

National Climate Summary – March 2004

- **Rainfall:** Very dry overall. Extremely low rainfall in Northland, Auckland, Coromandel, and Bay of Plenty
- **Temperatures:** Cold. Well below average in the North Island, especially in Northland, Auckland, Coromandel, Waikato, and Taranaki.
- **Soil moisture:** Moderate deficits persist in central Marlborough, Canterbury, and Otago
- **Sunshine:** Above average in the North Island and the north and east of the South Island.

March rainfall, in a dramatic contrast to the extremely wet February, was well below average throughout much of the North Island, and northern South Island, many locations recording less than 50 percent (half) of average totals. Record low March rainfall, less than 10 mm in many areas, occurred throughout much of Northland, Auckland, Coromandel, and Bay of Plenty. Moderate soil moisture deficits persisted in parts of central Marlborough, Canterbury, and Otago, with field capacity maintained in western areas of both islands. March remained cold overall, especially over the North Island. Mean temperatures were 1.0 to 2.5°C below normal throughout much of the North Island, especially Northland, Auckland, Coromandel, Waikato, and Taranaki, and also below normal in the north and west of the South Island. It was very sunny in the far north, eastern Bay of Plenty, Gisborne, Hawke's Bay, south Taranaki, Nelson, and central Marlborough, as sunshine totals were above normal throughout much of the North Island and the north and east of the South Island.

The generally cooler, drier March climate pattern was due to more frequent depressions ("lows") to the south and east of the South Island, producing more frequent westerlies and southwesterlies over New Zealand.

Highlights:

- The highest March 2004 temperature was 31.7°C, recorded at Kaikoura on the 10th. This was Kaikoura's second highest March temperature in measurements that commenced in 1964.
- The lowest temperature for the month was -4.0°C, recorded in Fairlie on the 25th, the lowest in the region since observations started in 1925.
- A cold southerly outbreak produced snowfall on the Desert Road over the night of 28/29 March, resulting in a temporary closure, with scattered hail in exposed eastern regions, the earliest significant snowfall event in the year for the Desert Road since 1993.
- Of the four main centres Auckland was the driest and Wellington was the sunniest. Rainfall and temperatures were below average in all four centres. Sunshine hours were above normal in Auckland, Wellington, and Christchurch, and near normal in Dunedin. For Auckland March was one of the driest and coldest on record.

Rainfall: Rainfall was less than 25 percent (quarter) of average in Northland, Auckland, Coromandel, much of Waikato, Bay of Plenty, and central Marlborough, and less than 50 percent (half) of average throughout much of the North Island, and northern South Island. Rainfall was also below average in Wellington, much of Wairarapa, Buller, and much of Canterbury and Otago.

Temperature: The March national average temperature of 14.5°C was 1.3°C below normal, the lowest for March since 14.3°C in 1993. Mean temperatures were 1.0 to 2.5°C below normal throughout much of the North Island, and also below normal in the north and west of the South Island. Temperatures were near normal over the remainder of the South Island.

Sunshine: Sunshine totals were above normal throughout much of the North Island and the north and east of the South Island. It was very sunny in the far north, Gisborne, Hawke's Bay. Sunshine was near normal in Westland and Fiordland, Southland, and Otago.

For further information, please contact:

**Dr Jim Salinger – Senior Climate Scientist, NIWA National Climate Centre, Auckland,
Tel. (09) 375 2053 (Business) 025 540 707 (mobile) (09) 527 3939 (after hours)
or Stuart Burgess – Climatologist, NIWA Wellington Tel. (04) 386 0569**

EXTREMELY LOW RAINFALL IN NORTHLAND, AUCKLAND, AND BAY OF PLENTY

Rainfall was less than 50 percent (half) of average March totals throughout much of the North Island, and northern South Island, and less than 25 percent (quarter) of average in Northland, Auckland, Coromandel, much of Waikato, Bay of Plenty, and central Marlborough. Rainfall was less than 75 percent (three quarters) of average in Wellington, much of Wairarapa, Buller, much of Canterbury, and Otago, and near average in most other districts. Parts of Westland and coastal Southland recorded above average rainfall.

Near or record March rainfall was recorded at:

Location	March rainfall (mm)	Percentage Of normal	Year Records began	Comments
Kaitaia Observatory	8	9	1986	Lowest
Kerikeri	7	5	1936	2nd lowest
Kerikeri Airport	7	5	1978	Lowest
Kaikohe	5	3	1987	Lowest
Dargaville	9	10	1943	Lowest
Warkworth	11	9	1973	Lowest
Whangaparaoa	6	8	1987	Lowest
Tiri Tiri Lighthouse	6	8	1946	Lowest
Henderson	14	14	1986	Lowest
Owairaka	17	18	1949	2nd equal lowest
Auckland Airport	8	10	1962	Lowest
Pukekohe	12	11	1970	Lowest
Whitianga Airport	8	5	1988	Lowest
Paeroa	14	13	1914	2nd lowest
Tauranga Airport	15	12	1989	3rd lowest
Te Puke	9	5	1973	Lowest
Whakatane Airport	16	15	1975	Lowest
Rotorua Airport	10	8	1964	Lowest
Raoul Island	404	250	1938	4th highest

MUCH COOLER THROUGHOUT THE NORTH ISLAND, ESPECIALLY NORTHLAND, AUCKLAND, COROMANDEL, WAIKATO AND TARANAKI

Mean temperatures were 1.0 to 2.5°C below normal throughout much of the North Island, and 0.5 to 1.5°C below normal in the north and west of the South Island, including Nelson, Marlborough, Buller, Westland, and Fiordland. Temperatures were near normal over the remainder of the South Island.

Near or record low March mean air temperatures were recorded at:

Location	Mean temperature	Departure from average (°C)	Records began	Comments
Cape Reinga	17.2	-1.9	1952	3rd lowest
Kaitaia Observatory	16.7	-2.5	1986	Lowest
Kaikohe	16.0	-2.1	1973	Lowest
Dargaville	16.6	-1.6	1944	2nd equal lowest
Whangarei Airport	17.1	-1.9	1968	Lowest
Mokohinau Is.	17.6	-2.5	1973	Lowest
Warkworth	15.3	-2.6	1973	Lowest
Henderson, Auckland	16.3	-1.7	1986	Lowest
Auckland Airport	16.8	-1.9	1963	Lowest
Pukekohe	15.2	-2.7	1971	Lowest
Paeroa	15.7	-2.3	1947	Equal lowest
Rotorua Airport	13.9	-2.4	1964	Lowest
Hamilton Airport	14.8	-2.2	1971	2nd lowest
Te Puke	15.6	-1.7	1973	Lowest
Taumarunui	14.1 ^{to 30th}	-2.4	1948	Lowest
New Plymouth Airport	14.4	-2.4	1944	Lowest
Turangi	12.6	-2.4	1968	Lowest
Castlepoint	15.0	-2.1	1972	2nd equal lowest
Whakatu	14.3 ^{to 30th}	-2.2	1983	Lowest
Wellington Airport	15.0	-1.6	1962	2nd lowest

SUNNY IN THE NORTH ISLAND AND THE NORTH AND EAST OF THE SOUTH ISLAND

Sunshine totals were at least 110 percent of normal throughout much of the North Island and the north and east of the South Island. It was very sunny in parts of Northland, Gisborne, Hawke's Bay, south Taranaki, Nelson, and central Marlborough, with totals at least 120 percent of normal. Sunshine was near normal in Westland and Fiordland, Southland, and Otago.

Very high March sunshine was recorded at:

Location	March sunshine (hours)	Percentage of normal	Year records began	Comments
Kaitaia Observatory	229	131	1986	Well above average
Gisborne Airport	235 ^{to 30th}	127	1905	Well above average
Stratford	230	131	1963	3rd highest
Nelson Airport	263	124	1949	3rd highest
Blenheim Research	267	130	1986	Highest

MARCH CLIMATE IN THE FOUR MAIN CENTRES

Of the four main centres, Wellington was the sunniest and Auckland the driest. Rainfall and temperatures were below average in all four centres. Sunshine hours were above normal in Auckland, Wellington, and Christchurch, and near normal in Dunedin.

Location	March mean temp. (°C)	Dep. from normal (°C)		March rainfall (mm)	% of normal		March sunshine (hours)	% of normal	
Auckland	16.8 ^a	-1.9	Record low	17 ^b	18	Extremely low	204 ^c	113	Above average
Wellington	14.3	-1.5	Well below average	62	68	Below average	233	122	Well above average
Christchurch	14.1 ^d	-1.0	Below average	37 ^c	66	Below average	211 ^c	116	Above average
Dunedin	13.1	-0.6	Below average	46	66	Below average	140	100	Average

a Auckland Airport

b Mt. Albert

c Whenuapai

d Christchurch Airport

HIGHLIGHTS AND EXTREME EVENTS

- The highest March 2004 temperature was 31.7°C, recorded at Kaikoura on the 10th. This was Kaikoura's 2nd highest March temperature in measurements that commenced in 1964.
- The lowest temperature for the month was -4.0°C, recorded in Fairlie on the 25th, the lowest in the region since observations started in 1925.
- High rainfall totalling 224 mm occurred in Mt. Cook Village on the 10th.
- A cold southerly outbreak produced snowfall on the Desert Road over the night of 28/29 March, resulting in a temporary closure, with scattered hail in exposed eastern regions. This is the earliest significant snowfall event in the year for the Desert Road since 22 March 1993 when 5 cm occurred.

For further information, please contact:

**Dr Jim Salinger – Senior Climate Scientist,
NIWA's National Climate Centre, Auckland**

Tel. 0-9-375 2053 (Business) or 025 540 707 (mobile)

Stuart Burgess – Climatologist, NIWA, Wellington Tel. 0-4-386 0569

or Geoff Baird, NIWA Communications Manager Tel. 0-4-385 0543 or 025 229 6314

www.niwa.co.nz/ncc

© Copyright NIWA 2004. All rights reserved.