

National Climate Summary – December 2007: Warm in many regions; severe soil moisture deficits persist in the east and inland areas of the South Island

- **Rainfall: Below normal rainfall in Bay of Plenty, south west of North Island and inland areas of the South Island, very wet start to December in Northland**
- **Temperature: Above average in the north and west**
- **Sunshine: Well above average in the south, well below average in the north**

December 2007 was characterised by near or below normal rainfall in many regions of New Zealand. Severe soil moisture deficits (more than 130 mm) persisted from November in Marlborough, Canterbury, North and Central Otago, with significant soil moisture deficits (more than 110 mm) occurring in Auckland, Bay of Plenty, Taranaki, Wairarapa, Manawatu, and Nelson. The month had a wet start in Northland (with rainfall to the 10th totalling almost 200 mm in the Bay of Islands), followed by more settled conditions. December 2007 temperatures were above average in most northern and western regions, as well as Southland and much of Otago, but near average in the east. The national average temperature of 16.1 °C was 0.5°C above average. Southland and Otago basked in well above average December sunshine. However, cloudy skies prevailed with near or record low December sunshine hours in parts of Northland, Waikato, and Taranaki. The month's overall climate pattern was produced by more frequent anticyclones east of the South Island with troughs of low pressure over north Tasman Sea, typical of La Niña conditions. This resulted in more frequent dry northeasterlies than usual over New Zealand.

Further Highlights:

- The lowest air temperature during the month was -1.7 °C recorded at Hanmer Forest on the 8th. The highest temperature during December 2007 was 32.8 °C recorded at Christchurch Airport on the 11th.
- Persistent rainfall occurred in Northland, with almost 200 mm in the Bay of Islands between 1-10 December. Periods of persistent heavy rainfall occurred on the West Coast of the South Island, with as much as 560 mm at Franz Josef between 9-17 December and 258 mm at Milford Sound between 23-30 December.
- The highest wind gust of the month was 132 km/h from the northwest, recorded at South West Cape on the 30th.
- Of the five main centres, Auckland was the warmest, Wellington the wettest, Christchurch the driest and sunniest, and Dunedin the coolest.

Rainfall: In contrast, rainfall was less than 50 percent (half) of normal in eastern Bay of Plenty, and inland South Canterbury, and also below normal in Western Bay of Plenty, north Taranaki, Manawatu, Buller, along the Kaikoura coast, and inland areas of Southland and Otago. In contrast, rainfall was much wetter than usual in Northland, many locations recording 200 percent (twice) or more of normal December rainfall due to an unsettled start to the month. Rainfall was also above normal in Coromandel, Gisborne, and Hawke's Bay.

Temperature: Mean temperatures were at least 0.5 °C above average in most northern and western regions of New Zealand, as well as Southland and much of Otago, and at least 1.0 °C above average in parts of Auckland, Waikato, Taranaki, Manawatu, Buller, Westland, Fiordland, Nelson, and Central Otago. Temperatures were near average in the east from Gisborne to Dunedin, as well as eastern Northland and Wellington.

Sunshine: Sunshine hours were at least 120 percent of normal in Southland and Otago. However, cloudy skies prevailed over the northern half of the North Island. Sunshine hours were also below normal in Gisborne, Wellington, Marlborough, and Nelson.

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RAINFALL: WELL ABOVE NORMAL IN NORTHLAND, AVERAGE OR BELOW NORMAL IN MOST OTHER REGIONS

In contrast, rainfall was less than 50 percent (half) of normal in eastern Bay of Plenty, and inland South Canterbury, and less than 75 percent (three quarters) of normal in Western Bay of Plenty, north Taranaki, Manawatu, Buller, along the Kaikoura coast, and inland areas of Southland and Otago.

Northland was much wetter than usual, many locations recording 200 percent (twice) or more of normal December rainfall. Rainfall was at least 125 percent (one and a quarter) of normal in Coromandel, Gisborne, and Hawke's Bay.

Near or record high December rainfall was recorded at:

Location	December Rainfall (mm)	Percentage of normal	Year records began	Comments
Kerikeri EWS	217	209	1981	2 nd highest
Kerikeri Airport	279	232	1978	Highest
Kaikohe	256	245	1973	Highest

Low December rainfall was recorded at:

Location	December Rainfall (mm)	Percentage of normal	Year records began	Comments
Whakatane Airport	31	32	1974	3 rd lowest
Lake Tekapo	17	35	1925	Well below normal
Tara Hills	18	32	1949	Well below normal

TEMPERATURE: ABOVE AVERAGE IN THE NORTH AND WEST OF BOTH ISLANDS

Mean temperatures were at least 0.5 °C above average in most northern and western regions of New Zealand, as well as Southland and much of Otago, and at least 1.0 °C above average in parts of Auckland, Waikato, Taranaki, Manawatu, Buller, Westland, Fiordland, Nelson, and Central Otago. Temperatures were near average in the east from Gisborne to Dunedin, as well as eastern Northland and Wellington. The national average temperature of 16.1 °C was 0.5 °C above average.

Near record high mean air temperatures were recorded at:

Location	Mean air temperature (°C)	Departure from Normal	Year Records began	Comments
Motueka, Riwaka	17.6	+1.4	1956	Equal 3 rd highest
Nelson Airport	17.9	+1.5	1943	Equal 2 nd highest
Manapouri, West Arm	14.2	+1.3	1996	2 nd highest

SUNSHINE: WELL ABOVE NORMAL IN THE SOUTH, WELL BELOW NORMAL IN THE NORTH

Sunshine hours were well above average, being at least 120 percent of normal, in Southland and Otago. However, cloudy skies prevailed over the northern half of the North Island, with near or record low December sunshine totals in parts of Northland, Waikato, and Taranaki. Sunshine hours were also below normal in Gisborne, Wellington, Marlborough, and Nelson, and near normal elsewhere.

Near or record December sunshine was recorded at:

Location	December Sunshine (hours)	Percentage of normal	Year records began	Comments
Kaitaia Airport	140	64	1985	Lowest
Dargaville	134	66	1943	2 nd lowest
Ruakura	151	68	1936	2 nd lowest
Stratford	148	71	1963	2 nd lowest
Invercargill Airport	240	129	1932	Equal 3 rd highest

DECEMBER'S CLIMATE IN THE FIVE MAIN CENTRES

Auckland was the warmest, Wellington the wettest, Christchurch the driest and sunniest, and Dunedin the coolest of the five main centres. Rainfall was above normal in Christchurch, below normal in Hamilton, and near normal elsewhere. Temperatures were above normal in Auckland, Hamilton, and Dunedin, and near normal in Wellington and Christchurch. Sunshine hours were below normal in the three North Island main centres, near normal in Christchurch, and well above normal in Dunedin.

December 2007 main centre climate statistics:

Location	Dec. mean temp. (°C)	Dep. from normal (°C)		Dec. rainfall (mm)	% of normal		Dec. Sunshine (hours)	% of normal	
Auckland	18.6	+0.5	Above normal	82 ^a	90	Near normal	175	84	Below normal
Hamilton	17.8	+1.2	Above normal	73	79	Below normal	151	68	2 nd lowest
Wellington	15.3	0.0	Normal	91	106	Near normal	187 ^c	83	Below normal
Christchurch ^b	15.9	+0.1	Near normal	54 ^c	116	Above normal	219	99	Near normal
Dunedin	14.2	+0.3	Above normal	78	96	Near normal	205	121	Well above normal

^a Owhairaka ^b Christchurch Airport ^c 1-day missing

HIGHLIGHTS AND EXTREME EVENTS

- **Temperature**

The lowest air temperature during the month was -1.7 °C recorded at Hanmer Forest on the 8th. The highest temperature during December 2007 was 32.8 °C recorded at Christchurch Airport on the 11th.

Near or record high maximum temperatures were recorded in December at:

Location	Maximum temperature (°C)	Date	Year Records began	Comments
Christchurch Airport	32.8	11 th	1953	3 rd highest
Culverden	32.0	30 th	1983	Highest
Wanaka Airport	31.6	8 th	1992	Highest

Data in italics are rounded to the nearest whole number

- **High winds**

The highest wind gust of the month was 132 km/h from the northwest, recorded at South West Cape on the 30th.

- **High rainfall**

Periods of persistent heavy rainfall occurred on the West Coast of the South Island, with as much as 560 mm at Franz Josef between 9-17 December and 258 mm at Milford Sound between 23-30 December.

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