

National Climate Summary – January 2012: Unusually cool

- **Temperatures:** Below average for many western regions of the North Island, as well as inland Bay of Plenty, inland Hawkes Bay, Wellington, Wairarapa, Canterbury, Fiordland, Central Otago, and much of Westland and Buller. Near average elsewhere.
- **Rainfall:** Well below normal rainfall for Nelson, Blenheim, and Banks Peninsula. Very wet between Gore and Queenstown, as well as the southern half of North Island. Elsewhere, rainfall totals normal or below normal.
- **Soil Moisture:** Close to normal for the time of year.
- **Sunshine:** Cloudy for north and west of North Island. Sunny for southern half of South Island. Near normal sunshine elsewhere.

The first half of January was characterised by easterly and northerly winds, which produced wet and windy weather for areas exposed to the northeast. In contrast, the second half of the month was very cool, with frequent southerly winds which brought unusually cool air over the country. For the month as a whole, lower pressures than normal prevailed over New Zealand, as well as to the north and east of the country, producing a rather cool, windy, and unsettled month overall.

Below average temperatures (between 0.5°C and 1.2°C below average) were generally experienced across western regions of the North Island, as well as inland Bay of Plenty, inland Hawkes Bay, Wellington and the Wairarapa, Canterbury, and across most of Fiordland, Westland and Buller. Elsewhere (generally in the northeast of both islands), mean temperatures for January were close to average (within 0.5°C of the January average). The nation-wide average temperature in January was 16.4°C (0.7°C below the 1971–2000 January average), using NIWA's seven-station temperature series which begins in 1909.

Well below normal January rainfall totals (less than half of January normal) were observed in the greater Nelson region, as well as in Blenheim, and on Banks Peninsula. In contrast, it was an extremely wet January from Gore to Queenstown, and across much of the southern half of the North Island. For the Hokianga, and much of Auckland, Coromandel, and the Waikato, as well as coastal Bay of Plenty, rainfall was close to normal (ranging between 80 and 119 percent of January normal). Elsewhere, rainfall totals were mostly below normal (between 50 and 79 percent of January normal). Soil moisture levels for most of the country were close to normal, for this time of year. Significant soil moisture deficit (more than 110 mm of deficit) was observed by the end of January in eastern areas of the South Island, the Mackenzie basin, central Otago, and parts of the Gisborne region.

It was a rather cloudy January for the north and west of the North Island, with below normal sunshine totals (between 75 and 90 percent of January normal). In contrast, it was sunny over the southern half of the South Island, with above normal sunshine totals (between 110 and 125 percent of January normal). Elsewhere, sunshine totals were generally in the near-normal range.

Further Highlights:

- The highest temperature was 31.7°C, observed at Lake Pukaki on 4 January.
- The lowest temperature was -0.9°C, recorded at Ranfurly on 3 January.
- The highest 1-day rainfall experienced was 145 mm at Milford Sound on 31 January.
- The highest gust recorded was 185 km/hr at the Rock and Pillar range, Central Otago, on 31 January.
- Tauranga was the warmest and sunniest, Auckland the cloudiest, Wellington the wettest, and Christchurch the driest of the main centres.

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TEMPERATURE: BELOW AVERAGE FOR MANY WESTERN REGIONS OF THE NORTH ISLAND, AS WELL AS INLAND BAY OF PLENTY, INLAND HAWKES BAY, WELLINGTON, WAIRARAPA, CANTERBURY, FIORDLAND, CENTRAL OTAGO, AND MUCH OF WESTLAND AND BULLER. NEAR AVERAGE ELSEWHERE.

Regarding mean temperatures, below average temperatures (between 0.5°C and 1.2°C below average) were generally experienced across western regions of the North Island, as well as inland Bay of Plenty, inland Hawkes Bay, Wellington and the Wairarapa, as well as Canterbury, and across most of Fiordland, Westland and Buller. Elsewhere (generally in the northeast of both islands), mean temperatures for January were close to normal (within 0.5°C of the January average). The nation-wide average temperature in January was 16.4°C (0.7°C below the 1971–2000 January average), using NIWA’s seven-station temperature series which begins in 1909¹.

Afternoon (maximum) temperatures in January were well below average (more than 1.2°C below January average) across much of the western and central North Island, as well as for Wellington and the Wairarapa. At both Kaitaia and Martinborough, maximum temperatures in January were the lowest on record.

Record or near-record monthly-average maximum air temperatures for January were recorded at:

| Location | Mean maximum air temperature (°C) | Departure from normal (°C) | Year records began | Comments |
|--------------------|-----------------------------------|----------------------------|--------------------|-------------|
| Kaitaia | 21.8 | -2.1 | 1967 | Lowest |
| Kerikeri | 23.2 | -1.1 | 1981 | 4th-lowest |
| Whitianga | 23.0 | -0.9 | 1962 | 4th-lowest |
| Rotorua | 21.3 | -1.6 | 1964 | 4th-lowest |
| Taupo | 21.0 | -2.3 | 1949 | 3rd-lowest |
| Hamilton (Ruakura) | 21.3 | -2.8 | 1906 | 4th-lowest |
| Te Kuiti | 22.2 | -1.9 | 1959 | 3rd-lowest |
| Taumarunui | 22.3 | -2.3 | 1947 | 3rd-lowest |
| Dannevirke | 20.1 | -2.3 | 1951 | 4th-lowest |
| Castlepoint | 19.7 | -1.8 | 1972 | 4th –lowest |
| Martinborough | 21.6 | -2.8 | 1986 | Lowest |
| Palmerston North | 22.0 | -0.7 | 1991 | 3rd-lowest |
| Wanganui | 19.6 | -2.8 | 1937 | 2nd-lowest |
| Puysegur Point | 15.1 | -1.3 | 1978 | 3rd-lowest |
| Cheviot | 21.7 | -1.4 | 1982 | 2nd-lowest |

Record or near-record monthly-average minimum air temperatures for January were recorded at:

| Location | Mean minimum air temperature (°C) | Departure from normal (°C) | Year records began | Comments |
|-----------------|-----------------------------------|----------------------------|--------------------|-------------|
| Chatham Islands | 12.8 | 1.2 | 1991 | 4th-highest |
| Kaitaia | 14.3 | -0.5 | 1985 | 4th-lowest |
| Wanganui | 12.0 | -2.0 | 1937 | 4th-lowest |
| Hanmer Forest | 6.6 | -2.3 | 1906 | 3rd-lowest |
| Winchmore | 8.5 | -2.0 | 1928 | 4th-lowest |
| Le Bons Bay | 10.4 | -1.2 | 1984 | 3rd-lowest |
| Timaru | 8.7 | -1.6 | 1990 | 2nd-lowest |

¹ Interim monthly value.

RAINFALL: WELL BELOW NORMAL RAINFALL FOR NELSON, BLENHEIM, AND BANKS PENINSULA. VERY WET BETWEEN GORE AND QUEENSTOWN, AS WELL AS ACROSS THE SOUTHERN HALF OF THE NORTH ISLAND. ELSEWHERE, RAINFALL TOTALS WERE GENERALLY NORMAL OR BELOW NORMAL. SOIL MOISTURE LEVELS NEAR NORMAL BY END OF JANUARY.

Well below normal January rainfall totals (less than half of January normal) were observed in the greater Nelson region, as well as in Blenheim, and on Banks Peninsula. After the extremely wet December, Nelson and Takaka experienced a very dry month, with only about a quarter (25 percent) of usual January rainfall observed.

In contrast, it was an extremely wet January from Gore to Queenstown, and across much of the southern half of the North Island. Well above normal January rainfall (more than 125 percent of January normal) was observed between Gore and Queenstown, including Central Otago, as well as Wellington, Wairarapa, much of Hawkes Bay, coastal Gisborne, throughout the Wanganui-Manawatu and South Taranaki districts, as well as for Taupo, and the Rotorua Lakes area.

For the Hokianga, and much of Auckland, Coromandel, and the Waikato, as well as coastal Bay of Plenty, January rainfall was closer to normal (ranging between 80 and 119 percent of January normal). Elsewhere, rainfall totals were mostly below normal (between 50 and 79 percent of January normal).

Soil moisture levels for most of the country were close to normal, for this time of year. Significant soil moisture deficit (more than 110 mm of deficit) was observed by the end of January in eastern areas of the South Island, the Mackenzie basin, central Otago, and parts of the Gisborne region.

Record or near-record January rainfall totals were recorded at:

| Location | Rainfall total (mm) | Percentage of normal | Year records began | Comments |
|------------------|---------------------|----------------------|--------------------|-------------|
| Palmerston North | 81 | 143 | 1991 | 4th-highest |
| Ranfurly | 137 | 283 | 1943 | 3rd-highest |
| Takaka | 34 | 24 | 1976 | 4th-lowest |

SUNSHINE: CLOUDY FOR NORTH AND WEST OF NORTH ISLAND. SUNNY FOR SOUTHERN HALF OF SOUTH ISLAND. NEAR NORMAL SUNSHINE ELSEWHERE.

It was a rather cloudy January for the north and west of the North Island, with below normal sunshine totals (between 75 and 90 percent of January normal). In contrast, it was sunny over the southern half of the South Island, with above normal sunshine totals (between 110 and 125 percent of January normal). Elsewhere, sunshine totals were generally in the near-normal range (between 90 and 110 percent of January normal).

Record or near-record January sunshine hours were recorded at:

| Location | Sunshine (hours) | Percentage Of normal | Year records began | Comments |
|-------------|------------------|----------------------|--------------------|-------------|
| Lake Tekapo | 300 | 120 | 1928 | 3rd-highest |
| Turangi | 189 | 85 | 1976 | 4th-lowest |

JANUARY CLIMATE IN THE SIX MAIN CENTRES

Temperatures at Auckland, Hamilton, and Wellington were below January average, and it was a very cool January for Christchurch, with well below average temperatures observed there. Closer to average temperatures were experienced at Tauranga and Dunedin. It was a cloudy month in the western centres, too, with below normal sunshine hours at Auckland, Hamilton and Wellington. It was a wetter than usual January for Hamilton and Wellington, but near normal rainfall was observed at Auckland, Tauranga, Christchurch and Dunedin.

Of the six main centres, Tauranga was the warmest and sunniest, Auckland the cloudiest, Wellington the wettest, and Christchurch the driest.

January 2012 main centre climate statistics:

| Location | Mean temp. (°C) | Departure from normal (°C) | | Rainfall (mm) | % of normal | | Sunshine (hours) | % of normal | |
|---------------------------|-----------------|----------------------------|--------------------|---------------|-------------|-------------------|------------------|-------------|---------------|
| Auckland ^a | 18.8 | -0.9 | Below average | 55 | 91% | Near normal | 178 | 77% | Below normal. |
| Tauranga ^b | 19.4 | 0.2 | Near average | 62 | 85% | Near normal | 235 | 93% | Near normal |
| Hamilton ^c | 17.6 | -0.6 | Below average | 105 | 131% | Above normal | 188 ^g | 81% | Below normal |
| Wellington ^d | 16.0 | -0.9 | Below average | 108 | 150% | Well above normal | 212 | 86% | Below normal |
| Christchurch ^e | 15.9 | -1.2 | Well below average | 51 | 119% | Near normal | 233 | 101% | Near normal |
| Dunedin ^f | 15.0 | -0.2 | Near average | 62 | 86% | Near normal | 185 | 104% | Near normal |

^a Mangere ^b Tauranga Airport ^c Hamilton Airport ^d Kelburn ^e Christchurch Airport ^f Musselburgh ^g Ruakura

HIGHLIGHTS AND EXTREME EVENTS

• Rain and slips

The highest 1-day rainfall experienced was 145 mm at Milford Sound on 31 January, during a frontal passage associated with strong northwest winds.

On 7 and 8 January, a heavy band of rain affected most of the North Island, associated with a subtropical low which moved south over New Zealand. Flooding was reported in Waimarama in Hawke's Bay on the 8th, and power was lost to many homes in the greater Wellington area.

On 12 January Nelson and Golden Bay again experienced heavy rain. A fallen tree blocked both lanes of SH60 on Takaka Hill overnight.

Heavy rain on 13 January in Oamaru caused surface flooding, but the rain was generally welcomed after a long dry spell.

Record or near record January extreme 1-day rainfall totals were recorded at:

| Location | Extreme 1-day rainfall (mm) | Date of extreme rainfall | Year records began | Comments |
|-----------|-----------------------------|--------------------------|--------------------|-------------|
| Ranfurlly | 50 | 13th | 1943 | 2nd-highest |
| Alexandra | 32 | 12th | 1983 | 3rd-highest |

• Temperatures

The highest temperature was 31.7°C, observed at Lake Pukaki on 4 January. The lowest temperature was -0.9°C, recorded at Ranfurly on 3 January.

Maximum air temperatures in Northland, Auckland and Waikato were unusually low on the 7th and 8th of the month, associated with the passage of a deep subtropical low, which brought gale southerly winds, cloud and rainfall, to these regions.

Record or near-record daily maximum air temperatures for January were recorded at:

| Location | Extreme maximum temperature (°C) | Date of extreme temperature | Year Records Began | Ranking |
|--------------------|----------------------------------|-----------------------------|--------------------|------------------|
| Kaitaia | 17.5 | 9th | 1985 | Lowest |
| Kerikeri | 18.3 | 7th | 1981 | 2nd-lowest |
| Dargaville | 17.4 | 8th | 1951 | 2nd-lowest |
| Whangaparaoa | 17.9 | 7th | 1982 | 3rd-lowest |
| Hamilton (Ruakura) | 17.3 | 7th | 1940 | Equal 4th-lowest |
| Masterton | 13.3 | 27th | 1943 | Equal 4th-lowest |
| Castlepoint | 13.1 | 27th | 1972 | Equal 4th-lowest |
| Milford Sound | 9.6 | 15th | 1935 | 3rd-lowest |
| Puysegur Point | 11.3 | 15th | 1978 | Equal 2nd-lowest |
| Cheviot | 13.0 | 2nd | 1982 | 2nd-lowest |
| Le Bons Bay | 12.1 | 29th | 1984 | Equal 4th-lowest |
| Tiwai Point | 11.4 | 15th | 1972 | Equal 2nd-lowest |

In the second half of January, unusually cold air reached the South Island following a procession of cold fronts, with records broken on 14/15, 23 and 27/28 January. Minimum temperatures were record low for January at Appleby and Blenheim on the 23rd, at Puysegur Point (Fiordland) and Le Bons Bay (Banks Peninsula) on the 27th, and at New Plymouth, Takapau Plains, and Dannevirke on the 28th.

Record or near-record daily minimum air temperatures for January were recorded at:

| Location | Extreme minimum temperature (°C) | Date of extreme temperature | Year records Began | Ranking |
|------------------|----------------------------------|-----------------------------|--------------------|------------------|
| Te Kuiti | 4.1 | 28th | 1959 | 3rd-lowest |
| New Plymouth | 4.2 | 28th | 1944 | Lowest |
| Takapau Plains | 1.0 | 28th | 1962 | Lowest |
| Dannevirke | 0.8 | 28th | 1951 | Lowest |
| Martinborough | 2.9 | 28th | 1986 | 3rd-lowest |
| Ngawi | 8.0 | 23rd | 1972 | 3rd-lowest |
| Waipawa | 1.8 | 28th | 1945 | 2nd-lowest |
| Palmerston North | 3.0 | 28th | 1991 | 3rd-lowest |
| Ohakune | 0.6 | 28th | 1962 | Equal 4th-lowest |
| Lake Rotoiti | -0.4 | 23rd | 1965 | 3rd-lowest |
| Greymouth | 5.7 | 16th | 1947 | Equal 2nd-lowest |
| Puysegur Point | 5.7 | 27th | 1978 | Lowest |
| Motueka | 3.9 | 23rd | 1956 | 3rd-lowest |
| Appleby | 2.3 | 23rd | 1943 | Lowest |
| Blenheim | 1.3 | 23rd | 1932 | Lowest |
| Kaikoura | 5.6 | 27th | 1963 | 4th-lowest |
| Cheviot | 2.8 | 17th | 1982 | 4th-lowest |
| Winchmore | 0.9 | 27th | 1928 | 3rd-lowest |
| Waipara West | 4.0 | 16th | 1973 | Equal 4th-lowest |
| Le Bons Bay | 4.3 | 27th | 1984 | Lowest |
| Orari Estate | 2.9 | 27th | 1972 | 4th-lowest |
| Timaru | 2.2 | 27th | 1990 | Equal 3rd-lowest |

| | | | | |
|-----------------|-----|------|------|------------------|
| Nugget Point | 4.4 | 27th | 1970 | 2nd-lowest |
| Chatham Islands | 6.0 | 31st | 1991 | Equal 2nd-lowest |

- **Wind**

The highest gust recorded was 185 km/hr at the Rock and Pillar Range, Central Otago, on 31 January.

On 8 January, gale force winds struck Taranaki, demolishing garden sheds, downing trees and power lines, and causing the cancellation of eight flights at New Plymouth Airport, and the closure of Todd Energy Aquatic Centre. Residents of Egmont Village, Rahotu, Whangamomona, and Strathmore lost power, some overnight. Trees were brought down, and power was also lost around Palmerston North. Three poplar trees fell across SH57 just north of Tokomaru, and in Palmerston North, Centennial Drive was blocked when a pine tree fell across both lanes. The Saddle Road, between Ashhurst and Woodville, the alternative route to the closed Manawatu Gorge, was blocked by fallen trees.

On 13 January, wind warnings were issued for SH1 between Blenheim and Kaikoura. In Wellington, flights were delayed by the strong winds, and further south, winds felled trees and damaged roofs in Buller, with power cuts to about 1000 consumers, mainly north of Westport. Flights were cancelled between Westport and Wellington. Trees were also blown down north of Auckland and in Lower Hutt, and power lines brought down in Wairoa.

On 15 January, two funnel clouds were spotted in Invercargill at about midday. They were present for five to ten minutes, but neither touched the ground to produce tornadoes.

Wind warnings were issued on 19 January for SH8 between Fairlie and Twizel, and SH80 between Pukaki and Mt Cook.

On 26 January, wind warnings were issued for SH1 between Allanton and Gore, SH8 between Raes Junction and Milton, and SH90 between Gore and Raes Junction. In Wellington, strong winds disrupted flights, including the cancellation of the flight bringing back the Toi Moko from France to Te Papa. Near the airport, wind gusts snapped an electrified trolley-bus cable hitting a car.

On 28 January, gales battered Southland, causing property damage, and downing trees and power lines.

Near-record high extreme wind gusts for January were recorded at:

| Location | Extreme wind gust speed (km/hr) | Date of extreme gust | Year records began | Comments |
|------------------|---------------------------------|----------------------|--------------------|-------------------|
| Rotorua | 83 | 13th | 1972 | Equal 3rd-highest |
| Motu | 82 | 13th | 1991 | Highest |
| Turangi | 87 | 29th | 1973 | 4th-highest |
| New Plymouth | 104 | 8th | 1972 | 3rd-highest |
| Castlepoint | 159 | 27th | 1972 | 2nd-highest |
| Baring Head | 133 | 8th | 1991 | 3rd-highest |
| Palmerston North | 96 | 8th | 1991 | 2nd-highest |
| Mt. Kaukau | 150 | 8th | 1969 | 3rd-highest |
| Hawera | 96 | 13th | 1986 | 2nd-highest |
| Westport | 107 | 13th | 1973 | Equal 2nd-highest |
| Tara Hills | 91 | 26th | 1985 | 3rd-highest |
| Manapouri | 80 | 19th | 1991 | 4th-highest |
| Lauder | 113 | 31st | 1981 | 3rd-highest |
| Gore | 109 | 26th | 1987 | 4th-highest |

- **Lightning and hail**

On 12 January, thunder and lightning moved across the Kapiti Coast, Manawatu, Whanganui and Taranaki. Thunder was also reported in Central Otago.

On 15 January, thunderstorms moved along the west coast from Taranaki to Kapiti.

- **Snow and ice**

On 15 January, visitors to Coronet Peak played in the snow that blanketed the hills around Queenstown.

Snow was reported falling in Porters Pass and Arthurs Pass on 22 January.

On 26 January, very cold air brought snow showers to high Fiordland peaks, rural Ashburton, Central Otago, the Maniototo, and Canterbury high country, with 5-10 cm of snow at Mt Hutt ski fields. The road through Dansey's Pass was closed.

- **Cloud and fog**

On 13 January, low cloud caused the cancellation of some flights at Queenstown Airport.

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