

National Climate Summary – January 2009: Very warm in the east; dry and sunny for most of country except in the south; soil moisture levels generally below normal

- Temperature: Well above average along the east coast of the South Island from Kaikoura to Mosgiel; above average for western Bay of Plenty, eastern North Island, inland Canterbury and Otago and much of Southland.
- Rainfall: Well below normal in Northland, Auckland, central North Island, Hawke's Bay, Wairarapa, Tasman, Marlborough, north and south Canterbury and central Otago; below normal for much of the rest of the country except Gisborne, Manawatu, northern Taranaki and Southland.
- Sunshine: Above average for most of New Zealand except the south of the South Island.

January temperatures were well above average (between 1.5 and 2.5°C above normal) along the east coast of the South Island from Kaikoura to Mosgiel and above average (between 0.5 and 1.5°C above normal) for western Bay of Plenty, eastern North Island, inland Canterbury and Otago and much of Southland. Temperatures in the west of the country were near normal for January. The national average temperature of 17.6°C was 0.6°C above average for January.

Rainfall was less than 50% of normal (half) for much of the country for January. The exceptions were Gisborne and Southland (received more than 125% of normal rainfall) and Manawatu and northern Taranaki (received near normal rainfall). Soil moisture levels for most North Island areas except Gisborne and northern Manawatu are below normal (by between 20 and 50 mm) as at the end of January. In the South Island, soil moisture in Tasman district, northern Westland, north and south Canterbury and south Otago is also below normal for this time of year by similar amounts.

January sunshine totals were above average (more than 110% of normal) for most of New Zealand, except in Southland and Otago where they were near or below average.

The most significant extreme weather event to impact on the country in January was when heavy rain fell in Queenstown and on the West Coast overnight on 2 January causing levels in the Haast and Callery (near Franz Josef) Rivers to rise quickly. The following day, lightning, thunder, gale force winds and large hail was experienced in many locations in Canterbury, causing the postponement of the international cricket match against the West Indies in Christchurch and briefly closing Christchurch International Airport.

The warm, dry and sunny weather for January resulted from more 'highs' (anticyclones) to the east of the country and more 'lows' (depressions) than normal in the southern Tasman Sea (a very similar pattern to December 2008). This resulted in more northerly and northeasterly winds over the country than normal, which contributed to the low rainfalls and warm temperatures over much of New Zealand.

Further Highlights:

- The highest temperature during January 2009 was 37.2°C recorded at Waione in the Wairarapa on the 8th (the highest January maximum temperature for this location). The lowest temperature during January was recorded at Hanmer Forest on the 11th, where the minimum temperature was 0.3°C.
- The highest 1-day rainfall total for January was 204 mm recorded at Milford Sound on the 6th.
- The wind gust of 130 km/hr recorded at Southwest Cape on the 21st was the highest gust for January for New Zealand.
- Of the six main centres, Tauranga was the warmest and sunniest, Dunedin was the wettest, and Christchurch was the driest.

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TEMPERATURE: VERY WARM IN THE EAST

The national average temperature of 17.6°C for January 2009 was 0.6°C above average for this time of the year. January temperatures were well above average (between 1.5 and 2.5°C above normal) along the east coast of the South Island from Kaikoura to Mosgiel and above average (between 0.5 and 1.5°C above normal) for western Bay of Plenty, eastern North Island, inland Canterbury and Otago and much of Southland. Cheviot, Le Bons Bay, Woodbury and Dunedin Airport all received their highest mean January maximum temperatures since their respective records began. Temperatures in the west of the country were near normal for January.

Extreme (high and low) January mean maximum daily air temperatures were recorded at:

Location	Mean maximum air temperature (°C)	Departure from normal	Year records began	Comments
Whangaparaoa	24.2	1.9	1982	2nd-highest
Tauranga Aero	25.5	1.6	1913	4th-highest
Rotorua Aero	24.1	1.2	1964	4th-highest
Waipawa	25.9	1.6	1945	4th-highest
Takaka	24.5	2.1	1978	3rd-highest
Lake Rotoiti	23.5	2.8	1965	4th-highest
Hanmer Forest	26.4	3.5	1906	2nd-highest
Kaikoura	22.1	1.7	1963	3rd-highest
Culverden	27.6	3.8	1928	2nd-highest
Cheviot	25.6	2.5	1982	Highest
Winchmore	24.9	2.7	1928	4th-highest
Waipara West	25.9	2.0	1973	3rd-highest
Darfield	25.9	2.8	1939	3rd-highest
Christchurch	24.7	2.4	1863	3rd-highest
Le Bons Bay	21.3	2.2	1984	Highest
Fairlie	25.7	3.3	1925	2nd-highest
Woodbury	25.9	3.6	1973	Highest
Dunedin Aero	23.1	2.4	1947	Highest
Dunedin, Musselburgh	21.1	2.2	1947	2nd-highest
Nugget Point	19.5	1.8	1970	4th-highest
Cape Campbell	18.5	-3.5	1953	Lowest

Extreme (high and low) January mean minimum daily air temperatures were recorded at:

Location	Mean minimum air temperature (°C)	Departure from normal	Year records began	Comments
Waipara West	13.3	1.5	1973	3rd-highest
Le Bons Bay	13.2	1.6	1984	4th-highest
Gore	10.6	1.2	1971	4th-highest
Warkworth	13.2	-1.9	1966	2nd-lowest
Dannevirke	10.6	-1.6	1951	4th-lowest
Martinborough	11.0	-1.2	1986	3rd-lowest
Appleby	10.6	-2.5	1943	3rd-lowest
Blenheim Aero	9.9	-2.0	1932	4th-lowest

RAINFALL: VERY DRY IN MANY AREAS; WET IN GISBORNE AND SOUTHLAND

Rainfall was less than 50% of normal (half) for much of the country for January. The exceptions were Gisborne and Southland (received more than 125% of normal rainfall) and Manawatu and northern Taranaki

(received near normal rainfall). Whatawhata (west of Hamilton), Martinborough and Takaka all received their lowest ever January rainfall totals, with 18, 4 and 9 mm respectively. Soil moisture levels for most North Island areas except Gisborne and northern Manawatu are below normal (by between 20 and 50 mm) as at the end of January. In the South Island, soil moisture in Tasman district, northern Westland, north and south Canterbury and south Otago is also below normal, by between 20 and 50 mm, for this time of year.

Extreme (high and low) January rainfall totals were recorded at:

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
Kaitaia Observatory	20	24	1985	3rd-lowest
Warkworth	16	18	1966	3rd-lowest
Taupo	15	18	1949	4th-lowest
Whatawhata (near Hamilton)	18	18	1952	Lowest
Martinborough	4	9	1924	Lowest
Wellington Aero	15	24	1958	4th-lowest
Takaka	9	7	1976	Lowest
Lake Rotoiti	33	26	1933	4th-lowest
Nelson	12	17	1941	3rd-lowest
Hanmer Forest	12	18	1905	2nd-lowest
Orari Estate	12	19	1897	2nd-lowest
Oamaru	15	30	1898	3rd-lowest
Ranfurly	15	31	1943	2nd-lowest
Cromwell	9	22	1949	2nd-lowest

SUNSHINE: ABOVE AVERAGE FOR MOST OF COUNTRY

January sunshine totals were above average (more than 110% of normal) for most of New Zealand, except in Southland and Otago where they were near or below average. Turangi, Martinborough, Waipawa and Cheviot all received their highest ever January sunshine hours totals.

Extreme (high and low) January sunshine hours were recorded at:

Location	Sunshine (hours)	Percentage of normal	Year records began	Comments
Kaitaia	281	122	1985	2nd-highest
Tauranga Aero	324	128	1933	2nd-highest
Taumarunui	292	144	1947	2nd-highest
Turangi	296	133	1976	Highest
Dannevirke	261	124	1963	2nd-highest
Martinborough	280	121	1986	Highest
Waipawa	297	147	1945	Highest
Takaka	286	121	1985	2nd-highest
Greymouth Aero	259	134	1947	3rd-highest
Appleby	319	120	1948	4th-highest
Blenheim	305	118	1947	3rd-highest
Cheviot	292	123	1983	Highest

JANUARY'S CLIMATE IN THE SIX MAIN CENTRES

Rainfall was below normal in five of the main centres and well below normal in Hamilton. Christchurch was the driest main centre and Dunedin was the wettest. Auckland received below average temperatures for January, while Hamilton and Wellington were near average. Tauranga (the warmest of the main centres) received above average temperatures while temperatures in Christchurch and Dunedin were well above their January averages. Sunshine in Wellington and Dunedin was near normal for January, while it was above normal for Auckland, Hamilton and Christchurch. Tauranga received its second highest January sunshine total since records began in 1933.

January 2009 main centre climate statistics:

Location	Mean temp. (°C)	Departure from normal (°C)		Rainfall (mm)	% of normal		Sunshine (hours)	% of normal	
Auckland ^a	19.0	-0.7	Below average	38	63	Below normal	267	116	Above normal
Tauranga ^b	20.3	1.1	Above average	40	54	Below normal	324	128	2nd-highest
Hamilton	18.1	-0.1	Near average	33	42	Well below normal	284 ^d	123	Above normal
Wellington	17.2	0.3	Near average	37	51	Below normal	255	104	Near normal
Christchurch ^c	18.5	1.4	Well above average	26	60	Below normal	271	118	Above normal
Dunedin	16.6	1.4	Well above average	54	74	Below normal	177	100	Near normal

^a Mangere ^b Tauranga Airport ^c Christchurch Airport ^d Ruakura

HIGHLIGHTS AND EXTREME EVENTS

• Temperature

The highest temperature during January 2009 was 37.2°C recorded at Waione in the Wairarapa on the 8th (the highest January maximum temperature for this location and the equal 9th highest January temperature for anywhere in New Zealand – the highest was 38.9°C in Ruatoria in January 1979). Culverdon also recorded 37.0°C on the 24th (the 2nd-highest January maximum temperature for this location). Takapau Plains (southern Hawkes Bay), Ohakune and Cheviot also received their highest ever January maximum temperatures with readings of 32.8°C and 30.0°C on the 8th, and 36.3°C on the 16th, respectively. Invercargill airport and Tiwai Point received their highest ever January minimum temperatures on the night of the 25th, with 17.9 and 17.3°C respectively.

Near record high extreme daily maximum air temperatures were recorded at:

Location	Extreme maximum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Kaikohe	28.4	1st	1973	4th-highest
Whangarei Aero	30.7	2nd	1967	3rd-highest
Whangaparaoa	27.2	25th	1982	Equal 2nd-highest
Whitianga Aero	29.6	25th	1962	3rd-highest
Turangi	31.4	31st	1968	Equal highest
Takapau Plains	32.8	8th	1962	Highest
East Taratahi	34.6	8th	1906	3rd-highest
Waione	37.2	8th	1992	Highest
Martinborough	33.3	31st	1986	4th-highest
Wallaceville	30.2	31st	1939	3rd-highest
Ohakune	30.0	8th	1962	Highest
Waiouru	28.2	8th	1962	2nd-highest
Takaka	30.5	23rd	1978	4th-highest
Farewell Spit	27.9	31st	1971	Equal 2nd-highest
Lake Rotoiti	31.0	26th	1965	Equal 2nd-highest
Puysegur Point	23.4	24th	1978	Equal 2nd-highest
Appleby	30.3	31st	1943	4th-highest
Hanmer Forest	34.7	24th	1906	4th-highest
Culverdon	37.0	24th	1928	2nd-highest
Cheviot	36.3	16th	1982	Highest
Waipara West	35.2	16th	1973	4th-highest
Darfield	35.4	25th	1939	2nd-highest
Christchurch	35.7	8th	1863	3rd-highest
Lincoln	35.0	8th	1881	Equal 4th-highest
Le Bons Bay	30.6	8th	1984	2nd-highest
Woodbury	34.0	23rd	1973	2nd-highest

Dunedin Aero	32.0	23rd	1947	3rd-highest
Gore	30.4	24th	1971	2nd-highest
Tiwai Point	29.0	24th	1970	2nd-highest
Nugget Point	28.7	25th	1970	Equal 2nd-highest

Near record high extreme daily minimum air temperatures were recorded at:

Location	Extreme minimum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Kaikohe	19.9	3rd	1973	3rd-highest
Whangaparaoa	19.3	3rd	1982	4th-highest
Ngawi	20.6	9th	1972	Equal 4th-highest
Gisborne	22.2	3rd	1940	2nd-highest
Wairoa	21.5	3rd	1972	4th-highest
Puysegur Point	17.0	23rd	1978	3rd-highest
Kaikoura	18.9	1st	1972	Equal 2nd-highest
Waipara West	21.4	9th	1973	3rd-highest
Darfield	21.1	9th	1954	4th-highest
Le Bons Bay	19.9	8th	1984	2nd-highest
Invercargill Aero	17.9	25th	1948	Highest
Tiwai Point	17.3	25th	1972	Highest
Nugget Point	15.6	25th	1972	2nd-highest

The lowest temperature during January was recorded at Hanmer Forest on the 11th, where the minimum temperature was 0.3°C (not a record minimum temperature for this location).

Near record low extreme daily minimum air temperatures were recorded at:

Location	Extreme minimum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Warkworth	7.4	5th	1966	2nd-lowest
Te Puke	4.4	21st	1973	Equal 3rd-lowest

Near record low extreme daily maximum air temperatures were recorded at:

Location	Extreme maximum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Puysegur Point	11.8	2nd	1978	Equal 4th-lowest

• **Heavy rain and flooding**

Heavy rain fell in Queenstown and on the West Coast overnight on 2 January. River levels in the Haast and Callery (near Franz Josef) Rivers rose quickly as a result. The Te Anau Rodeo Club annual event was cancelled after consistent rain turned the arena into a quagmire.

Flash floods struck Christchurch on the evening of 18 January. The same storm brought torrential rain and hail to Ashburton in half an hour, turning streets into rivers, and ruining vegetable gardens.

The highest 1-day rainfall total for January 2009 was 204 mm recorded at Milford Sound on the 6th (not a January record for this location).

- **Hail**

On 3 January, thunder and hail in Christchurch forced the postponement of the international cricket match against the West Indies, while large, 2 cm hailstones whipped across roads and buildings in Waipara, bringing traffic to a standstill, and denting cars.

Hail fell in Christchurch again on 18 January.

- **Lightning**

On 3 January, lightning strikes on feeders in the Dunsandel and Lincoln areas affected power to about 600 properties, and closed Christchurch International Airport for half an hour.

About 1000 lightning strikes were recorded in Christchurch on 18 January, causing several brief power outages.

- **High winds and tornadoes**

Gale force winds on 3 January caused havoc in Canterbury with thousands of homes left without power. Lines were blown down in central Christchurch, and in Ashburton, winds brought trees down on to power lines, causing short circuits and fires, cutting power to more than 10,000 homes in the area. On the same day, a tornado hit a farmhouse on the southern outskirts of Waikouaiti, ripping tiles off the roof, smashing windows, splintering trees and felling nearby power lines. The family cat took refuge inside the piano.

On 8 January, a tornado ripped the roof off the Bannockburn Hotel, and dumped it onto nearby power lines. Power was cut to 450 customers in the area for about 20 minutes.

Wind and warm temperature combined to create a rare waterspout off Sumner Beach, Christchurch on 18 January.

The wind gust of 130 km/hr recorded at Southwest Cape on the 21st was the highest gust for January for New Zealand, though it was not a January record for this location. A wind gust of 106 km/hr on the 2nd was a record high gust speed for January at Winchmore, where records began in 1970.

Near record high extreme wind gusts were recorded at:

Location	Extreme wind gust speed (km/hr)	Date of extreme gust	Year Records began	Comments
Milford Sound	98	2nd	1974	Equal 4th-highest
Winchmore	106	2nd	1970	Highest
Lauder	107	2nd	1981	Equal 3rd-highest

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