

National Climate Summary – December 2008: Sunny for most areas, warm through the middle of the country, dry in the east but wet in some areas exposed to the northeast

- Rainfall: Well below normal in East Cape, Gisborne, southern Hawke's Bay, north Canterbury and eastern Southland; above normal in southern Northland, Nelson, Marlborough, Banks Peninsula and inland Canterbury and Otago.
- Temperature: Above average from Bay of Plenty to Wellington, northern Tasman district, and around Westport and Cheviot; below average for the far north of the North Island and in inland Canterbury.
- Sunshine: Above average for most of New Zealand and well above average in Southern Hawke's Bay, north Canterbury and around Hokitika; below average in northern parts of Northland.

Rainfall was less than 50% of normal (half) in many eastern areas of the country (continuing the pattern from October) and in Southland. Soil moisture levels in eastern North Island areas, Waikato and in much of Southland and are between 10 and 50 mm lower than normal for this time of the year as at the end of December. Double the normal rainfall (200% of normal) for December fell in inland Canterbury and Banks Peninsula and 150% of normal rainfall (one and a half times) fell in Northland, Wellington, Nelson and Marlborough over the month.

December temperatures were above average (between 0.5 and 1.0°C above normal) for most of the North Island excluding Northland, Auckland and Waikato. Temperatures were also above average in northern Tasman district, and around Westport and Cheviot. Temperatures in the far north of the North Island and in inland Canterbury were below average for this time of year (by between -0.5 and -1.0°C). All other locations received near normal temperatures for December. The national average temperature of 15.8°C was 0.2°C above average.

Sunshine totals were above average (more than 110% of normal) for the central and eastern North Island and the middle of the South Island. North Canterbury and southern Hawke's Bay received well above normal (more than 125% of normal) sunshine for December.

Continuing the pattern set in spring, the country experienced relatively few extreme weather events in December, the most significant being a cold snap on the 20th, with record low December maximum temperatures in Darfield, Fairlie, Woodbury, Orari Estate and Wanaka Airport observed on that day.

The diverse weather for December resulted from more 'highs' (anticyclones) to the east of the country and many more 'lows' (depressions) than normal in the Tasman sea. There were stronger than normal northeasterly winds over the country, which contributed to the low rainfalls in the east and south and higher rainfalls in Northland, around central New Zealand and Banks Peninsula.

Further Highlights:

- The lowest temperature during December was recorded at Hanmer Forest on the 6th, where the minimum temperature was -1.7°C (the equal 3rd-lowest December minimum temperature for this location). The highest temperature during December was 33.0°C recorded at Culverdon on the 29th (the 3rd-highest December maximum temperature for this location).
- The highest 1-day rainfall total for December was 163mm recorded at Arthur's Pass on the 19th.
- The wind gust of 137 km/hr recorded at Southwest Cape was the highest gust for December for New Zealand, though it was not a December record for this location.
- Of the five main centres, Auckland was the warmest, Wellington was the wettest, and Christchurch was the driest and sunniest.

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RAINFALL: DRY IN MANY AREAS; WET IN NORTHLAND, WELLINGTON, MARLBOROUGH AND INLAND CANTERBURY AND OTAGO

December rainfall for Coromandel, Gisborne, East Cape, Southern Hawke’s Bay, North Canterbury and much of Southland was between 40 and 80 percent of normal. It was wetter than normal (between 150 and 200% of normal) for parts of Northland, Wellington, Nelson and Marlborough and Banks Peninsula with some areas of inland Canterbury and Otago receiving more than double (greater than 200%) of their normal December totals.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
Takaka	277	205	1976	3rd-highest
Blenheim Aero	127	227	1927	3rd-highest
Tara Hills	143	264	1949	4th-highest

TEMPERATURE: ABOVE AVERAGE FROM BAY OF PLENTY TO WELLINGTON; BELOW AVERAGE IN FAR NORTH AND INLAND CANTERBURY

The national average temperature of 15.8°C for December 2008 was 0.2°C above average for this time of the year. Above average temperatures (between 0.5 and 1.0°C above normal) were recorded for much of the North Island (excluding Northland, Auckland and Waikato), northern Tasman district, and around Westport and Cheviot. Temperatures in the far north of the North Island and in inland Canterbury were below average for this time of year (by between -0.5 and -1.0°C). All other locations received near normal temperatures for December.

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

Location	Mean maximum air temperature (°C)	Departure from normal	Year records began	Comments
Whangaparaoa	21.4	0.8	1982	4th-highest
Cheviot	21.6	0.8	1982	4th-highest
Kaitaia	20.5	-1.5	1967	3rd-lowest
Cape Campbell	17.3	-3.2	1953	2nd-lowest

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

Location	Mean minimum air temperature (°C)	Departure from normal	Year records began	Comments
Waiouru	9.7	2.5	1962	Highest
Cheviot	8.2	-1.1	1982	3rd-lowest

SUNSHINE: ABOVE AVERAGE FOR MOST OF COUNTRY

December totals of bright sunshine were above average (more than 110% of normal) for most of New Zealand and well above average (more than 125% of normal) in Southern Hawke's Bay, North Canterbury and around Hokitika. Sunshine was below average in northern parts of Northland. No high or low December sunshine hours records were set for December 2008.

DECEMBER'S CLIMATE IN THE FIVE MAIN CENTRES

Rainfall was below normal for Dunedin, near normal for Auckland and Christchurch (the driest of the five main centres), above normal for Hamilton, and well above normal for Wellington (the wettest of the five main centres). Hamilton, Christchurch and Dunedin received average temperatures for December, while Wellington received above average temperatures and Auckland received below average temperatures. Most centres received normal sunshine hours (Christchurch was the sunniest of the main centres), with the exception being Hamilton which received below normal sunshine for the month.

December 2008 main centre climate statistics:

Location	Mean temp. (°C)	Departure from normal (°C)		Rainfall (mm)	% of normal		Sunshine (hours)	% of normal	
Auckland ^a	17.3	-0.8	Below average	102	116	Near normal	200	96	Near normal
Hamilton	17.0	0.4	Near average	120	122	Above normal	197 ^c	89	Below normal
Wellington	16.0	0.7	Above average	132	154	Well above normal	218	96	Near normal
Christchurch ^b	15.8	0.0	Near average	45	96	Near normal	231	105	Near normal
Dunedin	13.6	-0.3	Near average	64	79	Below normal	171	101	Near normal

^a Mangere ^b Christchurch Airport ^c Ruakura

HIGHLIGHTS AND EXTREME EVENTS

• Temperature

The lowest temperature during December was recorded at Hanmer Forest on the 6th, where the minimum temperature was -1.7°C (the equal 3rd-lowest December minimum temperature for this location). The maximum temperatures on the 20th of December were also quite low for many South Island locations, with Darfield reaching only 9.1°C, Fairlie and Woodbury reaching only 9.0°C, Orari Estate reaching only 9.8°C and Wanaka Airport only getting to 8.3°C on that day (all record lowest December maximum temperatures).

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	6.4	7th	1966	2nd-lowest
Hanmer Forest	-1.7	6th	1906	Equal 3rd-lowest
Cheviot	0.0	22nd	1982	2nd-lowest
Balclutha	0.8	13th	1964	2nd-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
Kumeu (Waitakere)	18.4	9th	1978	4th-lowest
Mt Cook	5.6	20th	1929	Equal 3rd-lowest

Winchmore	9.3	20th	1928	2nd-lowest
Darfield	9.1	20th	1954	Lowest
Lake Tekapo	6.2	20th	1928	Equal lowest
Fairlie	9.0	20th	1972	Lowest
Woodbury	9.0	20th	1973	Lowest
Orari Estate	9.8	20th	1972	Lowest
Timaru	10.1	20th	1885	2nd-lowest
Oamaru Airport	10.6	20th	1908	Equal 3rd-lowest
Tara Hills	9.0	20th	1949	Equal lowest
Wanaka Aero	8.3	20th	1972	Lowest
Dunedin, Musselburgh	10.1	20th	1947	Equal 4th-lowest
Queenstown Aero	8.8	20th	1871	2nd-lowest
Cromwell	10.4	20th	1949	2nd-lowest
Tiwai Point	10.9	20th	1972	Equal 2nd-lowest
Balclutha	11.0	20th	1972	Equal 2nd-lowest

The highest temperature during December 2008 was 33.0°C recorded at Culverdon on the 29th (the 3rd-highest December maximum temperature for this location). Ohakune and Cheviot received their highest ever December maximum temperatures with readings of 28.8°C on the 3rd and 32.0°C on the 30th, 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
Martinborough	29.9	29th	1986	3rd-highest
Ohakune	28.8	3rd	1962	Highest
Waiouru	25.0	4th	1962	4th-highest
Wanganui	25.8	16th	1987	Equal 4th-highest
Pelorus Sd, Crail Bay	26.0	30th	1982	Equal 4th-highest
Culverdon	33.0	29th	1928	3rd-highest
Cheviot	32.0	30th	1982	Highest
Gore	27.9	29th	1971	3rd-highest
Nugget Point	27.5	28th	1970	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
Puysegur Point	16.6	30th	1978	Highest

• **Heavy rain and flooding**

The highest 1-day rainfall total for December 2008 was 163mm recorded at Arthur's Pass on the 19th (not a December record for this location).

Near record high extreme 1-day rainfall totals were recorded at:

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year Records Began	Comments
Auckland Aero	58	23rd	1959	3rd-highest
Pukekohe	64	23rd	1944	3rd-highest
Takaka	98	8th	1976	4th-highest
Reefton	84	19th	1960	3rd-highest
Pelorus Sd, Crail Bay	75	15th	1982	4th-highest
Blenheim Aero	56	15th	1927	2nd-highest

- **High winds and tornadoes**

The wind gust of 137 km/hr recorded at Southwest Cape was the highest gust for December for New Zealand, though it was not a December record for this location.

Near record high extreme wind gusts were recorded at:

Location	Extreme wind gust speed (km/hr)	Date of extreme gust	Year Records began	Comments
Pukekohe	61	17th	1986	Equal 3rd-highest
Westport Aero	83	31st	1973	Equal 4th-highest

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