

National Climate Summary – November 2009: An extremely dry, windy month.

- **Rainfall: Extremely dry in the northeast of the North Island, and eastern South Island. Record low rainfall in Northland, parts of Auckland, Coromandel, Bay of Plenty, Taupo, Canterbury, Otago and inland Southland.**
- **Soil moisture: Unusually low in the northeast of the North Island, especially Northland. Very low in many parts of Otago and Canterbury.**
- **Sunshine: Extremely sunny in the south of the South Island, Gisborne, Hawkes Bay, the Central Plateau. Very cloudy for Northland, Auckland, and south Canterbury.**
- **Temperature: Near average temperatures across much of the country.**

Well below normal rainfall (below 50 percent of normal) was experienced in the northeast of the North Island, and the north and east of the South Island. At several locations in Northland and Central Otago, rainfall totals were in the single figures (less than 10 mm), and broke long-standing low-rainfall records for November. Record or near-record low rainfall was also observed in parts of Auckland and the Coromandel, and in the Bay of Plenty, Taupo, and Central Plateau regions. In the South Island, extremely low rainfall was experienced in Canterbury, Otago, the Lakes District, and inland Southland. In contrast, it was a wet month (more than 120% of normal November rainfall) in the Manawatu-Wanganui district and for coastal Southland.

Overall, November temperatures were near average (between -0.5°C and 0.5°C of average) across most of New Zealand. The New Zealand national average temperature for November was 13.6°C (0.1°C below the long-term November average).

November sunshine totals were well above normal (more than 125 percent of normal) over the south of the South Island. It was also a sunny month in Gisborne, Hawkes Bay, Taupo, the central Plateau, and the eastern Bay of Plenty, with sunshine totals between 110 and 125 percent of normal in those regions. In contrast, it was a rather cloudy month in Northland, Auckland, and south Canterbury.

It was an extremely windy month. During November 2009, stronger than normal southwest winds affected New Zealand, caused by much deeper lows than usual south of the South Island.

Further Highlights:

- The highest temperature was 32.1°C recorded at Whakatane on the 24th (a November record at this site). The lowest temperature of -3.2°C was recorded at Waiouru on the 12th (not a record).
- The highest 1-day rainfall was 122.3 mm, recorded at Milford Sound, on the 14th (not a record).
- The highest wind gust was 184 km/hr, recorded at Stewart Island on the 4th (a November record at this site).
- Of the six main centres, Tauranga was the warmest, driest, and sunniest, Wellington the wettest, and Christchurch the coolest.

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RAINFALL: EXTREMELY DRY IN THE NORTH AND EAST OF BOTH ISLANDS. RECORD LOW RAINFALL IN NORTHLAND, PARTS OF AUCKLAND, COROMANDEL, THE BAY OF PLENTY, TAUPO, AS WELL CANTERBURY, OTAGO, AND INLAND SOUTHLAND.

Well below normal rainfall (below 50 percent of normal) was experienced in the northeast of the North Island, and the north and east of the South Island. At several locations in Northland and Central Otago, rainfall totals were in the single figures (less than 10 mm), and broke long-standing low-rainfall records for November. Record or near-record low rainfall was also observed in parts of Auckland and the Coromandel, and in the Bay of Plenty, Taupo, and Central Plateau regions. In the South Island, record low November rainfall was experienced in Canterbury, Otago, the Lakes District, and inland Southland.

It was a wet month (more than 120% of normal November rainfall) in the Manawatu-Wanganui district and for coastal Southland.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
Kaitia	14	14	1967	Lowest
Kerikeri	9	7	1981	Lowest
Kaikohe	12	11	1956	Lowest
Dargaville	19	27	1943	4th-lowest
Whangarei	6	7	1937	Lowest
Warkworth	25	26	1966	2nd-lowest
Whangaparaoa	13	19	1946	Lowest
Kumeu (Waitakere)	20	22	1978	Lowest
Whitianga	24	21	1961	Lowest
Auckland (Airport)	22	28	1959	2nd-lowest
Paeroa	20	22	1914	3rd-lowest
Matamata	33	36	1951	3rd-lowest
Tauranga	12	14	1898	Lowest
Whakatane	12	14	1952	2nd-lowest
Rotorua	22	21	1963	Lowest
Taupo	22	28	1949	2nd-lowest
Lake Rotoiti	55	40	1933	4th-lowest
Reefton	69	39	1960	4th-lowest
Winchmore	20	37	1909	4th-lowest
Darfield	14	27	1919	3rd-lowest
Lincoln, Broadfield	10	21	1881	2nd-lowest
Lake Tekapo	6	15	1925	4th-lowest
Tara Hills	3	8	1949	Lowest
Wanaka	9	17	1927	4th-lowest
Ranfury	1	3	1943	Lowest
Dunedin (Airport)	22	40	1918	4th-lowest
Lumsden	18	24	1982	Lowest
Cromwell	6	18	1949	Lowest

TEMPERATURES: CLOSE TO AVERAGE FOR MANY AREAS; WARMER FOR COASTAL NORTHLAND, COROMANDEL, BAY OF PLENTY, NELSON, PARTS OF CANTERBURY AND OTAGO, AND THE LAKES DISTRICT

Overall, November temperatures were near average (between -0.5°C and 0.5°C of average) across most of New Zealand.

Temperatures were above average (between 0.5°C and 1.2°C above average), however, for eastern Northland, eastern Coromandel, the Bay of Plenty, Nelson, parts of Canterbury and Otago, and the Lakes District. In contrast, temperatures were below average (between 0.5°C and 1.0°C below average) on the western coast of: Northland, Auckland, Waikato, Westland, Fiordland; as well as coastal Southland. The New Zealand national average temperature for November was 13.6°C (0.1°C below the long-term November

average¹).

It was the warmest November on record for Kerikeri and Dunedin, since records began in 1981 and 1947, respectively.

Extreme November mean maximum daily air temperatures were recorded at:

Location	Mean maximum air temperature (°C)	Departure from normal (°C)	Year records began	Comments
Kerikeri	22.1	1.4	1981	Highest
Te Puke	21.0	1.3	1973	2nd-highest
Whakatane	21.2	0.5	1974	3rd-highest
Nelson	20.0	1.4	1943	3rd-highest
Dunedin (Airport)	19.0	1.5	1947	Highest
Kaitaia	17.9	-2.0	1967	2nd-lowest
Dargaville	18.0	-2.1	1943	2nd-lowest
Pukekohe	17.8	-1.5	1969	2nd-lowest
Cape Campbell	16.0	-2.4	1953	4th-lowest
Tiwai Point	13.7	-1.6	1970	3rd-lowest

Extreme November mean minimum daily air temperatures were recorded at:

Location	Mean minimum air temperature (°C)	Departure from normal (°C)	Year records began	Comments
Kumeu (Waitakere)	11.4	0.5	1978	4th-highest
Whitianga	12.5	1.3	1962	4th-highest

SUNSHINE: EXTREMELY SUNNY FOR THE SOUTH OF THE SOUTH ISLAND; RATHER CLOUDY IN NORTHLAND AND AUCKLAND

November sunshine totals were well above normal (more than 125 percent of normal) over the south of the South Island. It was also a sunny month in Gisborne, Hawkes Bay, Taupo, the central Plateau, and the eastern Bay of Plenty, with sunshine totals between 110 and 125 percent of normal in those regions. It was the sunniest November on record at Balclutha, since records began in 1964.

In contrast, it was a rather cloudy month in Northland, Auckland, and south Canterbury.

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

Location	Sunshine (hours)	Percentage Of normal	Year records began	Comments
Turangi	225	121	1976	4th-highest
Cromwell	282	129	1979	3rd-highest
Balclutha	249	146	1964	Highest
Kaitaia	160	84	1985	3rd-lowest
Dargaville	137	75	1943	3rd-lowest

¹ This is an interim 7-station New Zealand national average temperature and anomaly, as the East Taratahi Climate Station was closed on 4 November 2009.

NOVEMBER CLIMATE IN THE SIX MAIN CENTRES

It was a record dry November in Tauranga, and also extremely dry in Auckland, Christchurch and Dunedin. Monthly temperatures were below average in Auckland and Christchurch, near average in Hamilton, and Wellington, and above average in the eastern towns of Tauranga and Dunedin. Sunshine totals for November were near normal in all main centres except for Auckland (where it was rather cloudy) and Dunedin (where sunshine totals were above normal). Of the six main centres, Tauranga was the warmest, driest, and sunniest, Wellington the wettest, and Christchurch the coolest.

November 2009 main centre climate statistics:

Location	Mean temp. (°C)	Departure from normal (°C)		Rainfall (mm)	% of normal		Sunshine (hours)	% of normal	
Auckland ^a	15.4	-0.8	Below average	20	23%	Well below normal	145	76%	Below normal
Tauranga ^b	16.5	+0.9	Above average	12	14%	Record low	241	108%	Near normal
Hamilton ^c	14.3	-0.4	Near average	53	55%	Below normal	169 ^g	86%	Near normal
Wellington ^d	13.3	-0.1	Near average	71	72%	Below normal	203	96%	Near normal
Christchurch ^e	12.7	-0.8	Below average	25	55%	Well below normal	215	100%	Near normal
Dunedin ^f	12.9	+0.6	Above average	19	30%	2nd lowest since 1918	193	120%	Above normal

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

HIGHLIGHTS AND EXTREME EVENTS

• Temperature

The highest temperature was 32.1°C recorded at Whakatane on the 24th (a November record at this site).

Record or near-record warm afternoon conditions were experienced in the east of the South Island on November 21st and 23rd, in strong northwesterly events. Several North Island climate stations also recorded record high afternoon temperatures on the day after (the 24th), or on the 29th/30th of the month, also associated with strong northwesterly winds. In contrast, afternoon temperatures were extremely low on the 2nd over northern New Zealand, and on the 30th in the southeast of the South Island.

Extreme daily maximum air temperatures were recorded at:

Location	Extreme maximum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Kerikeri	26.4	30th	1981	2nd-highest
Kaikohe	24.9	27th	1973	2nd-highest
Whangarei	25.9	30th	1967	3rd-highest
Tauranga	28.6	24th	1913	Highest
Te Puke	28.8	24th	1973	Highest
Whakatane	32.1	24th	1975	Highest
Rotorua	27.3	24th	1964	Highest
Turangi	26.8	24th	1968	2nd-highest
Hastings	30.2	29th	1965	4th-highest
Wairoa, North Clyde	29.8	29th	1964	4th-highest
Farewell Spit	24.4	24th	1971	3rd-highest
Le Bons Bay	25.4	21st	1984	4th-highest
Oamaru	29.0	21st	1967	Highest

Dunedin (Airport)	31.1	23rd	1947	Highest
Queenstown	26.0	23rd	1968	Equal 4th-highest
Balclutha	27.6	23rd	1964	4th-highest
Nugget Point	27.9	23rd	1970	Highest
Kaitaia	15.0	2nd	1972	3rd-lowest
Kumeu (Waitakere)	16.2	2nd	1978	Equal 4th-lowest
Waipara West	10.2	30th	1973	Equal 4th-lowest
Oamaru	11.0	30th	1972	Equal 4th-lowest

The lowest temperature recorded in November 2009 was -3.2 °C, recorded at Waiouru on the 12th (not a November record at this site).

Minimum temperatures were extremely high on the 21st in parts of Canterbury and Otago, and in the Bay of Plenty and Northland on the 22nd, 23rd and 30th, again associated with the northwesterly wind events. November minimum temperature records were broken at Whangarei, and Gore, in records that started in 1967 and 1972, respectively.

Minimum temperatures were record low on the 7th at Warkworth (records began in 1966), and on the 16th at Dunedin (in records that started in 1947). It was also extremely cold on the 12th over the lower North Island.

Extreme low daily minimum air temperatures were recorded at:

Location	Extreme minimum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Kerikeri	17.0	23rd	1978	Equal 4th-highest
Kaikohe	17.4	23rd	1973	Equal 3rd-highest
Whangarei	19.0	30th	1967	Highest
Whakatane	17.0	22nd	1975	3rd-highest
Lake Rotoiti	12.6	24th	1972	4th-highest
Waipara West	19.4	21st	1973	2nd-highest
Darfield	17.7	21st	1954	3rd-highest
Wanaka	15.7	21st	1972	2nd-highest
Queenstown	13.0	21st	1972	3rd-highest
Lumsden	15.3	21st	1982	2nd-highest
Cromwell	17.3	21st	1949	2nd-highest
Gore	15.7	21st	1972	Highest
Warkworth	4.4	7th	1966	Lowest
Turangi	-1.7	12th	1968	3rd-lowest
New Plymouth	2.1	12th	1944	3rd-lowest
Martinborough	0.0	12th	1986	3rd-lowest
Hawera	0.7	12th	1977	Equal 3rd-lowest
Christchurch	-0.7	17th	1863	Equal 4th-lowest
Dunedin (Airport)	-0.4	16th	1947	Lowest
Balclutha	0.0	10th	1964	Equal 3rd-lowest

- **Heavy rain and flooding**

The highest 1-day rainfall was 122.3 mm, recorded at Milford Sound, on the 14th (not a November record at this site). No other extreme rainfalls were observed during the month.

- **High winds**

The highest wind gust for October was 184 km/hr, recorded at Southwest Cape (Stewart Island) on the 4th (a new November record at this site). Extreme winds were also experienced over parts of Fiordland, Southland, Central Otago and Canterbury on the 4th, where a container ship was from its moorings at the port of Lyttelton.

On 13 November, strong winds caused havoc in Canterbury, grounding helicopters, felling trees, and downing power lines.

Winds at Masterton were too strong for three original World War I planes and 17 replicas to take to the skies at the Remembrance Day World War I Air Show, on the 14th of the month.

On 15 November, gale force winds toppled the main food and wine tent at Toast Martinborough. Two more marquees were crumpled, signs were ripped from their posts, and power was knocked out at Ata Rangi vineyard.

Wind brought down trees and power lines down at Porangahau on the 26th, with gusts to 178 km/hr recorded at Castlepoint.

On the 27th, extreme winds were experienced in Central Otago and Southland. Caravans were knocked over in Canterbury on the 28th, and gusts to 130 km/hr were experienced in West Melton.

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

Location	Extreme wind gust speed (km/hr)	Date of extreme gust	Year Records Began	Comments
Castlepoint	161	4th	1972	3rd-highest
Puysegur Point (Fiordland)	145	4th	1986	2nd-highest
Tara Hills (Omarama)	87	27th	1985	Equal 4th-highest
Lauder	132	4th	1981	Equal highest
Gore	120	27th	1987	4th-highest

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