

National Climate Summary – Spring 2008: Dry in the north and east, mild and sunny for much of the country. Westerly gales at times.

- **Rainfall: Below normal for north and east of North Island and east of South Island, with significant soil moisture deficits in eastern areas**
- **Temperature: Above average in Canterbury and Central Otago, below average on the West Coast and Tararua district**
- **Sunshine: Above normal for parts of Northland, central and eastern North Island, Mount Cook and coastal Otago**

Spring rainfall was below normal in the east with less than 50 percent (half) of normal in parts of Gisborne, Hawkes Bay, and south Canterbury, and between 50 and 80 percent of normal in parts of Northland, Auckland, Bay of Plenty, Marlborough, Canterbury and Otago. As a result significant soil moisture deficits had developed throughout eastern areas from Gisborne to Otago by the end of spring. Other areas received near normal rainfall for spring.

Spring overall was warmer than average in parts of Canterbury and Central Otago, and below average on the West Coast and parts of the Tararua district. The national average temperature of 12.4 °C was 0.3 °C above average for spring.

The overall spring climate pattern was dominated by more anticyclones ('highs') located to the east of New Zealand extending ridges over northern New Zealand. There were stronger than normal northwesterly winds over the South Island, which contributed to the soil moisture deficits in the east, low rainfalls in the north and east, and damaging westerly wind events in the east of the South Island and lower North Island.

Major Highlights:

- Heavy rain in Taranaki on 7 October caused flash floods in mountain streams, resulting in the death of a trumper who was swept away attempting to cross the swollen Kaupokonui Stream on Mt Taranaki, hampered by a heavy back-pack. Heavy rain from a northerly subtropical flow caused floods in Nelson and the West Coast on 24 November.
- The lowest temperature during spring was recorded at Lake Tekapo on the 25th of October, where the minimum temperature was -6.1°C. The maximum temperatures on the 4th, 5th and 6th of September were quite low for many locations, with Hanmer only reaching 2.8°C on the 5th (the lowest maximum for spring).
- The highest temperature during spring 2008 was 33.3°C recorded at Waione (Wairarapa) on the 24th of November. The minimum temperature of 19.2°C at Wanganui on the night of the 23rd/24th of November was the highest minimum for the country for spring.
- Seven damaging westerly wind episodes occurred during spring, impacting the east of the South Island and lower North Island. Winds gusts reached 140 km/hr on 23 September at Swampy Summit above Dunedin, 100 km/hr at Taiaroa Head, 135 km/hr on the Rock and Pillar Range, near Middlemarch. Wind speeds of up to 130 kph were recorded in Wellington, and up to 160 kph in some of the surrounding hills on 7 October. Winds of up to 140 km/hour hammered Wellington, lifting roofs, cutting power, and disrupting flights on 1 November.
- There were two major snowfall events in spring. The first occurred on 27 September bringing snow to low elevations in Otago and Southland. The second, on November 5, blanketed inland Southland, Fiordland and Central Otago with snow and hail. Locals said it was the first time since the 1970s that they have seen this much snow in November.
- Of the five main centres, Auckland had the warmest average spring temperature, Wellington was the wettest, and Christchurch was the sunniest and driest. Spring temperatures were near or slightly above average and spring rainfall was near or below normal in all five locations. Spring sunshine was above normal in Auckland and Christchurch and well above normal in Dunedin.

Rainfall: Spring rainfall was less than 50 percent (half) of normal in parts of Gisborne, Hawkes Bay, and south Canterbury and between 50 and 80 percent of normal in parts of Northland, Auckland, Bay of Plenty, Marlborough, Canterbury and Otago. Other areas received near normal rainfall for spring.

Temperature: Seasonal mean temperatures were between 0.5 and 1.5 °C above average in parts of Canterbury and Central Otago. They were below average by about 0.5 °C on the West Coast and by about 1.0 °C around Dannevirke. The national average temperature of 12.4 °C was 0.3 °C above average for spring.

Sunshine: Spring sunshine hours were at least 110 percent of normal in parts of Northland, King Country, Hawkes Bay, Taraura district, Mount Cook and coastal Otago. In the Tasman district totals were lower than usual, being 90 percent of normal.

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RAINFALL: WELL BELOW NORMAL IN EAST

Spring rainfall was less than 50 percent (half) of normal in parts of Gisborne, Hawkes Bay, and south Canterbury and between 50 and 80 percent of normal in parts of Northland, Auckland, Bay of Plenty, Marlborough, Canterbury and Otago. Other areas received near normal rainfall for spring.

Near or record spring rainfall totals were recorded at:

Location	Spring 2008 rainfall (mm)	Percentage of normal	Year Records began	Comments
Whangarei Aero	171	54	1937	3rd lowest
Paeroa	183	60	1914	4th lowest
Tauranga Aero	166	60	1898	4th lowest
Whakatane Aero	156	57	1952	Lowest
Martinborough	104	54	1924	4th lowest
Gisborne	50	24	1905	Lowest
Waipawa	60	31	1945	Lowest
Wairoa	117	42	1964	Lowest
Hawera	186	59	1977	3rd lowest
Darfield	92	56	1919	4th lowest
Oamaru Airport	59	42	1898	2nd lowest
Lumsden	211	95	1982	4th lowest

TEMPERATURE: ABOVE AVERAGE IN CANTERBURY AND CENTRAL OTAGO, BELOW AVERAGE AROUND DANNEVIRKE AND ON THE WEST COAST

Seasonal mean temperatures were between 0.5 and 1.5 °C above average in parts of Canterbury and Central Otago. They were below average by about 0.5 °C on the West Coast and by about 1.0 °C around Dannevirke. The national average temperature of 12.4 °C was 0.3 °C above average for spring.

Extreme (high and low) spring mean daily air temperatures were recorded at:

Location	Mean air temperature (°C)	Departure from normal	Year records began	Comments
Kumeu (Waitakere)	14.0	0.3	1978	2nd highest
Waipara West	12.8	0.9	1973	3rd highest
Darfield	12.6	1.1	1939	3rd highest
Le Bons Bay	11.3	0.9	1984	2nd highest
Cromwell	12.5	1.3	1949	3rd highest

Dannevirke	10.9	-1.1	1951	4th lowest
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Extreme (high and low) spring mean maximum daily air temperatures were recorded at:

Location	Mean maximum air temperature (°C)	Departure from normal	Year records began	Comments
Whangaparaoa	18.0	1.1	1982	3rd highest
Waipawa	18.8	1.4	1945	3rd highest
Lake Rotoiti	15.3	1.2	1965	4th highest
Hanmer Forest	18.5	2.1	1906	Highest
Waipara West	18.7	1.1	1973	3rd highest
Darfield	18.5	1.4	1939	2nd highest
Le Bons Bay	15.2	1.4	1984	Highest
Dunedin Aero	17.5	1.6	1947	Highest
Nugget Point	14.1	0.9	1970	3rd highest
Greymouth Aero Ews	14.1	-1.1	1947	3rd lowest
Cape Campbell Aws	14.4	-2.2	1953	2nd lowest

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

Location	Mean minimum air temperature (°C)	Departure from normal	Year records began	Comments
Dargaville	11.3	1.1	1943	3rd highest
Kumeu (Waitakere)	9.8	0.6	1978	3rd highest
Tauranga Aero	10.8	1.3	1913	4th highest
Cromwell	6.4	1.4	1949	Highest
Dannevirke	6.1	-1.6	1951	Lowest
Dunedin Aero	5.0	0.2	1947	Lowest

SUNSHINE: ABOVE NORMAL IN NORTH, CENTRAL AND EAST OF NORTH ISLAND AND OTAGO; BELOW NORMAL IN NORTHEAST OF SOUTH ISLAND

Spring sunshine hours were at least 110 percent of normal in parts of Northland, King Country, Hawkes Bay, Tauranga district, Mount Cook and coastal Otago. In Tasman district totals were lower than usual, being 90 percent of normal.

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

Location	Spring sunshine (hours)	Percentage of normal	Year records began	Comments
Kaitaia	585	109	1985	3rd highest
Te Kuiti	528	124	1962	Highest
Taumarunui	524	125	1947	Highest
Dannevirke	582	123	1963	3rd highest
Waipawa	661	131	1945	2nd highest
Mt Cook	492	117	1930	4th highest
Balclutha	619	134	1964	Highest
Takaka	575	96	1985	4th lowest

SPRING CLIMATE IN THE FIVE MAIN CENTRES

Of the five main centres, Auckland was the warmest, Wellington the wettest, and Christchurch the sunniest and driest. Spring temperatures were near or slightly above average and spring rainfall was near or below normal in all five locations. Spring sunshine was above normal in Auckland and Christchurch and well above normal in Dunedin.

Location	Spring Mean Temp. (°C)	Dep. from normal (°C)		Spring rainfall (mm)	% of normal		Spring Sunshine (hours)	% of normal	
Auckland ^a	14.1	-0.4	Near average	183	65	Below normal	585	113	Above normal
Hamilton	13.4	+0.6	Above average	266	89	Near normal	534 ^c	103	Near normal
Wellington	12.6	+0.6	Above average	286	83	Near normal	568	101	Near normal
Christchurch ^b	11.5	+0.0	Near average	75	54	Below normal	663	115	Above normal
Dunedin	11.4	+0.5	Near average	114	61	Below normal	544	125	Well above normal

^a Mangere ^b Christchurch Airport ^c Ruakura

HIGHLIGHTS AND EXTREME EVENTS

- **High rainfall**

1 September: A second major landslide at Clovelly Road forced the evacuation of five homes in Bucklands Beach, Manukau City.

23 September: The Milford Road was closed by a slip, 200 m long, 40 m wide, and about 2 m deep, which isolated the town. Two women had to run for their lives to evade the cascading debris, and a group of people trapped by the debris spent a cold night in their van. Only helicopter access was available until the 28th when a single lane was open to traffic.

27 September: Heavy rain affected Otago with Queenstown receiving 25 mm, and Wanaka 20 mm between 8 am and noon. A landslip north of Lake Hawea on SH 6 reduced the main arterial link to the West Coast to one lane for most of Saturday afternoon.

7 October: Heavy rain in Taranaki 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.

4 November: The Manawatu Gorge road was closed to all traffic for several hours by a large slip blocking both lanes.

24 November: Heavy rain caused floods in Nelson and the West Coast. Some vineyards in the Nelson region turned into lakes as up to 300 mm of rain fell in just 24 hours. The Matai River was close to bursting its banks and flooding parts of the city. The ranges between Takaka and Collingwood received 328 mm of rain in 24 hours. The rain gauge at Cropp River, in the Southern Alps inland from Hokitika, recorded 1000 mm in three days.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year Records began	Comments
Mangaweka (near Taihape)	72	Sep 21st	1964	Highest
Minaret Bay (Lake Wanaka)	107	Sep 27th	1952	2nd highest
Otama (near Gore)	73	Sep 30th	1967	2nd highest
Te Houka (near Balclutha)	50	Sep 10th	1970	2nd highest
Putara (Taranua ranges)	139	Oct 4th	1917	4th highest
Kahutara (near Martinborough)	50	Oct 10th	1981	4th highest

Reefton	92	Nov 24th	1960	2nd highest
Okarito	154	Nov 22nd	1981	3rd highest

• Temperature

Cold spells

The coldest temperature during spring was recorded at Lake Tekapo on the 25th, where the minimum temperature was -6.1°C.

4 – 8 October: The maximum temperatures on the 4th, 5th and 6th were also quite low for many locations, with Hanmer only reaching 2.8°C on the 5th. The maximum temperatures on the 8th of October were also quite low for many southern locations, with Arthurs Pass only reaching 4.2°C on that day.

5 – 8 November: The coldest temperature during November was recorded at Middlemarch on the 8th, where the minimum temperature was -4.6°C (not a November record for this location). The maximum temperatures on the 5th of November were also quite low for many southern locations during this cold snap, with Manapouri reaching only 5.5°C, and Gore getting to 5.7°C on that day.

Warm spells

22 – 23 September: The highest temperature during this period was 26.8°C recorded at Timaru on the 23rd during a strong north-westerly air flow. The minimum temperature of 15.7°C at Blenheim Research Centre on the night of the 22nd/23rd was the highest minimum for the country for September. Both of these temperatures were the highest September temperatures (maximum and minimum) at these locations since records began in 1885 and 1972, respectively.

2 – 3 October: The minimum temperature of 16.4°C at Waipara West on the night of the 2nd/3rd was the highest minimum for the country for October.

14 – 15 and 23 – 24 November: The highest temperature was 33.3°C recorded at Waione (Wairarapa) on the 24th (not a November record for this location). The minimum temperature of 19.2°C at Wanganui on the night of the 23rd/24th was the highest minimum for the country for November. Warm northwesterlies also brought record high temperatures in Otago and Canterbury on the 14th and 15th.

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

Location	Extreme maximum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Kaitia Observatory	24.2	Nov 14th	1985	equal 4th-highest
Kaikohe Aws	24.5	Nov 14th	1973	2nd highest
Whangarei Aero Aws	25.8	Nov 25th	1967	equal 3rd-highest
Arc Kumeu Ews	24.6	Nov 14th	1978	4th highest
Whatawhata 2 Ews	25.1	Nov 14th	1952	3rd highest
Port Taharoa Aws	25.7	Nov 23rd	1973	2nd highest
Te Kuiti	26.0	Nov 14th	1959	equal 4th-highest
Takapau Plains Aws	26.8	Nov 23rd	1962	2nd highest
Dannevirke Ews	28.0	Nov 24th	1951	Highest
Martinborough Ews	27.4	Nov 24th	1986	Highest
Ngawi Aws	27.9	Nov 24th	1972	4th highest
Paraparaumu Aero	25.4	Nov 24th	1953	4th highest
Palmerston North Ews	28.6	Nov 24th	1918	Highest
Levin Aws	26.9	Nov 24th	1895	3rd highest
Wellington Aero	25.3	Nov 24th	1962	3rd highest
Hawera Aws	22.9	Nov 23rd	1977	4th highest
Ohakune Ews	24.9	Nov 12th	1962	3rd highest
Waiouru Aws	23.3	Nov 14th	1962	3rd highest
Wanganui Aws	25.1	Nov 22nd	1987	2nd highest
Farewell Spit Aws	22.5	Nov 29th	1971	equal 4th-highest
Arthurs Pass	23.0	Nov 13th	1978	3rd highest

Culverden	31.0	Nov 23rd	1928	equal 4th-highest
Cheviot Ews	30.2	Nov 15th	1982	2nd highest
Waipara West Ews	30.5	Nov 15th	1973	3rd highest
Darfield Ews	31.4	Nov 15th	1939	Highest
Fairlie	31.0	Nov 15th	1925	4th highest
Oamaru Airport Aws	30.9	Nov 15th	1908	3rd highest
Dunedin Aero Aws	31.0	Nov 15th	1947	Highest
Lumsden Aws	27.1	Nov 14th	1982	Highest
Cromwell Ews	30.6	Nov 14th	1949	Highest
Balclutha, Telford Ews	27.6	Nov 15th	1964	2nd highest

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

Location	Extreme minimum temperature (°C)	Date of extreme temperature	Year Records began	Comments
Takapau Plains	-2.9	Sep 28th	1962	4th lowest
Martinborough	-3.0	Sep 6th	1986	2nd lowest
Ngawi	3.0	Sep 6th	1972	Lowest
Paraparaumu Aero	-1.9	Sep 6th	1953	4th lowest
Wallaceville	-4.0	Sep 6th	1939	3rd lowest
Pelorus Sound	1.1	Sep 11th	1982	4th lowest
Dunedin Aero	-3.8	Sep 6th	1947	2nd lowest
Queenstown Aero	-3.9	Sep 5th	1871	3rd lowest
Lumsden	-4.1	Sep 5th	1982	2nd equal lowest
Ettrick	-5.8	Sep 6th	1950	2nd lowest
Balclutha	-4.2	Sep 4th	1964	Lowest
Puysegur Point	1.3	Nov 5th	1978	Lowest

- **Snowfall**

27 September: Snow fell to about 220 m in Otago and Southland. Arrowtown and Naseby had 10 cm, St Bathans had 13 cm, and Jollys Pass, about 20km north of Lumsden on State Highway 6, had 15 cm. Cyclists on the Otago Central Rail Trail had to be picked up after being caught in a short but vicious storm which dumped 12 cm of snow at Wedderburn in just a couple of hours. SH 8 through the Lindis Pass was also closed briefly during the height of the snowstorm when a truck and trailer jack-knifed near the pass summit in the treacherous conditions. Strong winds with gale-force gusts in the early hours of 27 September gave way to heavy rain and then snow. In Athol, 9 cm of snow fell in the three hours to 10.30 am, and homes and businesses were without power for most of the day after two power poles outside the town boundary snapped. Electricity was restored at about 4.30 pm.

7 October: Queenstown woke to late-season snow 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.

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

5 November: An unseasonably cold blast hit the South Island blanketing inland Southland, Fiordland and Central Otago with snow and hail. The brutal conditions forced Tour of Southland organisers to shorten two stages of the race, as competitors faced temperatures as low as 1 °C. Locals say it is the first time since the 1970s that they have seen this much snow in November. The West Coast was also affected with snow in Reefton, sleet at Ngahere and Hokitika, and unseasonal snow on the alpine passes.

- **High winds and tornadoes**

11 September: A tornado was reported in the Bell Block area of New Plymouth. Damage occurred to power lines and roofs.

23 September: Crosswinds averaging 70 km/hr and gusting up to 100 km/hr disrupted flights at

Dunedin Airport between noon and 5.30pm. Winds gusts reached 140 km/hr at Swampy Summit above Dunedin, 100 km/hr at Taiaroa Head, 135 km/hr on the Rock and Pillar Range, near Middlemarch. Some trees were damaged around the region. Nine flights were cancelled at Queenstown Airport because of poor visibility, strong winds and driving rain. High winds, with gusts of up to 157 km/hr, forced the closure of the Remarkables Ski Field at 2pm.

27 September: Strong southerly winds caused problems on the Access Road to the Remarkables Ski Field, forcing its closure.

7 October: Extreme winds 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.

17 October: A mini tornado ripped through the Cambridge area about 3.00am. 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.

1 November: Winds of up to 140 km/hour hammered Wellington, lifting roofs, cutting power, and disrupting flights. Motorcyclists and drivers of high-sided vehicles were warned to stay away from Wainuiomata Hill, after two vehicles were blown off the road, and on the Rimutaka Hill Road between Upper Hutt and the Wairarapa, a van was tipped over by the strong winds.

5 November: Strong winds swept through the Parklands suburb of Christchurch causing significant damage to fences, houses and uprooting trees. It lasted 5 minutes and affected about 30 m of Queenspark Drive.

25 November: Extreme winds affected State Highways 7 and 7A in the Hanmer Springs-Culverden area, and State Highway 1 through the Hundalees in North Canterbury. Corrugated iron, ripped from a Hanmer Springs motel roof by a gust estimated at more than 130 km/h, hit and damaged cars in the street, and came to rest wedged beside a hedge and a wrought-iron rose arch.

Near record high extreme wind gusts for spring were recorded at:

Location	Extreme wind gust speed (km/hr)	Date of extreme gust	Year Records began	Comments
Castlepoint	169	Sep 27th	1972	4th highest
Puysegur Point	152	Sep 1st	1986	3rd highest
Tara Hills	100	Sep 27th	1985	3rd highest
Dunedin Aero	117	Sep 21st	1972	3rd highest
Whakatane Aero	93	Oct 7th	1974	Highest

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