

National Climate Summary – October 2006: Another month of extremes

Rainfall: Well above normal in Auckland, Wairarapa, Manawatu, and near Christchurch; below normal in Central and East Otago

Significant soil moisture deficits continue in North and Central Otago; deficits developing in other eastern regions

Wind: Much windier than average over the South Island and southern North Island

Temperature: Average or below average in all regions

Sunshine: Very sunny inland South Canterbury, East Otago, and Southland

October was another month of climate extremes. It was windier than usual over most of the South Island and southern half of the North Island. In fact, several locations in Marlborough and Otago recorded their windiest October in over a decade. It was also very wet in Auckland, Wairarapa, and Manawatu, while significant soil moisture deficits persisted in Otago. On 13 October, föhn northwesterlies produced a near record one-day heat-wave for October, with maximum temperatures between 28 °C and 30 °C occurring in many eastern locations from Gisborne to Otago. Rainfall for the month was about 200 percent (twice) of normal in Auckland, Wairarapa, Manawatu, and just south of Christchurch, the very wet weather resulting in very saturated soils in Manawatu and Wairarapa. Rainfall was just over 50 percent (half) of normal in East Otago. Below normal rainfall in the southern South Island resulted in continued significant soil moisture deficits (110-130 mm) in parts of North and Central Otago. Soil moisture deficits, although not yet major, also exist in South Canterbury, Marlborough, and central Hawke's Bay. The national average temperature of 11.9 °C was 0.3 °C below normal. However, October was much cooler than usual in parts of King Country, coastal Wairarapa, and Wellington. Sunshine hours were above normal in much of the south and east of the South Island, but below normal in the west of the North Island from Auckland to Wellington. More anticyclones ('highs') predominated over the southeast of Australia and the Tasman Sea, with below average pressures southeast of New Zealand. This pattern produced more frequent southwesterlies than normal over New Zealand, and many more days than average with strong winds over the South Island and the southern North Island. The southwesterlies were interspersed with some significant southerly storms, notably on the 4th-6th, and the 23rd-25th.

Other Highlights:

The highest temperature during October 2006 was 30.4 °C recorded at Gisborne Airport on the 13th.

The lowest air temperature for the month was -5.1 °C recorded at Middlemarch on the 5th.

Severe weather on 1 October produced high winds, attributed to tornadoes or waterspouts, which damaged trees and property in West Auckland. Heavy rainfall and widespread surface flooding occurred on the same day in parts of Auckland City.

Southerly gales and high seas resulted in Cook Strait ferry sailings being cancelled for much of the day on the 4th, and overnight into the 5th. These conditions also affected rail and air travel. Surface flooding occurred in parts of Wairarapa, with some large landslips in the region. Heavy snowfall occurred in the Gisborne and Hawke's Bay high country on the 6th, as well as the North Island's Desert Road.

A wind gust of 176 km/h from the northwest was recorded at Castlepoint on the 19th.

More southerly gales occurred through Cook Strait and Wellington, disrupting sea and air transport on the 24th, following Wellington's wettest Labour weekend in more than a decade. Rainfall was heavy in parts of Wellington, and a house in Eastbourne was evacuated due to a large landslide.

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

Rainfall: October rainfall totals were about 200 percent (twice) of normal in Auckland, Wairarapa, Manawatu, and just south of Christchurch. Rainfall was also above normal in Wanganui, Wellington, the Kaikoura Coast, and in north Canterbury. Rainfall was just over 50 percent (half) of normal in East Otago.

Temperature: Mean temperatures were just below average in many regions. However, they were more than 1.0 °C below average in parts of King Country, coastal Wairarapa, and Wellington, and at least 0.5 °C below average in Taupo and Southern Wairarapa.

Sunshine: Sunshine hours were at least 120 percent of normal in inland South Canterbury, East Otago, and Southland, and at least 110 percent of normal in Gisborne, Hawke’s Bay, and North Canterbury. Sunshine hours were below normal in the west of the North Island from Auckland to Wellington.

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**VERY WET IN AUCKLAND, WAIRARAPA, MANAWATU, AND NEAR CHRISTCHURCH
 BELOW NORMAL RAINFALL IN EAST OTAGO**

October rainfall totals were high, being about 200 percent (twice) of normal in Auckland, Wairarapa, Manawatu, and just south of Christchurch. Rainfall was also above normal, with totals 125 percent (one and a quarter) or more of normal, in Wanganui, Wellington, on the Kaikoura Coast, and in north Canterbury. Rainfall was just over 50 percent (half) of normal in East Otago, and 75 percent (three quarters) or less of normal in North Otago, and generally near normal elsewhere.

High October rainfall was recorded at:

Location	October Rainfall (mm)	Percentage of normal	Year Records began	Comments
Auckland, Henderson	214 ^a	194	1986	2 nd highest
Auckland, Owairaka	186	204	1949	Well above normal
Auckland, Mangere	192	222	1959	Highest
Auckland Airport	158	187	1962	3 rd highest
Pukekohe	178	177	1969	3 rd highest
East Taratahi	166	247	1972	Highest
Palmerston North Airport	172	220	1943	2 nd highest
Lincoln, Broadfield	108	209	1881	Well above normal

^ato 9am 31 Oct.

WINDY THROUGHOUT THE SOUTH ISLAND AND SOUTHERN NORTH ISLAND

October is normally a windy month. However, this October, days with strong gusty winds were more frequent than average over much of the South Island and over the southern North Island, especially in the east. Some locations had an extra week’s worth of gusty days than is typically experienced at this time of year.

Locations with a near or record high number of windy days (gusts to at least 60 km/h) during October 2006 were:

Location	Days with wind gusts of at least 60 km/h	Departure from normal	Year records began	Comments
Castlepoint	28	+5	1995	Equal highest
Wellington, Kelburn	27	+7	1967	2 nd highest
Blenheim Airport	10	+6	1991	2 nd highest
Kaikoura	17	+7	1991	Highest
Winchmore	8	+5	1970	Equal 2 nd highest
Tara Hills	11	+7	1985	2 nd highest
Dunedin Airport	13	+8	1991	Highest
Queenstown Airport	8	+5	1991	Highest

TEMPERATURE: AVERAGE OR BELOW AVERAGE IN ALL REGIONS

The national average temperature of 11.9 °C was 0.3 °C below normal. However, mean temperatures were more than 1.0 °C below average in parts of King Country, coastal Wairarapa, and Wellington, and as much as 1.0 °C below average in Taupo and Southern Wairarapa.

VERY SUNNY IN INLAND SOUTH CANTERBURY, EAST OTAGO, AND SOUTHLAND

Sunshine hours and/or solar radiation were at least 120 percent of normal in inland South Canterbury, East Otago, and Southland, and at least 110 percent of normal in Gisborne, Hawke's Bay, and North Canterbury. Sunshine hours were below normal in the west of the North Island from Auckland to Wellington, and near normal in most other regions.

Well above average October sunshine hours were recorded at:

Location	October Sunshine (hours)	Percentage of normal	Year records began	Comments
Lake Tekapo	247	124	1928	Well above normal
Dunedin, Musselburgh	178	121	1948	Well above normal
Invercargill Airport	195	125	1932	Well above normal

OCTOBER'S CLIMATE IN THE FIVE MAIN CENTRES

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

Location	Oct. Mean Temp. (°C)	Dep. from normal (°C)		Oct. rainfall (mm)	% of Normal		Oct. Sunshine (hours)	% of Normal	
Auckland	14.3	-0.2	Near normal	186 ^a	204	Well above normal	159	89	Below normal
Hamilton	12.7	-0.5	Below normal	109	119	Above normal	144	82	Below normal
Wellington	10.7	-1.3	Well below normal	187	162	Above normal	157	81	Below normal
Christchurch	11.5	-0.2	Near normal	73 ^b	150	Above normal	225 ^b	113	Above normal
Dunedin	11.3	+0.3	Above Normal	40	57	Below normal	178	121	Above normal

^a Owairaka ^b Christchurch Airport

HIGHLIGHTS AND EXTREME EVENTS

Temperature

The highest temperature during October 2006 was 30.4 °C recorded at Gisborne Airport on the 13th. The lowest air temperature for the month was -5.1 °C recorded at Middlemarch on the 5th.

Extremely high October maximum temperatures were recorded on 13 October at:

Location	Maximum temperature (°C)	Year Records began	Comments
Gisborne Airport	30.4	1905	3 rd highest for Oct; highest for Oct. since 1977
Wairoa, North Clyde	30.2	1991	Highest for Oct.
Winchmore	28.5	1950	Highest for Oct.
Oamaru Airport	28.3	1967	2 nd highest for Oct; highest for Oct. since 1977
Dunedin Airport	29.0	1963	2 nd highest for Oct; highest for Oct. since 1977
Dunedin, Musselburgh	30.2	1947	2 nd highest for Oct; highest for Oct. since 1977
Alexandra	29*	1928	Equal highest for Oct.

* rounded to nearest degree only

High rainfall

There were several high rainfall events, with at least 50 mm in 24 hours, during October. These were:

Date	Region/s affected	Comments	Rainfall (mm)
1 Oct.	Auckland	North Shore, Beach Haven: large landslip	Khyber Pass 107 (1-day)
3 Oct.	Wairarapa	Masterton: surface flooding Mauriceville: slips, approach to rail bridge washed out	>25 (30-min.) 65 (90 min.)
3 Oct.	Canterbury	Lincoln	74 (1-day)
8 Oct.	Fiordland, Southern Alps.	Milford Sound	91 (1-day)
14-15 Oct	South Westland, Fiordland, Southern Alps	Arthurs Pass	171 (2-days)
18-19 Oct	Fiordland, Southern Alps	Milford Sound	93 (2-days)
21 Oct	Southern Alps	Arthurs Pass	91 (1-day)
23 Oct	South Taranaki	Hawera	62 (1-day)
	Wellington	Lower Hutt	>77 (16-hours)
29 Oct	South Taranaki	Stratford	50 (1-day)
	Hutt Valley	Wallaceville	55 (1-day)

High winds

A wind gust of 176 km/h from the northwest was recorded at Castlepoint on the 19th, mean wind speeds reached 126 km/h (hurricane force). This and other locations with very high wind gusts in October were:

Date	Region/s affected	Location	Maximum wind gust (km/h)
4 Oct.	Wellington	Mt. Kaukau	148
	Cook Strait	Brothers Island	145
8 Oct.	Stewart Island	Southwest Cape	156
9 Oct.	Coastal Wairarapa	Castlepoint	145
	Stewart Island	Southwest Cape	152
11 Oct.	Stewart Island	Southwest Cape	156
13 Oct.	Coastal Wairarapa	Castlepoint	158
	Stewart Island	Southwest Cape	165
14 Oct	Stewart Island	Southwest Cape	165
19 Oct.	Coastal Wairarapa	Castlepoint	176
	Stewart Island	Southwest Cape	145
24 Oct.	Cook Strait	Brothers Island	148
	Wellington	Mt. Kaukau	152

Weather event of 1 October – tornado, lightning, and flood producing rainfall

1 October. High winds, attributed to tornadoes or waterspouts, damaged 35 trees along a 1.2 km stretch in Cornwallis, West Auckland, as well as damaging roofs and fences at about 10 West Auckland properties in Ranui. Lightning occurred with the high winds. Heavy rainfall with widespread surface flooding also occurred, with as much as 50 mm in an hour in parts of Auckland City, and 70-110 mm in 24 hours throughout much of the region.

Weather event of 4-6 October – southerly gales, flood producing rainfall, lightning, and snowfall

Cold southerly gales (with 6 metre swells and gusts up to 120 km/h) meant that Cook Strait ferry sailings were cancelled for much of the day on the 4th, and overnight into the 5th. At least 80 flights from Wellington Airport were delayed or cancelled, affecting about 4000 passengers. Large waves through water over train tracks leading out of Wellington, affecting rail services from Wellington to Petone. The same weather event produced lightning strikes in central Wellington, and torrential rainfall in parts of

Wairarapa, especially north of Carterton. Surface flooding occurred throughout the Masterton District. More than 25 mm was reported within 30 minutes near Mauriceville on the 3rd, with large landslips in the area. Heavy snowfall, up to 30 cm deep, lay on the hills at Matawai in the Gisborne high country on the 6th, and up to 15 cm deep in the hills inland from Tolaga Bay. Other parts of Gisborne, Hawke's Bay, and the North Island's Desert Road at 500 m or higher were also affected.

Weather event of 24 October – southerly gales

More cold southerly gales (with huge more than 8 metre swells and gusts to about 150 km/h) occurred through Cook Strait and Wellington on the 24th, following Wellington's wettest Labour weekend in more than a decade. The Interislander ferry Kaitaki, which left Picton at 1.30 p.m, had to shelter in Cloudy Bay, due to the closure of Wellington Harbour, due to high seas, before attempting a crossing toward Wellington. Many flights to and from Wellington Airport were cancelled due to the high winds. Heavy rainfall occurred in parts of Wellington, and a house in Eastbourne had to be evacuated due to a large landslide.

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