

A dry end to winter for much of the South Island

Temperature	Mean temperatures were above average (+0.51°C to +1.20°C of the August average) for most of New Zealand, particularly the southern half of the North Island and the central and western South Island. Near average temperatures (-0.50°C to +0.50°C of the August average) were observed for most of the eastern South Island and northern and western North Island.
Rainfall	Rainfall was well below normal (<50% of the August normal) for most of Canterbury and interior Otago. Northland experienced below normal rainfall (50-79% of the August normal). Well above normal rainfall (>149% of the August normal) was observed in the Bay of Plenty and East Cape, as well as Nelson. Parts of Manawatu-Whanganui experienced above normal rainfall (120-149% of normal), and near normal rainfall was observed elsewhere (80-119% of normal).
Soil Moisture	As of 1 September 2018, soil moisture levels were above normal for the time of year in coastal Otago and Marlborough, as well as around coastal Gisborne. Slightly drier than usual soils were present in southern Hawke's Bay, north Canterbury, and central Otago. Soil moisture levels were generally near normal for the time of year across the rest of the country.

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Overview

Mean sea level pressure was below normal over and to the southwest of New Zealand during August. This led to more westerly and northwesterly air flows than normal, which helped to keep air temperatures elevated during the month. This pressure setup influenced rainfall totals particularly in the South Island, where much of Canterbury and interior Otago experienced dry conditions for the time of year as these areas were sheltered from the prevailing wind flow by the Southern Alps.

August 2018 was a tale of two islands in terms of rainfall. Most of the central and eastern South Island was very dry for the time of year, with less than half the usual August rainfall observed in many places in Canterbury and Otago. Notably, both Queenstown and Christchurch recorded less than 30% of the normal August rainfall for those locations. In contrast, parts of the North Island observed high rainfall totals, with Hicks Bay (East Cape) experiencing almost two-and-a-half-times its usual August rainfall (246%).

August was a relatively warm month, with above average temperatures (+0.51 to +1.20°C above average) for most of New Zealand. The predominant northwesterly airflows during August carried air masses over warmer seas to the north of the country, influencing air temperatures.

The nationwide average temperature in August 2018 was 9.7°C (0.9°C warmer than the 1981-2010 August average from NIWA's seven station temperature series which begins in 1909). Based on the seven station series, August 2018 was the ninth-warmest August on record.

Further Highlights:

- The highest temperature was 21.4°C, observed at Cheviot on 27 August.
- The lowest temperature was -7.2°C, observed at Pukaki Airport on 19 August.
- The highest 1-day rainfall was 78 mm, recorded at Takaka on 19 August.
- The highest wind gust was 141 km/h, observed at Castlepoint on 16 August.
- Of the six main centres in August 2018, Tauranga was the wettest and sunniest, Christchurch was the coolest and driest, Auckland was the warmest, and Dunedin was the least sunny.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2018 so far (1 January – 31 August) were Wider Nelson (1588 hours), Marlborough (1572 hours), Bay of Plenty (1520 hours) and Hawke's Bay (1518 hours).
- Of the available, regularly reporting low elevation rainfall sites, the top two wettest locations in 2018 so far (1 January – 31 August) were Milford Sound (5023 mm) and Arthur's Pass (3364 mm). The top two driest locations in 2018 so far were Alexandra (284 mm) and Eglinton (306 mm).

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Rainfall: Very dry for much of the South Island

August 2018 was a dry month for much of the interior of the South Island, as well as coastal Canterbury. Many locations recorded less than 50% of the normal August rainfall, with Queenstown and Christchurch having the largest difference from normal (26% and 28% of normal August rainfall, respectively). In contrast, the top of the South Island was affected by a few heavy rainfall events, with Nelson experiencing 176% of normal August rainfall. The eastern North Island was also drenched throughout the month, with well above normal rainfall for coastal Bay of Plenty and East Cape locations (Whakatane (174%), Hicks Bay (246%) and Gisborne (160%) all experienced well above normal rainfall).

As of 1 September 2018, soil moisture levels were above normal for the time of year in coastal Otago and Marlborough, as well as around coastal Gisborne. Slightly drier than usual soils were present in southern Hawke's Bay, north Canterbury, and central Otago. Soil moisture levels were generally near normal for the time of year across the rest of the country.

Record¹ or near-record August rainfall totals were recorded at:

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
Hicks Bay	326	246	1916	2nd-highest
Low records or near-records				
None observed				

Temperature: A warm August for much of New Zealand

The nationwide average temperature in August 2018 was 9.7°C (0.9°C warmer than the 1981-2010 August average from NIWA's seven station temperature series which begins in 1909). Based on the seven station series, August 2018 was the ninth-warmest August on record.

Although the warmth during August was not as striking as it was during July, some temperature records were set or nearly broken during the month. It was the warmest August on record for South West Cape, and a number of locations in the north of both Islands experienced record or near-record high daytime temperatures (mean maximum temperatures).

No low mean, mean maximum or mean minimum temperatures were set during the month of August 2018.

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
South West Cape	9.5	1.6	1991	Highest
Taupo	8.9	1.7	1949	2nd-highest
Farewell Spit	11.8	1.4	1971	2nd-highest
Mokohinau Island	14.0	1.0	1994	3rd-highest
Levin	10.9	1.5	1895	3rd-highest
Mahia	11.2	0.9	1990	4th-highest
Hawera	10.0	1.0	1977	4th-highest
Brothers Island	11.6	1.0	1997	4th-highest
Wellington (Kelburn)	10.8	1.4	1927	Equal 4th-highest
Low records or near-records				
None recorded				

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 maximum air temperatures for August were recorded at:

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kerikeri	17.8	1.6	1945	Highest
Mokohinau Island	15.9	1.3	1994	Highest
Whitianga	17.0	1.7	1962	Highest
Farewell Spit	15.1	1.0	1971	Highest
Whangarei	17.2	1.3	1967	2nd-highest
Whangaparaoa	15.7	0.9	1982	3rd-highest
Taupo	13.5	1.7	1949	3rd-highest
Ngawi	14.9	1.5	1972	3rd-highest
Stratford	13.5	1.4	1960	3rd-highest
Motu	13.1	2.0	1990	4th-highest
Hamilton	16.1	1.5	1906	4th-highest
Levin	15.1	1.6	1895	4th-highest
Hawera	14.0	1.3	1977	4th-highest
Richmond	15.0	1.7	1862	4th-highest
Brothers Island	13.5	1.1	1997	4th-highest
Hanmer Forest	13.9	1.7	1906	4th-highest
Manapouri Airport	11.4	1.3	1963	4th-highest
South West Cape	11.6	1.5	1991	4th-highest
Low records or near-records				
None recorded				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
South West Cape	7.5	1.8	1991	Highest
Whakatane	6.7	1.8	1974	3rd-highest
Wellington (Kelburn)	8.2	1.5	1927	3rd-highest
Wellington (Airport)	8.8	1.4	1962	3rd-highest
Te Anau	3.0	2.1	1963	3rd-highest
Taupo	4.4	1.8	1949	4th-highest
Lower Retaruke	5.0	1.7	1966	4th-highest
Low records or near-records				
None observed				

August climate in the six main centres

Of the six main centres in August 2018, Tauranga was the wettest and sunniest, Christchurch was the coolest and driest, Auckland was the warmest, and Dunedin was the least sunny. The dryness continued for the South Island, with Christchurch and Dunedin both experiencing well below normal rainfall for the month.

August 2018 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland ^a	11.5	-0.1	Near average
Tauranga ^b	11.4	+0.6	Above average
Hamilton ^c	9.7	+0.1	Near average
Wellington ^d	10.8	+1.4	Well above average (Equal 4th highest on record)
Christchurch ^e	7.9	+0.7	Above average
Dunedin ^f	8.4	+0.7	Above average

Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland ^a	121	107	Near normal
Tauranga ^b	148 ²	134	Above normal
Hamilton ^c	132	110	Near normal
Wellington ^d	124	107	Near normal
Christchurch ^e	17	28	Well below normal
Dunedin ^f	26 ²	47	Well below normal

Sunshine	
Location	Sunshine (hours)
Auckland ^a	141
Tauranga ^b	166
Hamilton ^g	142
Wellington ^d	121
Christchurch ^e	150
Dunedin ^f	119 ²

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

² Missing 1 day

Highlights and extreme events

Temperatures

The highest temperature for August 2018 was 21.4°C, observed at Cheviot on 27 August.

The lowest temperature for August 2018 was -7.2°C, observed at Pukaki Airport on 19 August.

In early August, a number of days with unseasonably warm temperatures were experienced in eastern parts of the North and South Islands due to northwesterly winds creating the foehn effect, where air warms as it descends the leeward side of mountain ranges.

No record or near-record daily minimum air temperatures were observed during August 2018.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Whitianga	20.5	31st	1962	Highest
Mokohinau	18.2	1st	1994	2nd-highest
Milford Sound	18.0	31st	1934	3rd-highest
Low records or near-records				
None observed				

Rain and slips

The highest 1-day rainfall for the month was 78 mm, recorded at Takaka on 19 August.

On 6 August, flooding and slips closed SH 2 between Matata and Paengaroa in the Bay of Plenty.

On 29 August, heavy rain affected the north and east of the North Island. Surface flooding was reported in parts of northern Auckland where Fire and Emergency NZ were called to a few incidents, and rivers near Clevedon broke their banks.

On 30 August, heavy rain caused flooding which closed SH 35, the main coastal route around the East Cape, in three places – at Ruatoria, between Torere and Te Kaha, and between Opotiki and Te Araroa.

No record or near record 1-day rainfall totals were observed during August 2018.

Wind

The highest wind gust for the month was 141 km/h, observed at Castlepoint on 16 August.

On 20 August, a tornado hit coastal parts of New Plymouth, blowing out windows and tearing off roofs and branches. Up to 30 homes were damaged and power was cut to a number of properties. Another tornado hit Ohope, which damaged the conference centre at the Top 10 Holiday Park as well as some houses. Power was also cut there.

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

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
Secretary Island	122	16th	1994	Highest
Manapouri Airport	76	16th	1991	2nd-highest
Port Taharoa	100	21st	1978	4th-highest
Wanaka	69	16th	1992	Equal 4th-highest

Snow and Ice

On 6 August, an avalanche occurred on the Turoa skifield on Mt Ruapehu, damaging the High Noon Express chairlift. The chairlift was out of action for the remainder of the ski season.

On 23-24 August, SH 1 at the Desert Road was closed overnight due to ice.

Cloud and Fog

On 2 August, fog impacted flights at Auckland Airport. Nineteen regional flights were cancelled and 12 were delayed.

On 4 August, flights at Auckland Airport were once again affected by fog. Twenty-two regional flights were cancelled and 19 were delayed.

On 27 August, dozens of flights were affected by fog at Christchurch Airport. Traffic in the city was also slowed by the foggy conditions.

On 30 August, more than two dozen regional flights were cancelled and 23 domestic flights were delayed at Auckland Airport due to fog.

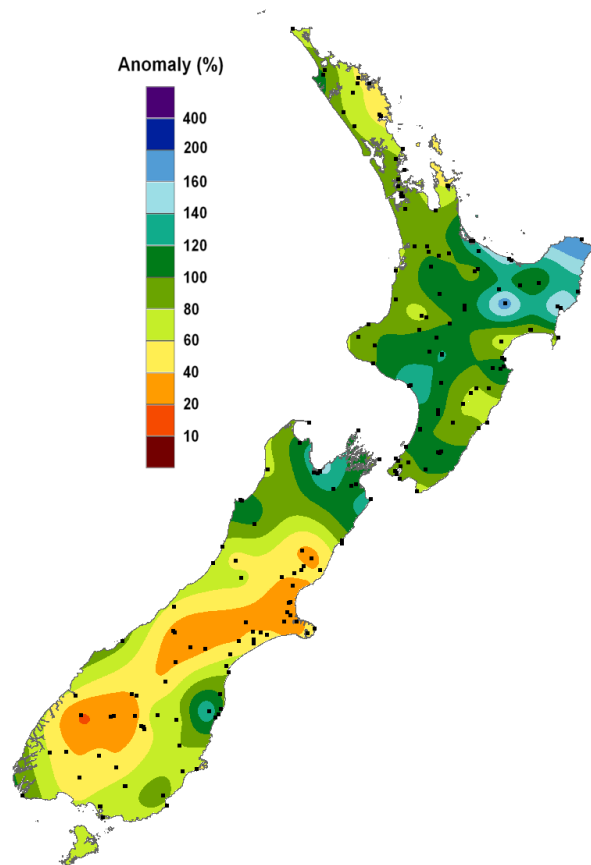
For a second day on 31 August, flights were disrupted at Auckland Airport due to fog.

Lightning and Hail

On 17 August, over 8000 lightning strikes were observed along the west coast of the North Island from Raglan to Kapiti. Most strikes were offshore. In Tokoroa, lightning struck a tree causing a fire and a gas leak. Surrounding roads were closed.

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August 2018 total rainfall, expressed as a percentage of normal (1981-2010 normal).

August rainfall was well below normal for much of Canterbury and interior Otago (orange shades). In contrast, rainfall was above or well above normal for parts of the North Island (blue shades).

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