

Mild and dry for much of the country

| | |
|----------------------|--|
| Temperature | Above average (0.51-1.20°C above average) or well above average (>1.20°C above average) temperatures were observed for western and southern parts of Northland, Hawke's Bay, Wairarapa, and northern, western and coastal parts of the South Island. Near average temperatures ($\pm 0.50^\circ\text{C}$ of average) were observed in parts of Auckland, Bay of Plenty, Waikato, northern Taranaki, coastal Manawatū-Whanganui, and inland parts of the South Island. |
| Rainfall | Rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) for much of the North Island, and parts of Marlborough, Nelson, northern and central Canterbury, West Coast, and Southland. Above normal (120-149% of normal) or well above normal (>149% of normal) rainfall was observed in most of Otago, southern Canterbury, Banks Peninsula, and the Bay of Islands. |
| Soil Moisture | At the end of July, soil moisture levels were near normal for most of the country. Below normal soil moisture was observed in central and northern parts of Canterbury. Above normal soil moisture was observed in coastal parts of southern Marlborough. |

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Overview

July 2024 mean sea level air pressure (MSLP) was higher than normal over and to the south of Aotearoa New Zealand. This was associated with more southeasterly winds than normal. A large and slow-moving high pressure system was present over New Zealand for much of July, leading to an extended period of fine and settled weather, and regular heavy frosts for inland areas. The strength of the high pressure peaked on 10 July, when Ranfurly registered a MSLP of 1046.5 hPa – this is mainland New Zealand's highest MSLP measurement on record.

It was a relatively mild July for much of New Zealand, with above average (0.51-1.20°C above average) or well above average (>1.20°C above average) temperatures observed for coastal parts of Southland, Otago and Canterbury, West Coast, Marlborough, Nelson, Tasman, Wairarapa, Hawke's Bay, southern Taranaki, northern Gisborne, and southern and western Northland. Near average temperatures ($\pm 0.50^\circ\text{C}$ of average) were observed in parts of inland Southland and Otago, central and northern Canterbury, coastal Manawatū-Whanganui, northern Taranaki, Waikato, Bay of Plenty, Auckland, and eastern Northland. Isolated pockets of below average (0.51-1.20°C below average) temperatures were observed in the Central Plateau and Central Otago. Overall, the nationwide average temperature in

July 2024 was 9.0°C. This was 0.9°C above the 1991-2020 July average, making it New Zealand's 8th-warmest July since NIWA's seven station temperature series began in 1909.

July rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) for southern parts of Northland and Auckland, much of Waikato, Gisborne, Taranaki, southern Hawke's Bay, the Central Plateau, Manawatū, Greater Wellington, northern Marlborough, Nelson, southern Tasman, northern and central Canterbury, West Coast, and Southland. Above normal (120-149% of normal) or well above normal (>149% of normal) rainfall was observed in most of Otago, southern Canterbury, Banks Peninsula, and the Bay of Islands. For the areas that were wetter than normal, most of the rainfall occurred during two events (at the start and end of the month, respectively). For example, Lauder recorded 51 mm of rain during July, but 46 mm of that total occurred on 1 July and 29 July. In between those events, Lauder observed a 26-day dry spell from 2-27 July.

Further Highlights:

- The highest temperature was 21.5°C, observed at Waipara West on 27 July.
- The lowest temperature was -8.9°C, observed at Mt Cook Airport on 14 July.
- The highest 1-day rainfall was 96 mm, recorded at Milford Sound on 26 July.
- The highest wind gust was 156 km/h, observed at Cape Turnagain on 2 July.
- Of the six main centres in July 2024, Auckland was the warmest, Christchurch was the driest and coolest, Hamilton was the wettest, Tauranga was the sunniest, and Dunedin was the least sunny.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2024 so far are wider Nelson (1577 hours), Bay of Plenty (1551 hours), Marlborough (1543 hours) and Taranaki (1533 hours).

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Temperature: Mild for most of the country, but frosty exceptions

Temperatures were higher than average for many parts of the country, and 12 locations observed near-record high mean temperatures for the month. Frosts were common for inland areas of the country – as is typical for the time of year – however they were more severe than usual in some parts. For example, from 1-14 July the mean minimum temperature in Tūrangi was -3.6°C, which was 5.2°C lower than its July average. Tūrangi's mean minimum temperature for the month overall (-0.9°C, 2.5°C below average) was its lowest for July since records began in 1968. New Zealand's warmest location compared to average was Arapito (Buller District, West Coast), where the mean temperature of 10.1°C was 1.9°C higher than average for the time of year. The coolest location compared to average was Tūrangi, where the mean temperature of 5.5°C was 1.1°C lower than average for the time of year.

Record¹ or near-record mean air temperatures for July were recorded at:

| Location | Mean air temp. (°C) | Departure from normal (°C) | Year records began | Comments |
|-------------------------------------|---------------------|----------------------------|--------------------|-------------|
| High records or near-records | | | | |
| Mt Ruapehu Chateau | 4.3 | 1.1 | 2000 | 2nd-highest |
| Arapito | 10.1 | 1.9 | 1978 | 2nd-highest |
| Tautuku | 7.9 | 1.5 | 1976 | 2nd-highest |
| Greymouth | 9.4 | 1.4 | 1947 | 3rd-highest |
| Waimate | 7.5 | 1.7 | 1908 | 3rd-highest |
| Oban (Stewart Island) | 7.8 | 1.3 | 1975 | 3rd-highest |
| Balclutha | 6.5 | 1.5 | 1964 | 3rd-highest |
| Nugget Point | 7.6 | 1.3 | 1970 | 3rd-highest |
| South West Cape | 8.9 | 1.2 | 1991 | 3rd-highest |
| Kaitaia | 13.3 | 1.3 | 1948 | 4th-highest |
| Kawerau | 10.2 | 0.8 | 1954 | 4th-highest |
| Dunedin (Musselburgh) | 8.4 | 1.7 | 1947 | 4th-highest |
| Low records or near-records | | | | |
| None observed | | | | |

Record or near-record mean maximum air temperatures for July were recorded at:

| Location | Mean maximum air temp. (°C) | Departure from normal (°C) | Year records began | Comments |
|-------------------------------------|-----------------------------|----------------------------|--------------------|-------------|
| High records or near-records | | | | |
| Kawerau | 16.6 | 1.8 | 1954 | Highest |
| Whangaparāoa | 15.8 | 1.4 | 1982 | 2nd-highest |
| Mt Ruapehu Chateau | 8.3 | 1.4 | 2000 | 2nd-highest |
| Arapito | 15.0 | 2.1 | 1978 | 2nd-highest |
| Greymouth | 13.6 | 1.8 | 1947 | 2nd-highest |
| Franz Josef | 13.5 | 1.7 | 1953 | 2nd-highest |
| Appleby | 14.6 | 1.5 | 1932 | 2nd-highest |
| Westport | 13.9 | 1.0 | 1937 | 3rd-highest |
| Auckland (Whenuapai) | 15.7 | 1.0 | 1945 | 4th-highest |
| Whakatāne | 16.1 | 1.2 | 1974 | 4th-highest |
| Taupō | 13.2 | 2.1 | 1949 | 4th-highest |
| Reefton | 11.4 | 1.2 | 1960 | 4th-highest |
| Low records or near-records | | | | |
| None observed | | | | |

¹ The rankings (1st, 2nd, 3rd etc.) in all Tables in this summary are relative to climate data from a group of nearby stations, some of which may no longer be operating. The current climate value is compared against all values from any member of the group, without any regard for homogeneity between one station's record, and another. This approach is used due to the practical limitations of performing homogeneity checks in real-time.

Record or near-record mean minimum air temperatures for July were recorded at:

| Location | Mean minimum air temp. (°C) | Departure from normal (°C) | Year records began | Comments |
|-------------------------------------|-----------------------------|----------------------------|--------------------|-------------|
| High records or near-records | | | | |
| Dunedin (Musselburgh) | 5.5 | 2.5 | 1947 | Highest |
| Nugget Point | 5.6 | 2.0 | 1970 | Highest |
| Tautuku | 4.7 | 2.1 | 1976 | Highest |
| Windsor | 1.1 | 1.9 | 2000 | 2nd-highest |
| Oamaru | 4.0 | 2.0 | 1967 | 2nd-highest |
| Akaroa | 5.8 | 1.1 | 1978 | 3rd-highest |
| Waimate | 2.9 | 2.4 | 1908 | 3rd-highest |
| Oban (Stewart Island) | 4.8 | 2.0 | 1975 | 3rd-highest |
| South West Cape | 7.1 | 1.3 | 1991 | 3rd-highest |
| Kaikōura | 6.6 | 1.0 | 1963 | 4th-highest |
| Le Bons Bay | 6.4 | 1.3 | 1984 | 4th-highest |
| Low records or near-records | | | | |
| Tūrangi | -0.9 | -2.5 | 1968 | Lowest |
| Waipounamu | -0.8 | 0.0 | 1980 | 4th-lowest |

Rainfall: Long dry spells for parts of the South Island

It was a relatively dry month for much of the country, and many South Island locations recorded extended dry spells². Observed dry spells included 27 days in Ranfurly, 26 days in Lake Tekapo, Lauder, Middlemarch and Wānaka, 25 days in Queenstown and Tara Hills, 19 days in Invercargill, and 15 days in Lumsden. New Zealand's driest location compared to normal was Motu (Gisborne District), where the total rainfall of 23 mm was 12% of normal for the time of year. The wettest location compared to normal was Lauder (Central Otago), where the total rainfall of 51 mm was 238% of normal for the time of year.

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

| Location | Rainfall total (mm) | Percentage of normal | Year records began | Comments |
|-------------------------------------|---------------------|----------------------|--------------------|-------------|
| High records or near-records | | | | |
| Purerua | 223 | 186 | 1983 | 3rd-highest |
| Low records or near-records | | | | |
| Mt Ruapehu Chateau | 64 | 23 | 2000 | Lowest |
| Motu | 23 | 12 | 1920 | 2nd-lowest |
| Arapito | 71 | 38 | 1978 | 4th-lowest |
| Lake Moeraki | 162 | 61 | 1985 | 4th-lowest |

² Consecutive days with less than 1mm of rain on any given day.

July climate in the six main centres

It was a warm month in Dunedin, with the city measuring its fourth-warmest July on record. July temperatures were above average in Wellington and Christchurch, and near average for the remaining main centres. Rainfall was well below normal in Christchurch and Dunedin, and below normal in Auckland. Of the six main centres in July 2024, Auckland was the warmest, Christchurch was the driest and coolest, Hamilton was the wettest, Tauranga was the sunniest, and Dunedin was the least sunny.

July 2024 main centre climate statistics:

| Temperature | | | |
|---------------------------|-----------------|----------------------------|-----------------------|
| Location | Mean temp. (°C) | Departure from normal (°C) | Comments |
| Auckland ^a | 11.4 | +0.3 | Near average |
| Tauranga ^b | 10.7 | +0.2 | Near average |
| Hamilton ^c | 8.7 | -0.2 | Near average |
| Wellington ^d | 9.9 | +0.7 | Above average |
| Christchurch ^e | 6.6 | +0.6 | Above average |
| Dunedin ^f | 8.4 | +1.7 | 4th-highest on record |

| Rainfall | | | |
|---------------------------|------------------|-------------|-------------------|
| Location | Rainfall (mm) | % of normal | Comments |
| Auckland ^a | 89 ³ | 65 | Below normal |
| Tauranga ^b | 122 ⁴ | 92 | Near normal |
| Hamilton ^c | 130 | 94 | Near normal |
| Wellington ^d | 127 | 87 | Near normal |
| Christchurch ^e | 29 | 45 | Well below normal |
| Dunedin ^f | 81 | 157 | Well above normal |

| Sunshine | |
|---------------------------|------------------|
| Location | Sunshine (hours) |
| Auckland ^a | 168 ⁴ |
| Tauranga ^b | 187 ⁴ |
| Hamilton ^e | 138 |
| Wellington ^d | 113 |
| Christchurch ^e | 126 |
| Dunedin ^f | 85 |

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

³ Missing 2 days of data.

⁴ Missing 1 day of data.

Highlights and extreme events

Temperatures

From 25-27 July, a northerly airflow resulted in relatively warm temperatures across the country. Numerous locations observed record or near-record high daily maximum and daily minimum temperatures for July.

The highest temperature was 21.5°C, observed at Waipara West on 27 July. The lowest temperature was -8.9°C, observed at Mt Cook Airport on 14 July.

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

| Location | Extreme maximum (°C) | Date of extreme temperature | Year records began | Comments |
|-------------------------------------|----------------------|-----------------------------|--------------------|-------------------|
| High records or near-records | | | | |
| Leigh | 20.8 | 16th | 1966 | Highest |
| Westport | 18.0 | 19th | 1937 | Highest |
| Lake Tekapo | 17.6 | 26th | 1925 | Highest |
| Middlemarch | 19.4 | 26th | 2000 | Highest |
| Five Rivers | 18.5 | 26th | 1982 | Highest |
| Lumsden | 18.3 | 26th | 1982 | Highest |
| Cromwell | 18.8 | 26th | 1949 | Highest |
| Kawerau | 19.9 | 18th | 1954 | 2nd-highest |
| Invercargill | 18.6 | 26th | 1905 | 2nd-highest |
| Tiwai Point | 17.4 | 26th | 1970 | 2nd-highest |
| Appleby | 18.5 | 26th | 1932 | 3rd-highest |
| Waipara West | 21.5 | 27th | 1973 | 3rd-highest |
| Le Bons Bay | 18.1 | 27th | 1984 | 3rd-highest |
| Ōkārito | 17.2 | 15th | 1982 | Equal 3rd-highest |
| Windsor | 19.4 | 25th | 2000 | Equal 3rd-highest |
| Queenstown | 16.9 | 26th | 1871 | 4th-highest |
| Waipounamu | 16.8 | 25th | 1980 | 4th-highest |
| Oban (Stewart Island) | 15.6 | 25th | 1975 | 4th-highest |
| Low records or near-records | | | | |
| Waipounamu | 1.3 | 12th | 1980 | 4th-lowest |

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

| Location | Extreme minimum (°C) | Date of extreme temperature | Year records began | Comments |
|-------------------------------------|----------------------|-----------------------------|--------------------|-------------|
| High records or near-records | | | | |
| Wānaka | 11.1 | 27th | 1972 | Highest |
| Manapouri (West Arm Jetty) | 8.3 | 27th | 1972 | Highest |
| Roxburgh | 10.7 | 27th | 1950 | Highest |
| Nugget Point | 10.3 | 27th | 1972 | Highest |
| Mt Ruapehu Chateau | 6.7 | 20th | 2000 | 3rd-highest |
| Puysegur Point | 12.0 | 26th | 1978 | 3rd-highest |

| | | | | |
|------------------------------------|------|------|------|-------------------|
| Oamaru | 9.2 | 25th | 1972 | 3rd-highest |
| Five Rivers | 10.6 | 26th | 1982 | 3rd-highest |
| Waipounamu | 6.4 | 8th | 1980 | 3rd-highest |
| Balclutha | 8.2 | 8th | 1972 | 3rd-highest |
| Whakatu | 12.8 | 30th | 1972 | Equal 3rd-highest |
| Invercargill | 9.5 | 27th | 1905 | Equal 3rd-highest |
| Tiwai Point | 9.1 | 8th | 1972 | 4th-highest |
| Oban (Stewart Island) | 10.3 | 25th | 1975 | 4th-highest |
| Tautuku | 9.4 | 25th | 1976 | 4th-highest |
| South West Cape | 11.0 | 27th | 1991 | 4th-highest |
| Te Anau | 9.0 | 27th | 1973 | Equal 4th-highest |
| Low records or near-records | | | | |
| Mokohinau Island | 2.8 | 17th | 1994 | Lowest |
| Waipounamu | -7.4 | 15th | 1980 | Lowest |

Rain and slips

On 1 July, heavy rainfall along the West Coast resulted in surface flooding on SH6 from Hokitika to Haast.

On 20 July, heavy rain caused a slip which closed SH1 through the Brynderwyn Hills between Auckland and Whangārei.

The highest 1-day rainfall was 96 mm, recorded at Milford Sound on 26 July.

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

| Location | Extreme 1-day rainfall (mm) | Date of extreme rainfall | Year records began | Comments |
|-------------------|-----------------------------|--------------------------|--------------------|-------------|
| Purerua | 69 | 19th | 1983 | Highest |
| Lauder | 30 | 1st | 1924 | 2nd-highest |
| Roxburgh | 31 | 29th | 1950 | 2nd-highest |
| Westport | 79 | 29th | 1928 | 3rd-highest |
| Ranfurly | 30 | 1st | 1897 | 3rd-highest |
| Dunedin (Airport) | 59 | 29th | 1962 | 3rd-highest |
| Alexandra | 21 | 1st | 1922 | 3rd-highest |
| Balclutha | 41 | 29th | 1964 | 3rd-highest |

Wind

Cook Strait ferry services were cancelled from the evening of 2 July to the morning of 4 July due to large southerly swells.

From 30-31 July, very strong easterly winds impacted the West Coast, bringing down trees and power lines in some areas. SH6 was closed between Franz Josef and Whataroa due to downed power lines on the road.

The highest wind gust recorded was 156 km/h, observed at Cape Turnagain on 2 July.

Record or near-record July extreme wind gusts were recorded at:

| Location | Extreme wind gust (km/h) | Date of extreme gust | Year records began | Comments |
|----------|--------------------------|----------------------|--------------------|-------------|
| Reefton | 66 | 1st | 1999 | 3rd-highest |
| Clyde | 76 | 7th | 1983 | 4th-highest |

Snow and ice

From 1-2 July, heavy snowfalls occurred at some South Island ski areas. On the morning of 2 July, fresh snowfall totals reported included up to 60 cm at Ōhau and Cardrona, up to 50 cm at Treble Cone and The Remarkables, and up to 40 cm at Coronet Peak. The Lindis Pass (SH8) was closed due to snow, while caution was required for motorists travelling on the Milford Road (SH94) and the Leith Saddle between Dunedin and Waitati (SH1) due to ice.

From 8-21 July, freezing fog and black ice were regularly reported for inland parts of the South Island, especially about the Mackenzie Basin and Central Otago. The icy conditions were associated with an exceptionally strong high pressure system which prevailed over the South Island for nearly two weeks. On the evening of 10 July, Ranfurly recorded a mean sea level pressure of 1046.5 hPa – a new national barometric record.

On 16 July, a bus carrying 15 passengers rolled in icy conditions on SH85 near Chatto Creek (Central Otago). The bus took out a power pole which resulted in power outages for 310 local customers.

On 18 July, two separate bus crashes occurred along a 100 metre stretch of SH8 between Lake Pukaki and Tekapo, with icy roads present in the area. Three people were injured in the crashes.

On 19 July, black ice warnings were widespread across the South Island. Roads affected included SH1, SH6, SH93, SH94, SH97, SH98, and SH99 in Southland, SH85 and SH87 in Otago, and SH8 from Tekapo to Omarama (Canterbury). A truck and trailer unit rolled 10 km south of Twizel on SH8, with Police at the scene commenting on an inability to walk on the road given how icy it was.

From 29-31 July, a prolonged dry spell at South Island ski areas was ended by a heavy snowfall event. Snowfall totals reported included 20-50 cm at Coronet Peak, 67 cm at The Remarkables, 41 cm at Cardrona, at least 70 cm at Treble Cone, 93 cm at Ōhau, 68 cm at Roundhill, 80 cm at Mt Dobson, and 83 cm at Mt Hutt. Air temperatures cooled progressively over the course of the event, with snowfall to relatively low elevations beginning on 30 July. Several roads were closed for a time due to snow including SH85 from Kyeburn to Palmerston, SH80 from Pukaki to Mount Cook, SH8 from Twizel to Fairlie, and SH73 from Springfield to Castle Hill (Porters Pass). Snowfall accumulations were reported in Hanmer Springs, Methven, Fairlie, Tekapo, Mount Cook Village, and Omarama.

Cloud and fog

On 16 July, thick fog in Auckland resulted in at least 27 flight disruptions, with commuter ferry services delayed due to the poor visibility.

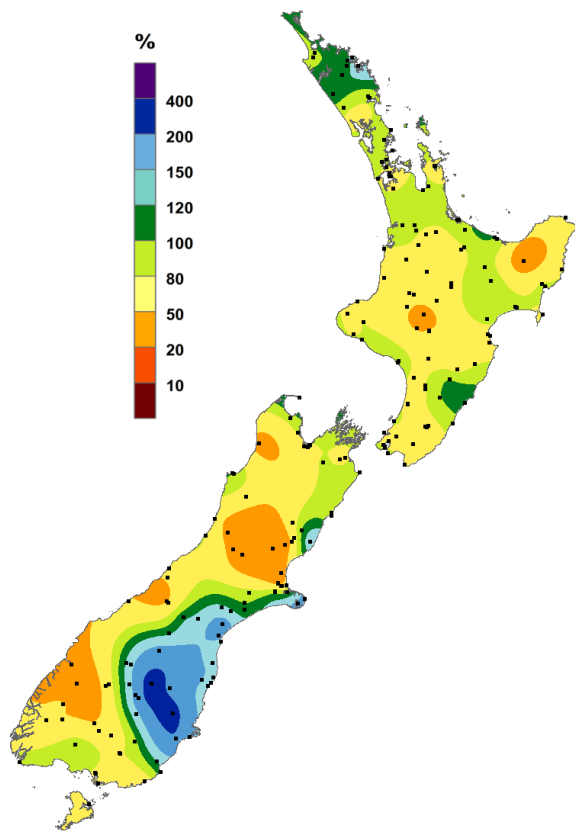
On 18 July, fog developed again at Auckland. Dozens of flights were delayed or cancelled at Auckland Airport, while several ferry services were cancelled.

For further information, please contact:

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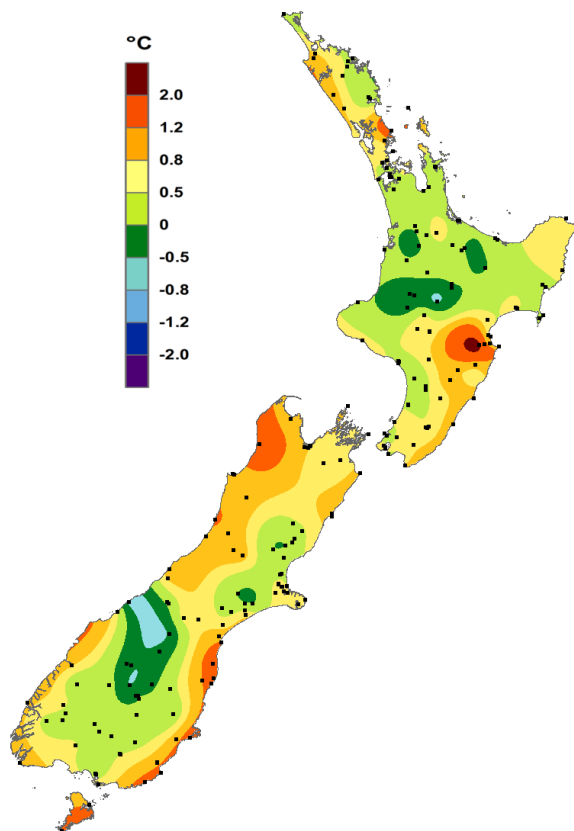
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July rainfall

Expressed as a percentage of the 1991-2020 normal.



July temperature

Expressed as a departure from the 1991-2020 average in degrees Celsius.

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