

NATIONAL CLIMATE CENTRE

National Climate Summary – October 2007: Stormy and generally cold with frequent spring gales

- **Wind: Much more wind than normal, with frequent gales from the westerly sector**
- **Temperature: Well below average in the South Island and parts of the North Island, above average in Hawke's Bay and parts of the north**
- **Rainfall: Above normal in many regions, especially in the South Island**
- **Sunshine: Near or above normal in most regions**

October 2007 was rather stormy and generally cold with deep depressions tracking south of New Zealand and frequent westerly gales. This was the equal 4th windiest October overall in regard to westerlies in measurements that commenced in 1966. Wind gusts over 130 km/h were recorded on 13 days (42%) in the month. In fact, many stations had at least 7 more days with strong winds (with gusts to 60 km/h or more) than is average for the time of year.

Temperatures were below average throughout much of the South Island, and the southern North Island. In contrast average or above average temperatures occurred in the north and east of the North Island. The national average temperature of 11.7 °C was 0.5 °C below average.

Rainfall was almost 200 percent (twice) of normal in parts of north Westland, at Hanmer Forest, and inland parts of north Canterbury, and above normal in many other regions, especially in the South Island. Only in the Far North was rainfall about 50 percent (half) of normal. This produced soil moisture surpluses in Fiordland, Gisborne, and Wairarapa. Significant soil moisture deficits (more than 110 mm) occurred toward the end of the month in parts of Marlborough and Central Otago (normal for the time of year).

The month was much sunnier than usual in Northland, Gisborne, north Canterbury, Otago, and Southland

Further Highlights:

- The lowest air temperature during the month was -6.2 °C recorded at Waiouru AWS on the 4th.
- The highest temperature during October 2007 was 27.2 °C recorded at Timaru Airport on the 30th.
- Surface flooding occurred in the Hutt Valley on the 7th. Days of high rainfall resulted in an overflow of the Waiou River (in North Canterbury) on the 8th, and heavy rainfall occurred in the central North Island, with 30 mm recorded at Ohakune in an hour on the 17th.
- Snowfall occurred in many high country areas over 2-7 October, 10-11, 14-15, and 17-18 October.
- High winds from the west and northwest were more frequent than normal, with gale force events on 4 and 23 October resulting in fallen trees, broken power lines, and difficulty for motorists, in several regions. In the south, such high winds occur very infrequently.
- Of the five main centres, Auckland was the warmest, Wellington the wettest, and Christchurch the driest and sunniest.

Temperature: Mean temperatures were well below average in inland areas of the South Island and Southland, with one of the coldest October's on record. It was also below average in most other South Island regions, as well as Wellington. In contrast they were above average in Northland, Coromandel, Gisborne, and Hawke's Bay.

Rainfall: Rainfall was almost 200 percent (twice) of normal in the central North Island, parts of north Westland, at Hanmer Forest, and in inland parts of north Canterbury. Totals were also above normal in parts of Auckland, Gisborne, Wairarapa, Kapiti, Wellington, Buller, Marlborough, Nelson, the Southern Lakes district, Otago, and Southland. Rainfall was less below normal in much of Northland, parts of Bay of Plenty, and in Hawke's Bay.

Sunshine: Sunshine hours were above normal in the north and east of both islands, especially Northland, Gisborne, north Canterbury, Southland, and Otago. Sunshine was near normal elsewhere.

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TEMPERATURE: BELOW AVERAGE OVER MUCH OF THE SOUTH ISLAND, ESPECIALLY INLAND AREAS, NEAR OR ABOVE AVERAGE OVER MUCH OF THE NORTH ISLAND,

Mean temperatures were 1.5 °C or more below average in parts of north Westland, inland areas of the South Island, and Southland, with one of the coldest October's on record. Temperatures were at least 0.5 °C below average in many other South Island regions, as well as Wellington. In contrast they were 0.5 °C or more above average in Northland, Coromandel, Gisborne, and Hawke's Bay. The national average temperature was 11.7 °C (0.5 °C below normal).

Near record low mean air temperatures were recorded at:

Location	Mean air temperature (°C)	Departure from Normal	Year Records began	Comments
Reefton	9.9	-1.6	1960	Well below normal
Mt Cook EWS	6.5	-2.3	1929	2 nd lowest
Wanaka Airport	9.3	-1.7	1992	Lowest
Manapouri, West Arm	7.8	-1.4	1996	2 nd lowest
Lumsden AWS	8.7	-1.3	1982	2 nd lowest
Tiwai Point EWS	8.9	-1.5	1970	Equal lowest

RAINFALL: ABOVE NORMAL IN MANY REGIONS, ESPECIALLY IN THE SOUTH ISLAND

Rainfall was almost 200 percent (twice) of normal in the central North Island, parts of north Westland, at Hanmer Forest, and in inland parts of north Canterbury. Totals were at least 125 percent (one and a quarter) of normal in parts of Auckland, Gisborne, Wairarapa, Kapiti, Wellington, Buller, Marlborough, Nelson, the Southern Lakes district, Otago, and Southland. Westport experienced one of their most unsettled Octobers on record, with 24 wet-days (days with at least 1.0 mm) – seven more than average.

Rainfall was less than 75 percent (three quarters) in much of Northland, parts of Bay of Plenty, and in Hawke's Bay, and near normal elsewhere.

High October rainfall was recorded at:

Location	October Rainfall (mm)	Percentage of normal	Year records began	Comments
Waiouru MWD	163	180	1950	Highest
Reefton EWS	380	183	1960	Well above normal
Hanmer Forest	202	190	1905	Equal 3 rd highest
Culverden	107	201	1983	Highest

SUNSHINE: NEAR OR ABOVE NORMAL IN MOST REGIONS

Sunshine hours were at least 120 percent of normal in Northland, Gisborne, north Canterbury, Southland, and Otago, and at least 110 percent of normal in Bay of Plenty, Kapiti, Wellington, Marlborough, and Nelson. Sunshine was near normal elsewhere.

Near or record October sunshine was recorded at:

Location	October Sunshine (hours)	Percentage of normal	Year records began	Comments
Kaitaia	230	126	1985	3 rd highest
Dargaville	216	130	1943	Highest
Gisborne Airport	270	128	1905	3 rd highest
Blenheim Research	264	118	1985	2 nd highest
Dunedin, Musselburgh	188	128	1948	Well above normal
Invercargill Airport	187	121	1932	Well above normal

WINDY IN MANY REGIONS

October is normally a windy month. However, this October, days with strong gusty (mainly northwesterly) winds were more frequent than average in the south and east of both islands. Wind gusts over 130 km/h were recorded somewhere in New Zealand on 1, 4-8, 13, 16-17, 20-21, and 23 October. Some locations had at least an extra week's worth of gusty days (gusts to at least 60 km/h) than is typically experienced at this time of year. Previous very windy westerly Octobers occurred in 1968, 1988, and 1998.

Locations with a near or record high number of windy days (gusts to at least 60 km/h) during October 2007 were:

Location	Days with wind gusts of at least 60 km/h	Departure from normal	Year records began	Comments
Warkworth EWS	18	+9	2000	Highest
Taupo Airport AWS	12	+10	1995	Highest
New Plymouth Airport AWS	15	+8	1993	Equal highest
Hick Bay AWS	24	+10	1993	Highest
Gisborne Airport AWS	13	+10	1993	Highest
Napier Airport AWS	18	+12	1995	Highest
Whakatu EWS	14	+10	1997	Highest
Mahia AWS	16	+8	1995	2 nd highest
Waione EWS	13	+7	1996	2 nd highest
East Taratahi AWS	16	+10	1995	2 nd highest
Martinborough EWS	18	+12	2001	Highest
Paraparaumu Airport AWS	16	+10	1995	Highest
Palmerston North AWS	17	+10	1995	Highest
Levin AWS	13	+10	1995	Highest
Wallaceville EWS	16	+12	1999	Highest
Farewell Spit AWS	23	+14	2001	Highest
Westport Airport AWS	13	+9	1995	Highest
Blenheim Airport AWS	13	+9	1995	Highest
Awatere Valley EWS	18	+12	2000	2 nd highest
Hanmer Forest EWS	14	+10	1995	Highest
Kaikoura AWS	17	+7	1993	Equal highest
Christchurch Airport	12	+8	1954	Equal 3 rd highest
Mt Cook EWS	20	+10	2000	Highest
Darfield EWS	12	+8	2000	Highest
Timaru Airport AWS	10	+7	1995	Highest
Middlemarch EWS	16	+11	2000	Highest
Chatham Islands AWS	22	+11	1995	Highest

OCTOBER'S CLIMATE IN THE FIVE MAIN CENTRES

Auckland was the warmest, Wellington the wettest, and Christchurch the driest and sunniest of the main centres. Rainfall was above normal everywhere except Hamilton where it was near normal. Temperatures were below normal everywhere except Auckland where they were near normal. Sunshine hours were above normal in Wellington, Christchurch, and Dunedin, and near normal in the other main centres.

October 2007 main centre climate statistics:

Location	Oct. mean temp. (°C)	Dep. from normal (°C)		Oct. rainfall (mm)	% of normal		Oct. Sunshine (hours)	% of normal	
Auckland	14.5	0.0	Normal	129 ^a	142	Above normal	188	105	Near normal
Hamilton	12.8	-0.4	Below normal	92	100	Near normal	181	103	Near normal
Wellington	10.9	-1.1	Below normal	176	153	Above normal	222	115	Above normal
Christchurch ^b	10.9	-0.8	Below normal	67	137	Above normal	238	120	Well above normal
Dunedin	10.6	-0.4	Below normal	90	127	Above normal	188	128	Well above normal

^a *Owairaka* ^b *Christchurch Airport*

HIGHLIGHTS AND EXTREME EVENTS

- **Temperature**

The lowest air temperature during the month was -6.2 °C recorded at Waiouru AWS on the 4th. The highest temperature during October 2007 was 27.2 °C recorded at Timaru Airport on the 30th.

- **High winds**

High winds from the west and northwest were more frequent than normal during the month. On 4 October, power outages occurred for 1500 mid Canterbury residents, and some roofs were lifted by the winds. A campervan, near Burke Pass, was also toppled by the wind, along with fallen trees. A wind gust of 163 km/h was recorded at Tasman Aerodrome, Mt. Cook, during violent storm force northerlies. Earlier, on 3 October, high winds resulted in the cancellation of 18 flights in and out of Wellington Airport.

North westerlies reached violent storm force (mean speed 111 km/h) at Puysegur Point and storm force (mean speed 93 km/h) at South West Cape during the early morning of 23 October, with gales lifting roofing iron, power lines down, and trees felled in Bluff and Invercargill (gusts 130-150 km/h), wind damage also occurring in Woodville and Dannevirke. Such wind gusts in the south only occur very infrequently. High winds associated with debris and several broken power lines also affected Dunedin and areas near Christchurch. Power was lost for approximately 2500 houses in Southland and Otago during the event, 1500 of which were still without power on 24 October. Damaging winds (over 120 km/h) also buffeted Manawatu, with a large 17 tonne truck overturned on SH2 north of Dannevirke. Trucks were also overturned or forced off roads near Balclutha and Kaikoura, and an ambulance was toppled on its way to reach a woman trapped in a car by a fallen tree in Central Hawke's Bay. North of Wellington, the Rimutaka Hill Road was closed due to gusts as high as 150 km/h. Trains were also disrupted; the main south line being closed in Dunedin after part of a supermarket roof was blown onto the track. Several people were injured throughout the country during the event. Wind gusts exceeded 100 km/h in the south and east of both islands, and were at least 130 km/h in the south of the South Island and south east of the North Island.

Very high wind gusts in October, of at least 130 km/h, were recorded at:

Date	Region	Location	Wind gust (km/h)
1 Oct.	Wellington	Kelburn	146
4 Oct.	Wairarapa	Castlepoint	137
	Wellington	Kelburn	133
	Aorangi	Mt. Cook, Tasman Aero.	163
5 Oct	Wairarapa	Castlepoint	145
	Wellington	Mt. Kaukau	133
	Southland	Puysegur Point	141
6 Oct	Wairarapa	Castlepoint	143
7 Oct	Wellington	Kelburn	145
8 Oct	Wairarapa	Castlepoint	139
	Wellington	Mt. Kaukau	135
13 Oct	Wellington	Kelburn	141
16 Oct	Wairarapa	Castlepoint	141
17 Oct	Wairarapa	Castlepoint	146
20 Oct	Wairarapa	Castlepoint	150
	Stewart Island	South West Cape	133
21 Oct	Aorangi	Mt. Cook Village	130
23 Oct	Wairarapa	Castlepoint	141
	Wellington	Mt Kaukau	152
	Otago	Taiaroa Head	170
	Southland	Tiwai Point	148
	“	Puysegur Point	146
	Stewart Island	South West Cape	141
24 Oct	Wairarapa	Castlepoint	145
	Aorangi	Mt. Cook, Tasman Aero.	139
	Otago	Taiaroa Head	143

High winds, attributed to a tornado, ripped roofing iron off a garage and part of a Dargaville house at about 1.30 pm on 9 October, producing a noise as loud as a ‘train crash’.

- **High rainfall**

- 7 October The same weather system that produced damaging northwest winds also produced substantial rainfall in Hutt Valley catchment areas. Surface flooding occurred in the Hutt Valley, with water up to 300 mm deep on some roads between Upper Hutt and Petone.
- 8 October Days of high rainfall resulted in an overflow of the Waiau River (in North Canterbury) and a family having to be evacuated.
- 10 October Rainfall totalling 160 mm was recorded at Arthurs Pass.
- 17/18 October Heavy rainfall occurred in the central North Island, with 72 mm recorded in Ohakune in the 24 hours to 9am on the 18th, of which 30 mm occurred in the hour to 11am on the 17th.
- 30 October The heaviest fall of the month, with 182 mm at Milford Sound.

- **Snowfall**

- 2-7 October Snowfall occurred in and near the Southern Alps, including Mt Cook Village, Arthurs Pass, and Tekapo, and occurred over 2-3 October on the North Island’s Desert Road.
- 10-11 October Further snowfall at Arthurs Pass.
- 14-15 October More snowfall at Arthurs Pass.
- 17-18 October Snowfall occurred in the Southern Alps, as well as 5-6 cm in the South Canterbury hill country (including Tekapo, Mt Cook Village, and Arthurs Pass, with a dusting in Fairlie) over the night of the 17/18th, and later on the North Island’s Desert Road.

- **Lightning strikes**

Lightning struck a house in Redvale (Rodney district) during 1 October, resulting in fire, a collapsed ceiling, and electrical damage. A Wellington passenger aircraft on route to Auckland was struck by lightning, without damage, on 3 October.

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