

National Climate Summary – March 2005

- **Rainfall:** Above average over much of the North Island and the north and southwest of the South Island - below average in the north of the North Island
- **Temperature:** Above average in the North Island - near average over much of the South Island
- **Sunshine:** Above average in the north of both islands, including Buller and northern Westland - below average in the south of the North Island and southern South Island
- **Several destructive tornadoes**

March 2005 was unsettled with above average rainfall over much of the North Island, especially Wairarapa. However, drier and sunnier than average conditions with significant soil moisture deficits occurred in Northland, Auckland, Waikato and Coromandel. Significant soil moisture deficits also affected the southwest of the North Island from Wanganui to Horowhenua, and Marlborough, Canterbury and Otago until the last week of March. March was also sunnier than average in Nelson, and northern Westland. Less sunshine than normal occurred in the south of the North Island, as well as West Otago, Fiordland, and Southland. It was warmer than normal in the North Island, as well as Nelson. However, near average temperatures prevailed elsewhere. Major weather phenomenon in March were the Greymouth tornado on the 10th (one of three in New Zealand during March), which was particularly severe, and potentially hazardous fog and low cloud which closed Wellington Airport several times over the 17-22nd of March resulting in severe disruption of flights. Depressions ('lows') were often centred over central New Zealand during March, with most anticyclones ('highs') usually well away, to the west or east, of the country.

Highlights:

- The highest temperature for March 2005 was 32.9°C recorded at Darfield on the 5th. The lowest temperature for the month was -3.4°C, recorded at Middlemarch on the 31st.
- A severe tornado tracked through Greymouth on the 10th. Many buildings, houses, and dozens of motor vehicles were severely damaged by the high winds and flying debris, with estimated damages exceeding 10 million dollars. About 30 people were left homeless, and three injured. Damaging tornadoes also struck parts of Bay of Plenty on the 25th, and tornado-like winds struck Blaketown (Westland) on the 8th, damaging three properties.
- Huge waves generated by an offshore low pressure system and strong easterlies, resulted in flooding and damage in the Hawke's Bay coastal settlement of Haumoana on the 17th.
- Fog and low cloud closed Wellington Airport at times over the 17-18th and 20-22nd of March resulting in the disruption of more than 500 flights affecting tens of thousands of travellers.
- Rainfall was extremely high in Fiordland over 5-10 March, with 306 mm recorded at Milford Sound on the 5th, and 702 mm for the 6-day period.
- Of the four main centres Auckland was easily the warmest, sunniest and driest. Rainfall was above average in Wellington and Dunedin, and below average in Auckland and Christchurch. Temperatures were above average in Auckland and near average in the three other centres. Sunshine hours were well above average in Auckland, but below average in the three other main centres.

Rainfall: It was unsettled with above average rainfall over much of the North Island, as well as Nelson, Marlborough, coastal Otago, Fiordland, and Western Southland. At least 300 percent of normal rainfall occurred in parts of Wairarapa (due to substantial rainfall at the end of the month). However, rainfall was well below average (less than 25 percent of normal) in much of Northland, and less than 50 percent of normal in parts of Auckland. It was also drier than average in Waikato and Coromandel.

Temperature: Mean temperatures were 1.0°C or more above average in parts of Auckland, Western Bay of Plenty, Waikato, Gisborne, Manawatu, and the Kapiti coast, and also above average in most other North Island districts, as well as Nelson. Temperatures were near average elsewhere. The national average temperature for March was 16.0°C (0.3°C above normal).

Sunshine: Sunshine hours were above average in Northland, Auckland, Waikato, Coromandel, Nelson, Buller, and northern Westland, but below average in Wairarapa, Kapiti, Wellington, West Otago, Fiordland, and Southland.

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**ABOVE AVERAGE RAINFALL OVER MUCH OF THE NORTH ISLAND
AND THE NORTH AND SOUTHWEST OF THE SOUTH ISLAND**

BELOW AVERAGE RAINFALL IN THE NORTH OF THE NORTH ISLAND

Rainfall was 125-200 percent of normal in Hawke’s Bay, inland Bay of Plenty, Taupo, north Taranaki, Wanganui, the Kapiti coast, Wellington, Nelson, Marlborough, coastal Otago, Fiordland, and Western Southland. It was very wet, with at least 300 percent of normal rainfall, in parts of Wairarapa. In contrast, rainfall was less than 25 percent of normal throughout much of Northland, less than 50 percent of normal in parts of Auckland, and less than 75 percent of normal rainfall in Waikato and Coromandel. Rainfall was near average elsewhere.

Near or record low March rainfall was recorded at:

Location	March rainfall (mm)	Percentage of normal	Year Records began	Comments
Cape Reinga	11	15	1920	Well below normal
Kaitaia Observatory	7	8	1986	Lowest
Kerikeri	26	20	1982	2 nd lowest
Kaikohe	16	12	1973	3 rd lowest
Whangarei Airport	16	11	1937	2 nd equal lowest

Near or record high March rainfall was recorded at:

Location	March rainfall (mm)	Percentage of normal	Year Records began	Comments
Mahia	156	212	1992	3 rd highest
Castlepoint	278	307	1902	2 nd highest
East Taratahi	208	424	1973	Highest
Wellington Airport	150	201	1960	4 th highest
Lake Rotoiti	245	224	1934	2 nd highest

ABOVE AVERAGE TEMPERATURES IN THE NORTH ISLAND, NEAR AVERAGE OVER MUCH OF THE SOUTH ISLAND

Mean temperatures were 1.0°C or more above average in parts of Auckland, Western Bay of Plenty, Waikato, Gisborne, Manawatu, and the Kapiti coast, and about 0.5°C above average in most other North Island districts, as well as Nelson. Temperatures were near average elsewhere.

ABOVE AVERAGE SUNSHINE IN THE NORTH OF BOTH ISLANDS, INCLUDING BULLER AND NORTHERN WESTLAND

BELOW AVERAGE SUNSHINE IN THE SOUTH OF THE NORTH ISLAND, AND SOUTHERN SOUTH ISLAND

Sunshine hours were at least 110 percent of average in Northland, Auckland, Coromandel, Waikato, Nelson, Buller and northern Westland, but less than 90 percent of average in Wairarapa, Kapiti, Wellington, West Otago, Fiordland, and Southland. Hours of bright sunshine were near average elsewhere.

High March sunshine hours were recorded at:

Location	March sunshine (hours)	Percentage of normal	Year Records began	Comments
Kaitia Observatory	236	135	1986	3 rd highest
Dargaville	231	135	1944	2 nd highest
Auckland, Mangere	232	126	1963	3 rd highest

Near or record low March sunshine hours were recorded at:

Location	March sunshine (hours)	Percentage of normal	Year Records began	Comments
Martinborough	156	70	1987	2 nd lowest
Queenstown	136	72	1930	3 rd lowest

MARCH'S CLIMATE IN THE FOUR MAIN CENTRES

Of the four main centres Auckland was easily the warmest, sunniest and driest. Rainfall was above average in Wellington due to heavy rainfall (almost 100 mm) during the last two days, and also Dunedin, and below average in Auckland and Christchurch. Temperatures were above average in Auckland and near average in the three other centres. Sunshine hours were well above average in Auckland, and below average in the other main centres.

Location	March Mean Temp. (°C)	Dep. from normal (°C)		March rainfall (mm)	% of normal		March Sunshine (hours)	% of normal	
Auckland	19.3 ^a	+0.7	Above average	26 ^b	27	Well below average	232 ^a	126	Well above average
Wellington	15.9	+0.1	Above average	142	154	Above average	164	86	Below average
Christchurch	14.9 ^c	-0.2	Near average	40 ^c	71	Below average	164	90	Below average
Dunedin	13.6	-0.2	Near average	84	121	Above average	129	92	Below average

a-Mangere b Mt Albert c-Christchurch Airport

HIGHLIGHTS AND EXTREME EVENTS

- **Temperature**

The highest temperature during March 2005 was 32.9°C recorded at Darfield in hot northwesterly conditions on the 5th. The lowest temperature for the month was -3.4°C, recorded at Middlemarch on the 31st.

- **Tornadoes**

Tornado like winds struck Blaketown (Westland) about 6.15pm on the 8th, damaging three properties.

A severe, damaging, tornado tracked through parts of Greymouth just after 1pm on the 10th. Many buildings, houses, and dozens of motor vehicles were seriously damaged (some overturned) by the high winds and flying debris (roofs lifted and window panes smashed), with damages estimated to be at least \$10 million. A power pole even snapped in half. About 30 people were left homeless, and three injured. There were no fatalities. The tornado left a 400-500 m wide and 4 km long track of damage from the river mouth, southeast through the township, toward the hills. Estimates of maximum wind speeds, based on the international Fujita tornado scale, range from 180 km/h to 250 km/h. The tornado was preceded by lightning.

More tornadoes struck parts of Bay of Plenty, damaging trees and properties near Kawerau on the 25th.

- **High winds and high seas**

The highest wind gust recorded during March 2005 was 148 km/h from the northwest, measured at Castlepoint on the 3rd.

Huge waves, with 6 m swells, generated by an offshore low pressure system northeast of Gisborne and strong easterlies, resulted in flooding and damage in the Hawke's Bay coastal settlement of Haumoana on the 17th, six houses being evacuated, 60 being affected.

- **Fog and low cloud**

Persistent fog and low cloud occurred at Wellington Airport over the 17-18th and 20-22nd of March resulting in airport closures and the disruption of more than 500 flights affecting tens of thousands of travellers. Many flights had to be diverted to Palmerston North.

- **High rainfall**

Rainfall was extremely high in Fiordland from 5 through 10 March, with 306 mm recorded at Milford Sound on the 5th, and 702 mm for the 6-day period. Rainfall totalling 50-75 mm occurred in Bay of Plenty and Hawke's Bay on the 17th. Rainfall on the 24th of March totalled 137, 96, and 50-60 mm at Lake Rotoiti (Nelson Lakes), Takaka, and Nelson respectively. Further high rainfall, totalling 60-100 mm occurred throughout much of Taranaki, Wairarapa and Wellington over the 29th-31st, some areas recording more than 100 mm. Six houses were evacuated after flooding occurred in the Riversdale-Castlepoint district. Torrential rainfall totalling 57 mm was recorded at Castlepoint between 5 and 6pm on the 30th, with 115 mm between 5 and 8pm that evening. For the 24-hours to 9am on the 31st, Wellington Airport recorded its highest 1-day rainfall (94 mm) total since 1981.

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