

MEDIA RELEASE

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NATIONAL CLIMATE CENTRE

National Climate Summary – Summer 2003/04

A season of contrasts: Severe soil moisture deficits in January; floods in February

Rainfall: Record high totals in many western North Island locations

Temperatures: A warm January but cool February

Sunshine: Record low totals in many western North Island regions, but sunny in Otago and Southland

The summer of 2003/04 was a season of extremes. Intense temperatures accompanied by high winds produced life-threatening forest fires in the east of the South Island during December but by the end of February record rainfall in many areas had made flooding the dominant climate hazard. December began warm, but a change to unsettled climate patterns later in January and the very unsettled February resulted in extremely wet and very cloudy conditions in the west of the North Island from Waikato to Wellington, and Wairarapa. February's weather included a rainfall event that resulted in the most disastrous floods in the Wanganui, Manawatu/Rangitikei region for many decades, as well as flooding in southern Hawke's Bay, Wairarapa, Lower Hutt, and Picton.

Near or record high summer rainfall occurred in parts of Northland, Auckland, Coromandel, Bay of Plenty, Waikato, King Country, Ruapehu, Tongariro, Taranaki, Wanganui, Manawatu, Horowhenua, Kapiti, Wellington, Wairarapa, and Golden Bay. Summer rainfall was also above average in parts of the north and west of the South Island, but near or below average in the east of the South Island. These largely reversed the extreme fire danger and significant or severe soil moisture deficits in the east of the South Island and parts of Northland until late January. Mean summer temperatures were near average for New Zealand as a whole. However, January was much warmer and February was much cooler than normal. Sunshine hours were above average in the south of the South Island (due to a very sunny December), but record low totals occurred in many western North Island regions. The climate pattern for summer was dominated by more depressions ('lows') over and to the south of New Zealand with stronger winds and more frequent westerlies than average.

Auckland and Wellington recorded one of their wettest summers on record. Of the four main centres, Christchurch was the sunniest and driest. Sunshine hours were above average in Dunedin, and well below average in Wellington. Summer temperatures were above average in Christchurch, below average in Wellington, and near average in Auckland and Dunedin.

Rainfall

Rainfall totals were above normal over much of the North Island, Buller, Nelson, and south Westland, and more than 200 percent of (two times) normal in the west of the North Island from Waikato to Wellington, and in Wairarapa. A few areas in Canterbury and Otago recorded below normal rainfall.

Temperatures

Mean temperatures were near average overall throughout much of New Zealand. However, they were above average in parts of Northland, Bay of Plenty, Gisborne, Wairarapa, Marlborough, and around Christchurch, and below average in Fiordland. The summer national average temperature was 16.8°C (0.2°C above normal).

Sunshine

Sunshine hours were above average in Otago, and Southland. However, totals were well below average from Auckland to Wellington, and record low totals occurred in many western areas from Waikato to Kapiti.

Read on for further detail.

Near or record high rainfall over much of the North Island

Rainfall totals were more than 125 percent of (one and a quarter times) normal over much of the North Island, Buller, Nelson, and south Westland, and more than 200 percent of (two times) normal in the west of the North Island from Waikato to Wellington, and in Wairarapa. A few areas in Canterbury and Otago recorded less than 75 percent of normal rainfall.

Totals were near normal elsewhere.

Near or record high summer rainfall was recorded at:

Location	Summer rainfall (mm)	Percentage of normal	Year records began	Comments
Kaitaia Observatory	540	201	1985	2 nd highest
Auckland, Henderson	425	170	1985	3 rd highest
Auckland, Owairaka	465	201	1949	2 nd highest
Auckland Airport	427	199	1962	3 rd highest
Whitianga Airport	470	161	1987	3 rd highest
Taupo Airport	392	147	1976	2 nd highest
Hamilton, Ruakura	439	176	1905	4 th highest
Hamilton Airport	587	222	1935	Highest
Taumarunui	666	206	1913	Highest
New Plymouth	652	221	1864	2 nd highest
Turangi	614	174	1968	2 nd highest
Castlepoint	407	227	1902	2 nd highest
East Taratahi	370	253	1972	Highest
Hicks Bay	552	247	1991	Highest
Paraparaumu Airport	524	248	1945	Highest
Palmerston North Airport	450	227	1943	Highest
Palmerston North	461	220	1928	Highest
Levin	422	172	1896	3 rd highest
Wellington, Kelburn	530	241	1862	3 rd highest
Wellington Airport	460	255	1960	Highest
Wallaceville	618	247	1924	Highest
Normanby	357	153	1978	2 nd highest
Ohakune, Ruapehu College	602	170	1994	Highest
Wanganui, Spriggens Park	452	229	1890	2 nd highest
Farewell Spit	629	294	1874	2 nd highest

Near average temperatures in most places

Mean temperatures were near average overall throughout much of New Zealand. However, they were about 0.5°C above average in scattered areas of Northland, Bay of Plenty, Gisborne, Wairarapa, Marlborough, and around Christchurch, and about 0.5°C below average in Fiordland.

Near or record low sunshine in many western North Island regions from Waikato to Kapiti, sunny in Otago and Southland

Sunshine hours were above average (at least 110 percent of normal) in Otago and Southland. However, totals were below average in the north and west of the North Island (especially from Auckland to Wellington), and Nelson. Totals were near normal in most other regions.

Near record low summer sunshine hours were recorded at:

Location	Summer sunshine (hours)	Percentage of normal	Year records began	Comments
Kaitaia Observatory	566	86	1985	3 rd lowest
Hamilton, Ruakura	499	77	1937	Lowest
Taumarunui	435	77	1948	Lowest
New Plymouth	522	75	1915	Lowest
Paraparaumu Airport	529	80	1953	2 nd lowest
Palmerston North	442	76	1930	Lowest
Stratford	511	80	1963	Lowest

Summer climate in the four main centres

Of the four main centres, Christchurch was by far the sunniest and driest. Sunshine hours were above average in Dunedin, near average in Auckland and Christchurch, and well below average in Wellington. Rainfall was extremely high average in Auckland and Wellington, near average in Christchurch, and below average in Dunedin. Summer temperatures were near average in Auckland and Dunedin, above average in Christchurch, and below average in Wellington.

Location	Summer mean temp. (°C)	Dep. from normal (°C)		Summer rainfall (mm)	% of normal		Summer sunshine (hours)	% of normal	
Auckland ^a	19.0	0.0	Average	465	201	Extremely high	550 ^b	99	Near average
Wellington	16.2	-0.3	Below average	530	241	Extremely high	569	83	Well below average
Christchurch	17.3	+0.5	Above average	106	82	Near average	683 ^c	106	Near average
Dunedin	14.7	-0.1	Near average	165	77	Below average	558	112	Above average

a Mt Albert, b Whenuapai, c Christchurch Airport

Highlights

- The highest temperature for the summer of 2003/04 was 38.4°C, recorded at Darfield on New Year's Day. This was equal to the highest January temperature on record for the South Island, and second only to 38.9°C recorded in Ruatoria in the North Island on 11 January 1979. The early January heat wave in the South Island created extreme fire risk in Canterbury, and a numerous fires occurred in rural areas during this period.
- The lowest temperature for the summer was -1.1°C, recorded at The Chateau, Ruapehu, on 17 December and -1.1°C, recorded at Manapouri on the 26 February.
- 27–29 December: Rainfall totalled 260 mm at Milford Sound on 5 December. High rainfall, exceeding 50 mm, occurred in Upper Hutt on the 27th, and in Rotorua and the Gisborne high country on 29 December.
- 18–23 January: A depression brought significant rainfall to the lower North Island, with heavy falls, totalling 50 to 100 mm in Wairarapa, on the 20th. The same weather system produced high winds in Hawke's Bay and severe southerly gales through Cook Strait (with gusts to 174 km/h at Baring Head) on 21 January. The severe gales and high seas resulted in the cancellation of fast-ferry sailings for two days.
- 29–30 January: High rainfall totalling 150 to 200 mm occurred in parts of Northland,

especially Kaitaia. Rainfall totalling 74 mm was measured at St Bathans (Otago) on the 30th, with reports of flash flooding in the Wanaka.

- 1–3 February: Heavy rainfall occurred throughout Northland, Auckland, Waikato, Taranaki, Wanganui, Wellington, Marlborough, and Westland, totalling 50–100 mm in the 24 hours to 9 am on the 2nd in many areas. There were floods at Castor Bay and Hillsborough on the North Shore, in Auckland, with 55 mm in 2 hours during the morning of 2 February. Crail Bay, in Pelorus Sound, had a record rainfall for February (since measurements began in 1983) of 154 mm, most of which fell in about 15 hours during the night of 1/2 February. Rainfall later spread to western Bay of Plenty and Fiordland, totalling about 60 mm for the 24 hours to 9 am on the 3rd.
- 4–5 February: Heavy rainfall occurred throughout Auckland and around East Cape totalling 50–70 mm in the 24 hours to 9 am on the 5th in many areas.
- 9–12 February: Heavy rainfall occurred in Fiordland and the Southern Alps, totalling 116 mm in the 24 hours to 9 am on the 10th at Mt Cook Village. Rainfall occurred later in Ruapehu, totalling about 82 mm for the 24 hours to 9 am on the 12th. The Hutt River overflowed near Melling after heavy rainfall on the 12th, flooding adjacent roads.
- 14–16 February: *This event resulted in the most disastrous floods in the Wanganui, Manawatu/Rangitikei region for many decades, as well as flooding in southern Hawke's Bay, Wairarapa, Lower Hutt, and Picton. The cost of damage resulting from the floods has well exceeded \$200 million.*

High rainfall occurred around East Cape totalling 129 mm in the 24 hours to 9am on the 15th. Further widespread rainfall totalling 65–150 mm occurred in the 24 hours to 9am on the 16th in many population centres (with very much higher totals in excess of 250 mm in the high country of the Tararua and Orongorongo Ranges) throughout the southwestern North Island, from Taranaki to Wellington, as well as in southern Hawke's Bay and Wairarapa.

A state of civil emergency was declared in Wanganui, Manawatu and Rangitikei, the towns of Scotts Ferry, Waitotara, Feilding, Tangimoana, Longburn, Marton, and Hunterville being badly affected by floodwaters. Hundreds of people were left homeless; considerable areas of farmland, including crops, were inundated by silt and floodwaters; many rivers breached their banks; sheep and cattle stock were drowned or swept away by floodwaters; many bridges were damaged and numerous roads closed; and there were power, gas and water supply outages to tens of thousands of people. The towns of Woodville, Waipukurau, Martinborough, and the city of Wanganui were also affected as nearby rivers flooded.

On the 16th the Wellington region also suffered, with about 500 people in Lower Hutt evacuated due to floodwaters. Sections of the transport corridors into Wellington city were closed, including the rail service from the Hutt Valley. This event also produced gale force southerlies, which buffeted parts of the North Island, as a depression intensified east of Wairarapa, from the afternoon of the 15th into the morning of the 16th. High seas with swells of 9–11 m were reported through Cook Strait. Ferry sailings were cancelled (for 1800 people) and considerable delays occurred at Wellington airport (where 200 passengers stayed overnight) and other airports due to high winds. Power cuts affected parts of Wellington during the evening of the 15th. There were also many fallen trees, especially in the Auckland region (where hundreds were reported). Winds gusted to 119 km/h in Wellington, and at the airport it was the most severe southerly storm since May 1992, and most severe February southerly event since 1967.

High gusts of 230 km/h occurred in the Tararua Range, 161 km/h at Brothers Island, 154 km/h at Mt Kau Kau, and 135 at Cape Reinga on the 15th. Gusts to 163 km/h were measured at Castlepoint, 161 km/h at Mt Kau Kau, 156 km/h at Baring Head, and 154 km/h at Brothers Island on the 16th.

- 17–18 February: Rainfall totalling over 100 mm occurred in Fiordland, with rainfall totalling 50–80 mm spreading to the Southern Lakes, Westland, Wanganui and Taranaki on the 18th. Parts of Picton and Waikawa Bay were flooded after heavy rainfall on the 18th. Picton recorded 40 mm in 40 minutes. A civil emergency was declared due to a threat of possible dam burst.
- 21 February: Northwesterlies gusted to 178 km/h at Mt Cook Village, 167 km/h at Mt Kau Kau, 163 km/h at Castlepoint, 146 km/h at Baring Head, 139 km/h at Paraparaumu Airport (the highest gust at the airport since November 1982), 137 km/h at Kelburn (the highest February wind gust there since at least 1971), and 135 km/h at Brothers Island.
- 20–23 February: Rainfall totalling 100–200 mm occurred in Fiordland, south Westland, and the Southern Lakes.
- 24 February: Gale force southwesterlies gusted to 119 km/h at Musselburgh in Dunedin, the highest there since November 1984, with gusts to 180 km/h reported in more exposed areas.
- 28 February: A depression from the Tasman Sea and the remnants of tropical cyclone Ivy produced further high rainfall, totalling over 100 mm in parts of Northland, Coromandel, Waikato, Bay of Plenty, King Country, and Taranaki. Thirty houses were flooded in Turangi as the Tongariro River overflowed its banks. Storm-force northeasterlies gusted to 120 km/h at Cape Reinga, with gales also affecting Auckland.

For further information, please contact:

Dr Jim Salinger – Senior Climate Scientist,

NIWA’s National Climate Centre, Auckland

Tel. 09 375 2053 (Business) or 09 527 3939 (after hours)

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

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