

National Climate Summary – March 2008 another month of summer & drought

- Temperature: Above average especially Waikato, King Country, central and south west North Island
- Soil moisture: Significant deficits in the west of the North Island from Auckland to Manawatu, Wairarapa and Marlborough until end of the month
- Rainfall: Low in Auckland, Waikato, Canterbury and Fiordland
- Sunshine: Above average especially from Taranaki to Wellington, Marlborough and southern New Zealand

March was another month of summer and records.

March 2008 was warmer than December 2007, with temperatures well above average everywhere. The national average temperature of 16.5°C was 0.8°C above average. Heatwave conditions occurred across inland and eastern areas of the South Island from 18th to 21st March with temperatures of 30°C or more recorded regularly. Record daytime extreme maximum temperatures for March occurred during this period throughout Canterbury, north and Central Otago. The highest temperature for the year so far of 35°C was recorded at Culverden, Woodbury and Timaru Airport on the 19th. The highest ever March temperature recorded in New Zealand is 36°C (Ashburton, March 1956).

Severe soil moisture deficits (more than 130 mm) developed again in the Waikato, parts of the King Country, South Taranaki to Manawatu, Wairarapa and central Marlborough until March 29th. Significant soil moisture deficits (more than 110 mm) persisted throughout much of the west of the North Island, and from the Heretaunga Plains to Wairarapa, and in the east of the South Island. There is no single definition of a “drought” but, in general terms, areas with more than 110 mm soil moisture deficit may be said to be experiencing agricultural drought conditions, particularly if these areas are not accustomed to very dry conditions at the time of year. Rainfalls in the last two days of the month recovered the situation somewhat in Taranaki and Manawatu, and to a lesser extent in the Waikato.

Low rainfall occurred throughout Canterbury, Fiordland, Auckland, Waikato, the King Country and eastern Wairarapa with only a third (30%) to half (50%) of normal rainfall. Rainfall was above average in Wellington, the north of the South Island and eastern Otago. It was generally sunny month, especially in southern New Zealand.

The month’s overall climate pattern was produced by more anticyclones east of New Zealand, with ridges extending back across the country producing light winds over the South Island, and easterlies over the North Island.

Further Highlights:

- The lowest air temperature during the month was -1.6 °C recorded at Lauder on the 10th. The highest temperature during March 2008 was 34.8 °C recorded at both Timaru Airport, and 35°C (rounded to the nearest degree) at Culverden and Woodbury on the 19th. This was 1°C less than the highest ever New Zealand March temperature of 36°C recorded at Ashburton in 1956.
- A tornado funnel was cited in Auckland on 7th March.
- From the 18th to 21st of March heatwave conditions occurred in inland and eastern areas of the South Island.
- The Hamilton area recorded its highest March temperature on record of 29.4°C (records commenced in 1907) on 16th March, and Palmerston North 31.8°C on the 22nd (records commenced in 1918).
- The highest wind gust for the month was 152 km/h at Castlepoint on the 11th in strong westerly conditions.
- Of the five main centres, Auckland was the warmest, Wellington the wettest and sunniest, and Christchurch the driest.

Temperature: Mean temperatures were 1°C above average in the Waikato, western Bay of Plenty, Taranaki to Manawatu and parts of the west of the South Island, and at least 0.5°C above average in much of the remainder of the North Island, Marlborough, Westland, and parts of Canterbury and Otago. Average maximum temperatures were 2°C above average from the Waikato to the central Plateau, Manawatu, South Canterbury and central Otago.

Rainfall: Low rainfall occurred throughout Canterbury, Fiordland, Auckland, Waikato, the King Country and eastern Wairarapa with only a third (30%) to half (50%) of normal rainfall. Below average rainfall occurred throughout much of the rest of the North Island, except Gisborne, the Far North and Wellington. Rainfall was above average in the Far North, Wellington, north of the South Island and eastern Otago.

Sunshine: Above average sunshine hours (at least 110 percent of normal) occurred in many areas of New Zealand. It was particularly sunny in southern New Zealand where totals were at least 120 percent of normal.

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TEMPERATURE: WELL ABOVE AVERAGE

The National average temperature of 16.5°C was 0.8°C above average. Mean temperatures were 1°C above average in the Waikato, western Bay of Plenty, Taranaki to Manawatu and parts of the west of the South Island, and at least 0.5°C above average in much of the remainder of the North Island, Marlborough, Westland, and parts of Canterbury and Otago. Average March temperatures occurred in Gisborne, Buller and parts of eastern Otago. Average maximum temperatures were 2°C above average from the Waikato to the central Plateau, Manawatu, South Canterbury and central Otago.

Near record high mean maximum air temperatures were recorded at:

Location	Mean maximum air temperature (°C)	Departure from Normal	Year Records began	Comments
Pukekohe	24.1	+1.8	1971	Highest
Whatawhata	24.1	+1.8	1952	4 th highest
Hamilton Airport	24.9	+1.9	1970	Highest
Te Kuiti	25.3	+2.5	1959	2 nd highest
New Plymouth Airport	22.8	+1.9	1944	2 nd highest
Manapouri, West Arm	18.3	+2.1	1962	3 rd equal highest
Queenstown Airport	20.9	+2.2	1969	3 rd highest

RAINFALL: LOW IN CANTERBURY, FIORDLAND, AUCKLAND AND WAIKATO

Low rainfall occurred throughout Canterbury, Fiordland, Auckland Waikato, the King Country and eastern Wairarapa with only a third (30% to half (50%)) of normal rainfall. Below average rainfall occurred throughout much of the rest of the North Island, except the Far North, Gisborne and Wellington. In the South Island, rainfall was below average along the west coast. Average rainfall occurred in much of Otago and Southland. Rainfall was above average in Wellington, the north of the South Island and eastern Otago.

SUNSHINE: SUNNY OVER MUCH OF THE COUNTRY

Above average sunshine hours (at least 110 percent of normal) occurred in many areas of New Zealand. It was particularly sunny in southern New Zealand where totals were at least 120 percent of normal. Sunshine totals were close to normal in the east of the North Island and Golden Bay.

MARCH'S CLIMATE IN THE FIVE MAIN CENTRES

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

March 2008 main centre climate statistics:

Location	Mar. mean temp. (°C)	Dep. from normal (°C)		Mar. rainfall (mm)	% of normal		Mar. Sunshine (hours)	% of normal	
Auckland	19.8	+1.2	Well above normal	30 ^a	31	Very low	215	117	Above normal
Hamilton	18.2	+1.3	Well above normal	36	41	Very low	202	109	Above normal
Wellington	16.9	+1.1	Well above normal	170	185	Well above average	216	113	Above normal
Christchurch ^b	15.1	+0.01	Near normal	20 ^c	36	Well below normal	189	103	Normal
Dunedin	14.4	+0.6	Above normal	75	107	Normal	172	123	Well above normal

^a Owairaka ^b Christchurch Airport ^c

HIGHLIGHTS AND EXTREME EVENTS

- **Temperature**

The lowest air temperature during the month was -1.6 °C recorded at Lauder on the 10th.

The highest temperature during March 2008 was 34.8 °C recorded at both Timaru Airport, and 35°C (rounded to the nearest degree) at Culverden and Woodbury on the 19th. These temperatures were the highest for 2008 to date. The 35°C was 1°C less than the highest ever New Zealand March temperature of 36°C recorded at Ashburton in 1956.

From the 18th to the 21st heatwave conditions occurred in inland and eastern South Island areas, with temperatures of 30°C or more, and many locations recording their highest March temperatures on record.

Near record high extreme maximum air temperatures were recorded at:

Location	Extreme maximum air temperature (°C)	Date	Year records began	Comments
Whatawhata	29.4	16 th	1952	3 rd highest
Ruakura	28.9	16 th	1907	4 th equal highest
Hamilton Airport	29.5	16 th	1970	Highest
Port Taharoa	27.5	16 th	1982	3 rd highest
Te Kuiti	29.8	16 th	1959	2 nd highest
Hanmer Forest	32.5	19 th	1906	Highest
Mt Cook	29.9	19 th	1930	Highest
Culverden	35.0	19 th	1928	Highest
Waipara West	34.4	19 th	2007	Highest
Winchmore	33.5	19 th	1950	Highest
Ashburton	33.9	19 th	1928	2 nd equal
Lake Tekapo	30.7	19 th	1927	Equal highest
Fairlie	32.0	18 th	1925	3 rd highest
Timaru Airport	34.8	19 th	1962	Highest
Tara Hills, Omarama	31.1	19 th	1950	2 nd highest
Wanaka Airport	29.6	19 th	1973	3 rd highest
Ranfurly	30.8	19 th	1928	Highest
Middlemarch	32.6	19 th	1925	Highest
Dunedin Airport	32.1	19 th	1963	2 nd highest
Manapouri, West Arm	25.9	19 th	1962	2 nd highest
Queenstown Airport	30.0	19 th	1969	Highest
Lumsden	29.7	19 th	1985	Highest
Alexandra	33.0	19 th	1929	Highest
Clyde	32.6	19 th	1947	Highest
Gore	29.0	19 th	1971	2 nd highest

- **High winds**

Wind speeds of 152 km/hr occurred at Castlepoint on the 11th.

- **High rainfall**

Heavy drought breaking rain occurred in Taranaki on the 30th with 100 mm at Stratford.

- **Severe Soil Moisture Deficits**

By 29th March severe soil moisture deficits (more than 130 mm) were present in parts of Auckland, Waikato, South Taranaki, Manawatu, Wairarapa and Marlborough. Significant soil moisture deficits (more than 110 mm) persisted throughout much of the west of the North Island, and from the Heretaunga Plains to Wairarapa, and in the east of the South Island. The combination of the hot and dry conditions meant that dairy farmers continued drying off dairy stock, with sheep farmers selling stock early. The stock feed situation remained very low in the drought areas.

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