

NATIONAL CLIMATE CENTRE

SUNDAY 1 JULY 2007

National Climate Summary – June 2007: Cold and wintry in the south, warmer in the north, sunny

- **Temperature: Below average over much of the South Island, warmer in the north of the North Island**
- **Rainfall: Below normal in the northeast of the South Island, above normal in the south of the South Island**
- **Sunshine: Above average in many regions**
- **Wind: Rather windy at times over the south with strong westerlies and south westerlies**

June 2007 was a wintry month in the South Island, especially in the south, with frequent bitterly cold southwesterlies, producing snowfall to low levels in Southland and Otago (as well as South Island high country passes) between the 7th and 9th and again from the 20th to 24th, with severe frosts following in many areas subsequently. Reefton, Hanmer Forest and the North Island's Desert Road were affected by snowfall during the second event. However, June's weather was more settled in the sheltered north-eastern areas of both islands.

The national average temperature was 7.9°C (0.6 °C below normal); a striking decrease of more than 4°C following the warmest May on record. Mean temperatures were at least 0.5 °C below average over much of the South Island. In contrast these were above average in parts of the north and east of the North Island. Rainfall was 75 percent (three quarters) or less of normal in some regions which received sheltering from the prevailing southwesterlies, such as Horowhenua, Kapiti, Wellington, Wairarapa, Marlborough, Nelson, and parts of Canterbury. However, exposed regions such as Southland and Otago were wetter than normal. Soil moisture deficits are still unusually high for the time of year in parts of Marlborough, Canterbury, north and Central Otagoo. June was also sunnier than normal over much of New Zealand.

Depressions ('lows') were much more frequent than normal southeast of the South Island, while anticyclones ('highs') were much more numerous south of Australia. This pattern produced more recurrent cold southwesterlies than usual over New Zealand, the strongest and most frequent for June since 2002. More days of with strong winds (gusts of 60 km/h or more) occurred over southern New Zealand. Three depressions developing off the eastern Australian seaboard moved southeast to affect New Zealand during the month (8th -11th June, 17th -21st June, and 27th -30th June).

Further Highlights:

- The Southland and Otago snowfall event between the 7th and 9th, resulted in power outages, with 5-10 cm accumulating in many areas. About 10 cm accumulated in the same regions (including Queenstown and Dunedin hill suburbs) from the 20th-24th, where roads were icy and treacherous. Reefton, on the West Coast, had its largest snowfall (about 8 cm) since 1969.
- The highest temperature during June 2007 was 22.4 °C recorded at Rangiora on the 1st.
- The lowest air temperature during the month was -10.8 °C recorded at Tara Hills, Omarama on the 22nd.
- Two major rainfall events occurred in June: at Arthurs Pass, with 85 mm on the 1st, and in Westland on the 29th with 130 – 170 mm.
- Wind gusts as high as 148 km/h were recorded from the west at Castlepoint on the 7th, and at Taiaroa Head from the east on the 24th. Gale force southerlies occurred in Cook Strait on the 26th, with 5m swells, resulting in the cancellation of ferry crossings.
- Christchurch was the coldest, driest, and sunniest of the five main centres. Rainfall was below normal in Wellington and near normal elsewhere. Temperatures were above normal in Auckland and Hamilton, and below normal in the other main centres. Sunshine hours were above normal in all five main centres.

Temperature: Mean temperatures were at least 0.5 °C below average throughout much of the South Island, and at least 1.0 °C below average in Otago. However, they were at least 0.5 °C above average in parts of the north and east of the North Island, including Northland, Auckland, Bay of Plenty, Gisborne, and Hawke’s Bay.

Rainfall: Rainfall was 75 percent (three quarters) or less of normal in Horowhenua, Kapiti, Wellington, Wairarapa and Marlborough, and parts of Northland, Nelson, Canterbury, and Fiordland. In contrast, rainfall totals were almost 200 percent (twice) of normal in parts of Southland, and also above normal in South Otago, and parts of Hawke’s Bay and Westland.

Sunshine: June sunshine hours and/or solar radiation were more than 120 percent of normal in Kapiti, Canterbury, and east Otago, and at least 110 percent of normal in many other regions.

For further information, please contact:

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TEMPERATURE: COLD IN THE SOUTH ISLAND, WARMER IN THE NORTH

Mean temperatures were at least 0.5 °C below average throughout much of the South Island, and at least 1.0 °C below average in Otago. However, they were about 0.5 °C above average in parts of the north and east of the North Island, including Northland, Auckland, Bay of Plenty, Gisborne, and Hawke’s Bay, and near average in most other North Island regions. The national average temperature was 7.9 °C (0.6°C below normal).

Near or record June mean air temperatures were recorded at:

Location	Mean air temperature (°C)	Departure from Normal	Year Records began	Comments
Dunedin Airport	3.8	-1.8	1963	Equal 3 rd lowest
Campbell Island	3.7	-1.3	1942	Well below normal

RAINFALL: BELOW NORMAL IN THE NORTHEAST OF BOTH ISLANDS, THE SOUTH OF THE NORTH ISLAND, CANTERBURY, AND SOUTH WESTLAND; ABOVE NORMAL IN SOUTHLAND AND SOUTH OTAGO

Rainfall was 75 percent (three quarters) or less of normal in Horowhenua, Kapiti, Wellington, Wairarapa, Marlborough, and Fiordland, and parts of Northland, Nelson, and Canterbury.

In contrast, rainfall totals were almost 200 percent (twice) of normal in parts of Southland, and at least 150 percent of normal in South Otago, and parts of Hawke’s Bay and Westland.

High June rainfall was recorded at:

Location	June Rainfall (mm)	Percentage of normal	Year Records began	Comments
Gore EWS	162	224	1988	Highest

SUNSHINE: ABOVE AVERAGE IN MANY REGIONS

June sunshine hours and/or solar radiation were more than 120 percent of normal in Kapiti, Canterbury, and east Otago, and at least 110 percent of normal in many other regions. Sunshine hours were near normal in Gisborne.

High June sunshine hours were recorded at:

Location	June Sunshine (hrs)	Percentage Of normal	Year Records began	Comments
New Plymouth Airport	136	118	1973	Well above normal
Paraparaumu Airport	124	123	1953	Well above normal
Takaka	160	117	1986	Well above normal
Christchurch Airport	136*	115	1949	Well above normal
Lake Tekapo	125*	130	1928	Well above normal

* 29 days

JUNE'S CLIMATE IN THE FIVE MAIN CENTRES

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

June 2007 main centre climate statistics:

Location	June Mean Temp. (°C)	Dep. from normal (°C)		June rainfall (mm)	% of Normal		June Sunshine (hours)	% of Normal	
Auckland	12.1	+0.4	Above normal	91 ^a	101	Normal	118	106	Above normal
Hamilton	9.7	+0.3	Above normal	104	88	Near normal	118	115	Above normal
Wellington	9.0	-0.5	Below normal	105	71	Below normal	105	107	Above normal
Christchurch ^b	5.5	-0.7	Below normal	56	91	Near normal	136 ^b	115	Above normal
Dunedin	6.1	-1.0	Below normal	74	104	Near normal	114	131	Well above normal

^a Owairaka ^b Christchurch Airport

HIGHLIGHTS AND EXTREME EVENTS

- **Temperature**

The highest temperature during June 2007 was 22.4 °C recorded at Rangiora on the 1st. It was also rather mild, with maximum temperatures between 21.0 °C and 21.9 °C in parts of Northland and Hawke's Bay, on the 2nd.

The lowest air temperature during the month was -10.8 °C recorded at Tara Hills, Omarama on the 22nd. Many inland Otago locations experienced minimum air temperatures below -7.0 °C with grass minima below -10.0 °C on several nights between the 13th and 22nd, and also the 26th and 28th of June.

- **High rainfall**

Two major rainfall events occurred in June:

- One with at least 75 mm in 24 hours, occurred at Arthurs Pass, with 85 mm on the 1st.
- Another with 130 – 170 mm in Westland occurred on the 29th.

- **High winds**

Wind gusts as high as 148 km/h were recorded from the west at Castlepoint on the 7th, and at Tairaroa Head from the east on the 24th. Gale force southerlies occurred in Cook Strait on the 26th, with 5m swells, resulting in the cancellation of ferry crossings.

- **Snowfall**

Bitterly cold southwesterlies, produced snowfall to low levels in Southland and Otago (as well as South Island high country passes) between the 7th and 9th. Some residents in inland parts of Southland were without electricity after 5-10 cm accumulated in many areas. There were broken power lines and high winds tore out power poles. Forty two homes around Clinton (which recorded 10 cm on snowfall), spent two nights without electricity following the outage. In total, about 131 homes were affected. About 30 to 40 homes at Slope Down, Kuriwao and between the back of Maitava and Kaiwera were also affected by power outages on 8 June. Another outage at Mokoreta left 41 homes without power.

Further snowfall occurred to low levels in Southland and Otago (as well as South Island high country passes) again, from the 20th to 24th, with Reefton, Hanmer Forest and the North Island's Desert Road also affected. About 10 cm of snowfall accumulated in parts of Queenstown, making it difficult for cars travelling without chains. Queenstown airport was closed. Snowfall also made travel difficult in Central Otago. Snowfall occurred to sea level in Dunedin, with up to 10 cm in the hills on the 23rd. SH1 to Clinton was closed, and many roads were icy and treacherous. In Central Otago there were some abandoned cars. An international student died when the car she was a passenger in slid off the Makarora-Lake Hawea Road on State Highway 6 and crashed into the lake. Three other women survived and were taken to hospital suffering from hypothermia. State Highway 80 to Mt Cook, State Highway 83 between Kurow and Omarama and State Highway 6 between Makarora and Haast were closed. State Highway 73 between Arthurs Pass and Otira, and the high country of the central South Island, Nelson and Otago were also affected. Reefton, on the West Coast, also had snowfall, reporting its biggest event since 1969, with up to 8 cm in places.

For further information, please contact:

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