

**National Climate Summary – October 2008: Sunny in the South Island, dry in east and north**

- Sunshine: Very sunny in the South Island, especially in inland and southern parts, and near average for other areas.
- Rainfall: Below normal in Northland, Bay of Plenty, Gisborne, Hawkes Bay, Wellington and most of the South Island especially south Canterbury and Otago; above normal in Waikato, King Country and Manawatu.
- Temperature: Near average for most of the country, but below average in western South Island.

Sunshine totals were well above average for most of the South Island, with Dunedin and Balclutha recording their highest October values on record. Rainfall was less than 50% of normal (half) in Otago and coastal south Canterbury and between 50 and 80% of normal in parts of northern Canterbury, West Coast, Tasman, Wellington, Hawkes Bay, Gisborne, Bay of Plenty and Northland. Soil moisture levels in these areas are between 10 and 30 mm lower than normal for this time of the year as at the end of October. Above normal rainfall totals (greater than 120% of normal) were received in Waikato (around 150% of normal – one and a half times – in Hamilton), King Country and Manawatu. Soil moisture in these areas is near or above normal.

October temperatures were near their average values for most of the country (between -0.5 and +0.5°C of normal). The notable exception was the West Coast of the South Island where mean temperatures in some locations were between 1.0 and 1.5°C cooler than average for October. The national average temperature of 12.1°C was average for October.

The country has now experienced two relatively ‘quiet’ months for extreme weather. There were many fewer extreme weather events during September and October compared with July and August. The most significant event in October was on the 7<sup>th</sup>, when a vigorous storm resulted in high winds (particularly in the lower North Island), heavy rainfall in parts of Taranaki and Canterbury, and late season snowfall around Queenstown.

The generally more settled weather for October resulted from more frequent ‘highs’ (anticyclones) in the Tasman Sea, extending ridges of high pressure across most of New Zealand. There were stronger than normal westerly to southwesterly winds over the country for the month, which contributed to the low rainfalls in the east.

**Further Highlights:**

- The lowest temperature during October was recorded at Lake Tekapo on the 25<sup>th</sup>, where the minimum temperature was -6.1°C. The highest temperature during October 2008 was 28.8°C recorded at Timaru on the 28<sup>th</sup>.
- The highest 1-day rainfall was 100 mm recorded at Woodbury (South Canterbury) on the 7<sup>th</sup> (the highest 1-day total for October at this location since records began in 1973).
- The highest wind gust for the month was 170 km/hr at Southwest Cape on the 28<sup>th</sup> (not an October record for this location). On the same day Gore had a wind gust of 115 km/hr which was the highest recorded October gust since records began in 1987.
- Of the five main centres, Auckland was the warmest, Hamilton was the wettest, Christchurch was the sunniest, and Dunedin the driest.

**Sunshine:** October totals of bright sunshine were above average (more than 110% of normal) or well above average (more than 125% of normal) for much of the South Island. Sunshine was near or slightly above average for the majority of the North Island, but slightly below average in coastal Manawatu and south Taranaki.

**Rainfall:** October rainfall for Otago and south Canterbury was well below normal (less than 50% of normal). It was also drier than normal (between 50 and 80% of normal) in parts of northern Canterbury, West Coast, Tasman, Wellington, Hawkes Bay, Gisborne, Bay of Plenty and Northland. Above normal rainfall (greater than 120% of normal) for October was received in Waikato, King Country and Manawatu.

**Temperature:** Mean temperatures were near average for most of the country, with the exception of the West

Coast of the South Island where temperatures were between 1.0 and 1.5°C cooler than average for October.

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**SUNSHINE: WELL ABOVE AVERAGE FOR MOST OF SOUTH ISLAND**

October totals of bright sunshine were above average (more than 110% of normal) or well above average (more than 125% of normal) for much of the South Island with the exception of Nelson and Marlborough where totals were near average. Sunshine was near or slightly above average for the majority of the North Island, but slightly below average in coastal Manawatu and south Taranaki. Record October totals occurred in Dunedin and Balclutha.

**Extreme (high and low) October sunshine hours were recorded at:**

Location	Sunshine (hours)	Percentage of normal	Year records began	Comments
Lake Tekapo	261	132	1928	3rd highest
Dunedin, Musselburgh	215	143	1947	Highest
Cromwell	261	127	1979	3rd highest
Invercargill Aero	202	130	1932	4th highest
Balclutha	226	144	1964	Highest

**RAINFALL: VERY DRY IN EASTERN AREAS AND NORTHLAND; RATHER WET IN WAIKATO AND MANAWATU**

In a reversal from last month, October rainfall for Otago and south Canterbury was less than half normal (less than 50%). It was also drier than normal (between 50 and 80% of normal) in parts of northern Canterbury, West Coast, Tasman, Wellington, Hawkes Bay, Gisborne, Bay of Plenty and Northland. Above normal rainfall for October fell in Waikato (with Hamilton receiving around 150% (one and a half times) their normal value), King Country and Manawatu.

**Extreme (high and low) October rainfall totals were recorded at:**

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
Okarito	172	47	1981	3rd lowest
Lumsden	42	51	1982	2nd lowest

**TEMPERATURE: NEAR AVERAGE FOR MOST OF COUNTRY**

The national average temperature of 12.1°C for October 2008 was average for this time of the year. Most locations in the country received near average temperatures for the month (between -0.5 and +0.5°C from their typical October values). The notable exception was the West Coast of the South Island where mean temperatures in some locations were between 1.0 and 1.5°C cooler than average for October.

**Extreme (high and low) October mean maximum daily air temperatures were recorded at:**

Location	Mean maximum air temperature (°C)	Departure from normal	Year records began	Comments
Takaka	18.4	1.2	1978	4th highest
Appleby	17.9	1.1	1943	3rd highest
Le Bons Bay	15.4	1.3	1984	4th highest
Dannevirke	14.9	-1.6	1951	4th lowest
Hokitika Aero	13.9	-1.2	1963	4th lowest
Cape Campbell	14.6	-2.2	1953	3rd lowest
Tiwai Point	12.8	-1.1	1970	4th lowest

**Extreme (high and low) October mean minimum daily air temperatures were recorded at:**

Location	Mean minimum air temperature (°C)	Departure from normal	Year records began	Comments
Kumeu (Waitakere)	10.3	1.3	1978	Highest
Haast	5.1	-1.4	1949	4th lowest
Christchurch Aero	4.1	-2.2	1863	Lowest
Dunedin Aero	3.6	-1.3	1947	Lowest
Queenstown Aero	3.5	-0.9	1871	4th lowest

**OCTOBER'S CLIMATE IN THE FIVE MAIN CENTRES**

Rainfall was well above normal for Hamilton (the wettest of the main centres), normal for Auckland, below normal for Wellington and Christchurch, and well below normal for Dunedin (the driest of the five main centres). Hamilton, Wellington and Dunedin received average temperatures for October, while Auckland and Christchurch received slightly below average temperatures, with Auckland the warmest overall. Christchurch was the sunniest of the main centres. Dunedin recorded its sunniest October on record.

**October 2008 main centre climate statistics:**

Location	Mean temp. (°C)	Departure from normal (°C)		Rainfall (mm)	% of normal		Sunshine (hours)	% of normal	
Auckland <sup>a</sup>	13.8	-0.7	Below average	95	110	Normal	180	101	Normal
Hamilton	13.3	0.4	Average	152	158	Well above normal	177 <sup>c</sup>	100	Normal
Wellington	12.4	0.4	Average	89	77	Below normal	202	105	Normal
Christchurch <sup>b</sup>	10.8	-0.9	Below average	31	63	Below normal	244	123	Above normal
Dunedin	10.7	-0.3	Average	19	26	Well below normal	215	147	Highest ever

<sup>a</sup> Mangere    <sup>b</sup> Christchurch Airport    <sup>c</sup> Ruakura

**HIGHLIGHTS AND EXTREME EVENTS**

- **Temperature**

The coldest temperature during October was recorded at Lake Tekapo on the 25<sup>th</sup>, where the minimum temperature was -6.1°C. The maximum temperatures on the 8<sup>th</sup> of October were also quite low for many southern locations, with Arthurs Pass only reaching 4.2°C on that day.

**Near record low extreme daily maximum air temperatures were recorded at:**

Location	Extreme maximum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Arthurs Pass	4.2	8th	1973	4th lowest
Manapouri Aero	6.0	8th	1973	3rd lowest
Tiwai Point	8.0	8th	1972	3rd equal lowest

**Near record low extreme daily minimum air temperatures were recorded at:**

Location	Extreme minimum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Puysegur Point	3.2	25th	1978	4th equal lowest
Christchurch Aero	-3.0	9th	1863	4th lowest
Lake Tekapo	-6.1	25th	1925	2nd lowest
Dunedin Aero	-1.4	11th	1947	4th lowest

The highest temperature during October 2008 was 28.8°C recorded at Timaru on the 28<sup>th</sup>. The minimum temperature of 16.4°C at Waipara West on the night of the 2<sup>nd</sup>/3<sup>rd</sup> was the highest minimum for the country for October.

**Near record high extreme daily maximum air temperatures were recorded at:**

Location	Extreme maximum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Port Taharoa	23.9	24th	1973	3rd highest
Takaka	26.1	28th	1978	2nd highest
Le Bons Bay	24.9	4th	1984	3rd highest
Dunedin Aero	28.0	28th	1947	3rd highest
Dunedin, Musselburgh	26.9	28th	1947	4th highest
Nugget Point	24.5	28th	1970	3rd highest

**Near record high extreme daily minimum air temperatures were recorded at:**

Location	Extreme minimum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Cheviot	15.1	3rd	1982	4th highest
Waipara West	16.4	3rd	1973	4th highest
Queenstown Aero	13.5	27th	1871	4th highest
Lumsden	15.3	27th	1982	3rd highest
Gore	15.3	27th	1972	3rd highest

- **Heavy rain and flooding**

Heavy rain in Taranaki on 7 October caused flash floods in mountain streams, resulting in the death of a tramper who was swept away attempting to cross the swollen Kaupokonui Stream on Mt Taranaki, hampered

by a heavy back-pack. Parts of the South Island also experienced heavy rain.

**Near record high extreme 1-day rainfall totals were recorded at:**

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year Records Began	Comments
Warkworth	49	24th	1967	3rd highest
Waiouru	33	5th	1950	4th highest
Woodbury	100	7th	1973	Highest

• **High winds and tornadoes**

Extreme winds on 7 October caused significant disruption in the upper and lower North Island, forcing road closures and damaging property and trees. Wind speeds of up to 130 kph were recorded in Wellington, and up to 160 kph in some of the surrounding hills. SH2, at the Rimutaka Hill Road, was closed until mid-afternoon. High winds even moved large shipping containers on Wellington's waterfront. Wellington Airport was closed for 6 hours, with flights resuming in the afternoon. Power was cut to about 4000 households and businesses in the Wairarapa and Wellington region as a result of trees falling over power-lines. The power cuts began at about 8 am, with power restored to most properties in the afternoon.

A mini tornado ripped through the Cambridge area about 3.00am on 17 October. About 100 homes were affected, with 12 residents evacuated from one wing of a rest home. Trees and power-lines were brought down, and an 80-year-old oak tree was just plucked out of the ground. One resident lost an aviary – and the birds. Six houses were declared uninhabitable.

**Near record high extreme wind gusts were recorded at:**

Location	Extreme wind gust speed (km/hr)	Date of extreme gust	Year Records began	Comments
Cape Reinga	124	7th	1974	4th equal highest
Kaitaia	93	7th	1985	3rd equal highest
Kaikohe	80	7th	1986	4th equal highest
Whakatane Aero	93	7th	1974	Highest
Gore	115	28th	1987	Highest

• **Snowfall**

Queenstown woke to late-season snow on 7 October, and Transit NZ advised chains must be carried by anyone heading to Milford Sound. The fall started about 7 am and was enough to close Queenstown Airport with flights cancelled. The Remarkables Skifield received about 20 cm of snow, and Cardrona about 5 cm.

Snow fell as low as the Canterbury Plains overnight on 26 October, with 30 cm recorded at Mt Hutt ski field.

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