

**National Climate Summary – December 2006: Rather cool**

**Temperature: One of the coldest Decembers in the last sixty years**

**Rainfall: Well below normal in the north of both islands; above normal in the east, especially Canterbury**

**Sunshine: Sunnier than normal in the north of both islands**

**Wind: More frequent cold southerlies**

December was unusually cool for the time of year, due to more frequent southerly winds. Temperatures were 2 to 3 °C below normal (making it coldest start to December for many years) throughout New Zealand during the first half of the month, with little change during the last two weeks. For the month, many locations experienced one of their coldest December's on record. Wellington recorded its coldest December in more than 70 years, while New Plymouth, Wanganui, and Blenheim had their coldest December in at least 60 years. The national average temperature was 13.7 °C (1.9 °C below normal), the lowest for December since 13.4 °C in 2004 and equal with 1946. Rainfall was less than 50 percent (half) of normal in the north of both islands. However, it was quite wet, with at least 200 percent (twice) of normal rainfall, in some eastern parts of the country, especially in Canterbury. A sunny month occurred in parts of Northland, Auckland, Buller, Westland, and Nelson. More anticyclones ('highs') predominated in the Australian Bight, extending ridges of high pressure into the South Tasman Sea. Mean sea level pressures were below average northeast of the Chatham Islands. As a result, cold southerlies were more frequent than average over New Zealand.

**Other Highlights:**

The highest temperature during December 2006 was 31.5 °C recorded at Blenheim Airport on the 12<sup>th</sup>.

The lowest air temperature for the month was -2.5 °C recorded at Chateau Ruapehu on the 10<sup>th</sup>.

High rainfall occurred in Christchurch (74 mm) and over Banks Peninsula on the 20<sup>th</sup>, and in South Canterbury (with flooding in Ashburton) on the 29<sup>th</sup>.

A hailstorm affected Riwaka on 1 December, with slight damage occurring to apples in some orchards.

A wind gust of 148 km/h from the northwest was recorded at South West Cape on the 7<sup>th</sup>.

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

**Temperature:** Mean temperatures were 2.0 to 2.4 °C below average in many regions, and more than 2.5 °C below average in Taupo and parts of Canterbury. Many locations experienced one of their coldest December's on record.

**Rainfall:** December rainfall totals were less than 50 percent (half) of normal in parts of Northland, Waikato, Nelson, and central Marlborough. Rainfall was also below normal in much of Auckland, Waikato, Bay of Plenty, Westland, and Southern Lakes. In contrast, rainfall was about 200 percent (twice) of normal throughout much of Canterbury. Rainfall was also above normal in parts of Gisborne, Hawke's Bay, and East Otago.

**Sunshine:** Sunshine hours and/or solar radiation were at least 110 percent of normal in parts of Northland, Auckland, Buller, Westland, and Nelson. Sunshine hours were below normal in Manawatu and on the Kaikoura coast.

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The national average temperature was 13.7 °C (1.9°C below normal), the lowest for December since 13.3 °C in 2004 and equal with 1946. Mean temperatures were 2.0 to 2.4 °C below average in many regions, and more than 2.5 °C below average in Taupo and parts of Canterbury. Many locations experienced one of their coldest December's on record.

**Near or record low December mean air temperatures were recorded at:**

Location	Mean air temperature (°C)	Departure from Normal	Year Records began	Comments
Kaitaia Airport	15.6	-2.5	1948	Lowest
Kaikohe EDR	15.1	-1.9	1973	Equal lowest
Whangarei Airport	16.6	-1.7	1967	Equal lowest
Warkworth	15.1	-1.9	1972	2 <sup>nd</sup> lowest
Paeroa	15.4	-2.6	1947	2 <sup>nd</sup> lowest
Auckland,Owairaka	15.4	-2.3	1949	Equal lowest
Whakatane Airport	15.4	-2.2	1974	2 <sup>nd</sup> lowest
Rotorua Airport	13.8	-2.3	1964	2 <sup>nd</sup> lowest
Taupo Airport	12.8	-2.9	1976	Lowest
Auckland, Mangere	16.0	-2.1	1950	2 <sup>nd</sup> lowest
Auckland Airport	15.9	-2.2	1962	Lowest
Pukekohe	15.1	-1.9	1970	Lowest
Hamilton Airport	14.3	-2.3	1970	Lowest
Port Taharoa	15.4	-2.3	1982	2 <sup>nd</sup> lowest
Te Kuiti	14.4	-2.4	1959	Lowest
Taumarunui	13.7	-3.0	1947	2 <sup>nd</sup> lowest
New Plymouth Airport	13.7	-2.3	1944	Lowest since 1946
Lower Retaruke	13.7	-2.3	1966	2 <sup>nd</sup> lowest
Castlepoint	13.7	-2.9	1972	Lowest
East Taratahi	13.9	-1.9	1972	2 <sup>nd</sup> lowest
Napier Airport	15.4	-2.9	1973	2 <sup>nd</sup> lowest
Whakatu	14.3	-2.9	1982	2 <sup>nd</sup> lowest
Paraparaumu Airport	14.0	-1.9	1953	Equal lowest
Palmerston North Airport	13.8	-2.3	1962	Lowest
Palmerston North	13.5	-2.8	1928	2 <sup>nd</sup> lowest
Wellington, Kelburn	12.9	-2.4	1928	Lowest
Wellington Airport	14.6	-1.8	1962	Lowest
Wallaceville	13.5	-2.0	1939	Equal 2 <sup>nd</sup> lowest
Wanganui,Spriggens Park	14.1	-2.6	1937	Lowest
Hokitika Airport	12.6	-1.7	1963	3 <sup>rd</sup> lowest
Reefton	13.4	-1.8	1960	Equal 3 <sup>rd</sup> lowest
Nelson, Appleby	13.9	-2.2	1932	2 <sup>nd</sup> lowest
Blenheim Airport	14.2	-2.1	1941	Lowest
Kaikoura	12.7	-2.6	1963	Lowest
Arthurs Pass	8.1	-3.1	1978	Lowest
Winchmore	12.3	-2.5	1949	2 <sup>nd</sup> lowest
Christchurch Airport	13.3	-2.5	1953	2 <sup>nd</sup> lowest
Timaru Airport	12.2	-2.1	1962	2 <sup>nd</sup> lowest
Tara Hills	12.2	-2.2	1949	3 <sup>rd</sup> lowest
Clyde	13.2	-2.4	1983	2 <sup>nd</sup> lowest
Gore EDR	11.0	-2.2	1987	2 <sup>nd</sup> lowest
Dunedin Airport	12.2	-1.6	1962	Equal 3 <sup>rd</sup> lowest
Raoul Island	19.6	-1.3	1940	Equal 3 <sup>rd</sup> lowest

**RAINFALL WELL BELOW NORMAL RAINFALL IN THE NORTH OF THE NORTH ISLAND;  
WELL ABOVE NORMAL IN CANTERBURY**

December rainfall totals were less than 50 percent (half) of normal in parts of Northland, Waikato, Nelson, and central Marlborough, and 75 percent (three quarters) or less of normal in much of Auckland Bay of Plenty, Westland, and Southern Lakes. In contrast, rainfall was about 200 percent (twice) of normal throughout much of Canterbury. Rainfall was also above normal, with totals 125 percent (one and a quarter) or more of normal in parts of Gisborne, Hawke's Bay, and East Otago. Rainfall was near normal elsewhere.

#### **Near or record low December rainfall was recorded at:**

Location	December Rainfall (mm)	Percentage Of normal	Year Records began	Comments
Kerikeri EWS	22	21	1981	2 <sup>nd</sup> lowest
Kerikeri Airport	34	28	1978	2 <sup>nd</sup> lowest
Auckland, Henderson	41	45	1985	3 <sup>rd</sup> lowest
Franz Josef	309	55	1982	3 <sup>rd</sup> lowest

#### **High December rainfall was recorded at:**

Location	December Rainfall (mm)	Percentage Of normal	Year Records began	Comments
Winchmore	147	244	1947	3 <sup>rd</sup> highest
Middlemarch	128	187	2000	Highest

#### **SUNNY IN THE NORTH OF BOTH ISLANDS**

Sunshine hours and/or solar radiation were at least 110 percent of normal in parts of Northland, Auckland, Buller, Westland, and Nelson. Sunshine hours were less than 90 percent of normal in Manawatu, and on the Kaikoura coast, and near normal elsewhere.

#### **DECEMBER'S CLIMATE IN THE FIVE MAIN CENTRES**

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

Location	Dec. Mean Temp. (°C)	Dep. from normal (°C)		Dec. rainfall (mm)	% of Normal		Dec. Sunshine (hours)	% of Normal	
Auckland	16.0	-2.1	Well below normal	45 <sup>a</sup>	49	Below normal	232	111	Above normal
Hamilton	14.4	-2.4	Well below normal	51	55	Below normal	218	98	Near normal
Wellington	12.7	-2.6	Well below normal	93	109	Near normal	241	106	Near normal
Christchurch	13.7	-2.3	Well below normal	123	249	Well above normal	208 <sup>b</sup>	94	Near normal
Dunedin	12.2 <sup>c</sup>	-1.6	Well below normal	98	121	Above normal	167	99	Near normal

<sup>a</sup> Owhiraka <sup>b</sup> Christchurch Airport <sup>c</sup> Dunedin Airport

#### **HIGHLIGHTS AND EXTREME EVENTS**

##### **Temperature**

The highest temperature during December 2006 was 31.5 °C recorded at Blenheim Airport on the 12<sup>th</sup>,

during hot dry northwesterly conditions, which also affected Canterbury. The lowest air temperature for the month was -2.5 °C recorded at Chateau Ruapehu on the 10<sup>th</sup>.

**Record low December minimum air temperatures were recorded at:**

Location	Minimum air temperature (°C)	Date of occurrence	Year Records began
Pukekohe	4.4	10 Dec.	1970
Christchurch Airport	0.1	2 Dec.	1953
Manapouri, West Arm	-0.6	1 Dec.	1996

**High rainfall**

There were several high rainfall events, with at least 50 mm in 24 hours (the 29 December event produced flooding), during December. These were:

Date	Region and location	Rainfall
2 Dec.	Fiordland	Milford Sound (53 mm)
12 Dec.	Fiordland	Milford Sound (51 mm)
16 Dec.	Southern Alps	Mt Cook (56 mm)
19 Dec.	Coromandel, Southland	Whitianga Airport (76 mm), Secretary Island (85 mm)
20 Dec.	Canterbury, Banks Peninsula	Christchurch, Kyle St. (74 mm), Le Bons Bay (52 mm)
25-27 Dec.	West Coast	Milford Sound (232 mm over 2-days)
29 Dec.	South Canterbury	Ashburton (83 mm)

**Snowfall**

Arthur's Pass was closed due to snowfall over the night of 30 November/1 December. Sleet and snow were observed at Porters Pass on 30 December.

**Hailstorm**

A hailstorm hit Riwaka at about 2pm on 1 December, with slight damage occurring to apples in some orchards.

**High winds**

A wind gust of 148 km/h from the northwest was recorded at South West Cape on the 7<sup>th</sup>.

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