles and trees, smashed windows and lifted roofing iron in Central Otago, Maniototo and Southland. Power was cut to many areas, and many roads were closed, including the Ranfurly to Naseby Road, and SH6. A 15 m-long catamaran was blown from its moorings at Kelvin Grove out to the centre of Queenstown Arms, and a jet-ski was torn from a car port and dumped upside down on a veranda below. Many fires were caused by downed power lines. Further north, tourists had to be evacuated from a backpackers' hostel in Mt Cook Village, after it suffered structural damage, including the destruction of a large picture window which framed the view of Mt Cook. The mast of the NIWA climate station at Mt Cook was also destroyed, after gusts to 180km/hr were recorded.

Near-record high extreme wind gusts for October were recorded at:

Location	Extreme wind gust speed (km/hr)	Date of extreme gust	Year records began	Comments
Castlepoint	167	25th	1972	Equal 3rd-highest
Tara Hills	98	24th	1985	Equal 2nd-highest
Queenstown	109	24th	1972	2nd-highest
Lauder	119	24th	1981	2nd-highest
Gore	119	24th	1987	Highest

• Snow and ice

On 18 October, SH8 at the Lindis Pass was closed by heavy snow. Snowfall on Burkes Pass caught out several cyclists who had to be rescued and taken to Lake Tekapo. On the 19th, heavy snow fell down to about 700 m, with 80 cm settling around Lake Tekapo township.

• Lightning and hail

On both 18 and 19 October, Hawke's Bay was affected by forked lightning, affecting power supplies to the regional prison, and putting a hole into the front lawn of a property in Hastings.

On 25 October, a lightning strike hit transmission lines between Clyde and Twizel, cutting power across the Central Otago region.

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