

**National Climate Summary – Spring 2004**

- **Rainfall:** Below average in Northland, and from Kaikoura to north Canterbury, but wet in parts of Otago
- **Soil Moisture:** Significant deficits persisted in coastal Marlborough, and are showing up in Hawke's Bay, Canterbury and areas of North and Central Otago
- **Temperature:** Close to average overall, a cool start followed by a mild end
- **Sunshine:** Above average in most eastern regions; but a lack of sunshine in the west

For many, spring began with cold southwesterlies, was followed by average temperatures in October and concluded with a mild, although windy November. Rainfall was below average in much of Northland, and from the Kaikoura Coast to north Canterbury, and in scattered areas of central Hawke's Bay, where in places rainfall was half or less of the normal seasonal total. As a result significant soil moisture deficits have developed in north Canterbury and coastal Marlborough, along with Hawke's Bay and parts of Otago, with soils drying out in parts of Northland, Gisborne and Manawatu. In contrast, rainfall was above average in parts of Otago and inland areas of Southland, and it was extremely wet on Campbell Island. It was sunnier than average in the east, but cloudier than usual in many western regions. The spring climate was characterised by more anticyclones ("highs") over the southeast Australia/Tasman Sea region producing more westerly and south westerly winds over New Zealand, with very windy conditions at times.

**Highlights:**

- The highest spring 2004 temperature was 30.0°C, recorded in Culverden on the 7 November. This was their highest November temperature since measurements commenced in 1983. The lowest temperature for the season was -8.0°C, recorded at Snowden (Canterbury) on 29 September.
- Significant weather events during spring included two damaging hailstorms, a tornado, four damaging wind events, at least three heavy rainfall-events with some producing floods, the worst being in parts of Napier on 18 October. Three notable spring snowfalls produced stock losses in the South Island.
- The four main centres all had a dry spring, with Christchurch by far the driest. Christchurch was also the sunniest of the main centres, with Dunedin's sunshine total being well above average. Sunshine hours were also above normal in the other three centres. Temperatures were below average in Christchurch, and near average in the other centres.

**Rainfall:** Spring rainfall was below average in much of Northland, and from the Kaikoura Coast to north Canterbury, with totals of 75 percent (three quarters) of average or less. Rainfall was also below average in parts of central Hawke's Bay. Rainfall totals were at least 125 percent (one and a quarter) of average, in parts of Otago and inland areas of Southland, and it was extremely wet on Campbell Island, in the Southern Ocean.

**Temperature:** Seasonal temperatures were close to average in most regions, the spring national average temperature of 12.2°C being normal.

**Sunshine:** Sunshine totals were noticeably above normal in Gisborne and eastern Otago, but below average in many western regions.

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## **BELOW AVERAGE RAINFALL IN NORTHLAND, ALONG THE KAIKOURA COAST, AND IN NORTH CANTERBURY; ABOVE AVERAGE RAINFALL IN PARTS OF OTAGO**

Spring rainfall was below average in much of Northland, and from the Kaikoura Coast to north Canterbury, with totals of 75 percent (three quarters) of average or less. Rainfall was also below average in parts of central Hawke's Bay. In contrast, seasonal rainfall totals were at least 125 percent (one and a quarter) of average, in parts of Otago and inland areas of Southland. It was extremely wet on Campbell Island, in the Southern Ocean. Rainfall was near average in most other districts.

### **Near or record low Spring rainfall was recorded at:**

Location	Spring rainfall (mm)	Percentage Of normal	Year Records began	Comments
Kerikeri	257	57	1981	3 <sup>rd</sup> lowest
Mokohinau Island	118	51	1954	3 <sup>rd</sup> lowest
Warkworth	207	59	1972	Lowest
Kaikoura	72	35	1982	3 <sup>rd</sup> lowest

### **Near or record high Spring rainfall was recorded at:**

Location	Spring rainfall (mm)	Percentage of normal	Year Records began	Comments
Ranfurly	153	145	1975	Highest
Ettrick	200	141	1985	3 <sup>rd</sup> highest
Campbell Island	536	165	1941	2 <sup>nd</sup> highest

## **NEAR AVERAGE TEMPERATURES OVERALL**

Seasonal mean temperatures were near average (within 0.5°C) almost everywhere. The national average of 12.2°C was the same as the 1971-2000 normal.

## **SUNNY IN MOST EASTERN REGIONS; BUT A LACK OF SUNSHINE IN THE WEST**

Sunshine hours were at least 110 percent of average in Gisborne and eastern Otago, and slightly above average in most other eastern regions. Totals were below average in many western regions from Waikato to Fiordland.

## **SPRING CLIMATE IN THE FOUR MAIN CENTRES**

Of the four main centres Christchurch was both the driest and sunniest. Rainfall was below average in all four main centres, especially Christchurch. Sunshine totals were well above average in Dunedin, and near average in the other three centres. Spring temperatures were below average in Christchurch, and near average in the other three main centres.

Location	Spring Mean Temp. (°C)	Dep. from normal (°C)		Spring rainfall (mm)	% of normal		Spring Sunshine (hours)	% of normal	
Auckland	14.3 <sup>a</sup>	-0.2	Near average	236	79	Below average	537 <sup>a</sup>	103	Near average
Wellington	12.1	0.0	Near average	266	84	Below average	580	104	Near average
Christchurch	11.2 <sup>b</sup>	-0.3	Below average	96 <sup>b</sup>	69	Below average	586 <sup>b</sup>	101	Near average
Dunedin	10.7	-0.1	Near average	162	86	Below average	525	120	Well above Average

## HIGHLIGHTS AND EXTREME EVENTS

### *Temperature*

- The highest spring 2004 temperature was 30.0°C, recorded in Culverden on 7 November. This was their highest November temperature since measurements commenced in 1983. On 29 October 29.0°C was recorded at Nelson Park, Napier, the second highest October temperature since 31.3°C (their record) in 1961, and 3<sup>rd</sup> highest since measurements commenced in 1868. Nelson Park in Napier also recorded 28.5°C on 14 October.
- The lowest temperature for the season was -8.0°C, recorded at Snowden (Canterbury) on 29 September.
- Frost occurred in parts of Taranaki on 27 November, severely damaging blueberry crops.

### *Snowfall*

- Snowfall occurred to low levels with low temperatures on the 18<sup>th</sup> and 19<sup>th</sup> of September in inland areas of Southland and Otago. Thousands of newborn lambs died due to exposure.
- Further snowfall occurred in inland areas of Canterbury on the 28<sup>th</sup> of September, also with a loss of newborn lambs. This also produced snow on the Desert Road, the Rimutaka Hill Road, SH1 between Kaikoura and Cheviot, and most South Island high country passes.
- Cold southerlies brought snowfall to parts of the Otago high country on the 23<sup>rd</sup> and 25<sup>th</sup> November.

### *Tornado, damaging hail, high rainfall and flooding*

- On the 17<sup>th</sup> of October, a tornado was seen forming over land, but did not reach the ground, between Carterton and Masterton during the late afternoon. Thunderstorms with hailstones “the size of peas” affected Carterton for about 15 minutes about the same time.
- Hail also struck several Hawke’s Bay orchards at about 3 am on the 18<sup>th</sup> of October, resulting in damage to apples and stonefruit. The thunderstorm also produced high intensity rainfall in Napier, and up to forty people were evacuated, many cars stranded, phones out, and about 300 houses were without electricity, with nine schools were closed. Steady heavy rainfall occurred at Napier Airport, totalling 42 mm in the 3-hours to 4am, with intensities as high as 15 mm in an hour. An unofficial total of 143 mm was reported in Tamatea, where flooding was worst, with water up to 1 metre deep on some roads. High rainfall and surface flooding also occurred on the same day in Pongaroa, totalling 130 mm in 12 hours.
- High rainfall and surface flooding occurred in parts of Manawatu on the 19<sup>th</sup> of September. The Manawatu River and Te Horo Rivers were in flood; the later breaching its banks southwest of Otaki and on SH 57 between Shannon and Palmerston North. Landslips occurred between the Manawatu Gorge and Woodville.
- Heavy rainfall totalling 252 mm was recorded at Milford Sound for the 24 hours to 9am on the 20<sup>th</sup> of November.

### ***High winds***

- High wind gusts in excess of 150 km/h occurred at well-exposed sites on several occasions during September, being 167 km/h at South West Cape on the 18<sup>th</sup>, 152 km/h at Castlepoint on the 22<sup>nd</sup>, and 156 km/h at Baring head on the 24<sup>th</sup>.
- Thousands of houses were without power as gale force winds (speeds of 100 km/h were reported) on the 14<sup>th</sup> of October toppled trees in the Golden Bay district.
- Rough weather on the 15<sup>th</sup> of November, including thunderstorms, high winds, and heavy rainfall buffeted many parts of the upper North Island, especially Gisborne where 8000 houses were temporarily without electricity, and Auckland with some roofs damaged and trees fallen.
- High winds, with speeds gusting to over 130 km/hr in Hawke's Bay uprooted a tree near Hastings, which hit a vehicle and killed two people on the 28<sup>th</sup> of November.

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