

An unusually mild August

Temperature	Frequent northeast winds produced an unusually mild August across the country.
Rainfall	A large contrast in rainfall seen across the Southern Alps. More than double normal August rainfall seen in the north and east of the South Island. In contrast, it was extremely dry over the west and south, with low rainfall records broken in Southland. For the north and east of the North Island, it was also a rather wet August, but totals were close to normal in the western North Island.
Sunshine	Extremely sunny over southwest New Zealand, and rather sunny between Auckland and Taumarunui. In contrast, very cloudy in the north and east of the South Island, and from Taranaki to Wellington.
Soil moisture	At the end of August, below normal soil moisture levels for the southwest South Island. Above normal levels for the Kaikoura Coast and south Canterbury.

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Overview

August 2012 was dominated by more northeast winds than normal over New Zealand, squeezed between higher than normal pressures southeast of the country, and lower pressures than usual over the mid Tasman Sea.

The frequent northeast winds during the month produced an unusually mild August. Well above average temperatures were observed in Nelson/Marlborough, along the West Coast of the South Island, in Southland and in Central Otago, around Christchurch, Timaru, and Oamaru, in parts of Hawkes Bay, in the Firth of Thames, and between Ohakune to Palmerston North. It was the warmest August on record for Leigh, Ohakune, Westport, Haast, Milford Sound, Nelson, and Secretary Island. Elsewhere, temperatures were typically above average, too. The nation-wide

average temperature in August 2012 was 9.9°C (1.2°C above the 1971-2000 August average), using NIWA's seven-station temperature series which begins in 1909.

The northeasterly winds also produced a very large contrast in rainfall across the Southern Alps. It was an extremely wet August (with more than 200 percent of August normal rainfall recorded) in the north and east of the South Island, namely Nelson, Marlborough, Canterbury and north Otago. Some areas received treble (300 percent of) August normal rainfall, such as in Timaru, which recorded its third wettest August since 1881. In contrast, it was very dry over the west and south of the South Island (with less than 50 percent of August normal rainfall south of Westport), showing the effects of prevailing northeasterly winds. Record low or near-record low August rainfall was seen across Southland.

For the north and east of the North Island, it was a rather wet August. Above normal rainfall was experienced in Northland, Auckland, Coromandel, Gisborne, and parts of the Bay of Plenty, Hawkes Bay and the Wairarapa. Elsewhere in the North Island (and for the Buller region of the South Island), near normal rainfall was generally recorded.

It was a very sunny August for the south and west of the South Island, reflecting the high frequency of northeasterly winds during the month. It was the sunniest August on record for Queenstown, and the second-sunniest August on record for Balclutha. It was also a sunnier than usual August for the western North Island between Auckland and Taumarunui. In contrast, it was a rather dull August between Taranaki and Wellington, for Nelson and Marlborough, and the eastern South Island. It was the cloudiest August on record at Takaka. Elsewhere, sunshine totals were generally near normal.

Further Highlights:

- The highest temperature was 22.7°C, observed at Christchurch on 26 August.
- The lowest temperature was -5.3°C, recorded at Ranfurly on 23 August.
- The highest 1-day rainfall experienced was 198 mm at Akaroa on 12 August.
- The highest gust recorded was 135 km/hr at Puysegur Point, Fiordland, on 25 August.
- Of the six main centres in August 2012, Auckland was the warmest and sunniest, Tauranga the wettest, Christchurch was the driest, and Dunedin the coolest and cloudiest.

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Temperature: An unusually mild August

The frequent northeast winds during the month produced an unusually mild August. Well above average temperatures (more than 1.2°C above the August average) were observed in Nelson/Marlborough, along the West Coast of the South Island, in Southland and in Central Otago, around Christchurch, Timaru, and Oamaru, in parts of Hawkes Bay, in the Firth of Thames, and between Ohakune to Palmerston North. Elsewhere, temperatures were typically above average (ranging between 0.5°C and 1.2°C above the August average). It was the warmest August on record for Leigh, Ohakune, Westport, Haast, Milford Sound, Nelson, and Secretary Island. The nation-wide average temperature in August 2012 was 9.9°C (1.2°C above the 1971-2000 August average), using NIWA's seven-station temperature series which begins in 1909¹.

Record² or near-record mean air temperatures for August were recorded at:

Location	Mean air temp. (°C)	Departure from normal ³ (°C)	Year records began	Comments
Record high or near-record high				
Kerikeri	12.4	0.7	1981	4th-highest
Kaikohe	12.8	1.6	1973	3rd-highest
Leigh	14.0	1.3	1966	Highest
Whangaparaoa	12.8	0.9	1982	3rd-highest
Paeroa	11.6	1.0	1947	4th-highest
Te Puke	10.9	0.8	1973	4th-highest
Auckland (Airport)	12.6	1.0	1959	4th-highest
Pukekohe	11.8	1.0	1969	3rd-highest
Port Taharoa	12.3	0.9	1973	4th-highest
Wairoa	11.4	1.4	1964	4th-highest
Palmerston North	10.5	1.3	1991	2nd-highest
Stratford	9.4	1.2	1960	3rd-highest
Ohakune	7.9	1.7	1962	Highest
Takaka	10.1	1.4	1978	2nd-highest
Farewell Spit	11.3	0.9	1971	2nd-highest
Westport	10.9	1.6	1937	Highest
Hokitika	10.0	1.6	1963	2nd-highest
Reefton	8.9	1.8	1960	3rd-highest
Haast	10.0	1.8	1949	Highest
Milford Sound	8.6	1.7	1934	Highest
Secretary Island	11.0	1.7	1985	Highest

¹ Interim monthly value

² 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.

³ This climate summary uses the updated 'normal' period, 1981-2010. (A 'normal' period is a 30 year window of time from which the normal (average) and percentage of normal are calculated from).

Puysegur Point	9.9	1.3	1978	3rd-highest
Motueka	10.2	1.9	1956	2nd-highest
Nelson	9.9	1.5	1943	Highest
Blenheim	10.1	1.2	1941	3rd-highest
Cheviot	8.5	1.2	1982	2nd-highest
Tara Hills	5.5	1.0	1949	4th-highest
Ranfurlly	5.8	1.5	1975	3rd-highest
Gore	7.6	1.4	1971	2nd-highest
Tiwai Point	8.2	0.9	1970	3rd-highest
Nugget Point	8.2	1.1	1970	3rd-highest
South West Cape	9.1	1.2	1991	3rd-highest

Rainfall: A large contrast seen over the South Island - extremely wet in the north and east but very dry in the west and south. Wetter than usual for many coastal areas in the north and east of the North Island.

The northeasterly winds also produced a very large contrast in rainfalls across the Southern Alps. It was an extremely wet August (with more than 200 percent of August normal rainfall recorded) in the north and east of the South Island, namely Nelson, Marlborough, Canterbury and north Otago. Some areas received treble (300 percent of) August normal rainfall, such as in Timaru, which recorded its third wettest August since 1881. In contrast, it was very dry over the west and south of the South Island (with less than 50 percent of August normal rainfall south of Westport), showing the effects of prevailing northeasterly winds. Record low or near-record low August rainfall was seen across Southland.

It was a rather wet August in the north and east of the North Island. Above normal rainfall (with totals between 120 and 149 percent of August normal) was experienced in Northland, Auckland, Coromandel, Gisborne, and parts of the Bay of Plenty, Hawkes Bay and the Wairarapa. Elsewhere in the North Island (and for the Buller region of the South Island), near normal rainfall was recorded.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
Record high or near-record high				
Orari Estate	180	319	1897	4th-highest
Timaru	156	357	1881	3rd-highest
Record low or near-record low				
Secretary Island	112	41	1985	Lowest
Manapouri	20	20	1961	3rd-lowest
Lumsden	18	30	1982	Lowest
Alexandra	5	22	1983	2nd-lowest
Gore	5	9	1950	4th-lowest
Invercargill	17	23	1939	4th-lowest
Tiwai Point	21	28	1970	3rd-lowest

At the end of August, soils were much drier than normal in the southwest South Island, but were wetter than usual in parts of coastal south Canterbury and on the Kaikoura Coast. Elsewhere, soil moisture levels were generally near normal for the time of year.

Sunshine: A very sunny August for the south and west of the South Island. Rather sunny for the western North Island between Auckland and Taumarunui, too. Unusually cloudy for Taranaki to Wellington, Nelson and the eastern South Island.

It was a very sunny August for the south and west of the South Island (with sunshine totals typically ranging between 110 and 140 percent of August normal), reflecting the high frequency of northeasterly winds during the month. It was the sunniest August on record for Queenstown, and the second-sunniest August on record for Balclutha. It was also a sunnier than usual August for the western North Island between Auckland and Taumarunui (with sunshine totals between 110 and 124 percent of August normal).

In contrast, it was a rather dull August between Taranaki and Wellington, for Nelson and Marlborough, and the eastern South Island (with August sunshine totals typically around 80 percent of August normal in these regions). It was the cloudiest August on record at Takaka. Elsewhere, sunshine totals were generally near normal (between 90 and 110 percent of August normal).

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

Location	Sunshine hours	Percentage of normal	Year records began	Comments
Record high or near-record high				
Queenstown	170	141	1930	Highest
Balclutha	159	136	1964	2nd-highest
Record low or near-record low				
Martinborough	106	71	1986	3rd-lowest
Takaka	123	71	1985	Lowest

August climate in the six main centres

All of the six main centres experienced an unusually mild August, and for all of the main centres except Auckland, it was an extremely wet August, too – consistent with the high frequency of northeasterly winds across New Zealand during the month.

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

August 2012 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland ^a	12.3	+0.7	Above average
Tauranga ^b	11.7	+0.9	Above average
Hamilton ^c	10.4	+0.8	Above average
Wellington ^d	10.4	+1.0	Above average
Christchurch ^e	8.8	+1.6	Well above average
Dunedin ^f	8.4	+0.7	Above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland ^a	124	109%	Near normal
Tauranga ^b	148	134%	Above normal
Hamilton ^c	147	123%	Above normal
Wellington ^d	140	120%	Above normal
Christchurch ^e	93	150%	Well above normal
Dunedin ^f	103	185%	Well above normal
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland ^a	175	118%	Above normal
Tauranga ^b	169	97%	Near normal
Hamilton ^g	145	105%	Near normal
Wellington ^d	114	78%	Below normal
Christchurch ^e	121	79%	Below normal
Dunedin ^f	102	84%	Below 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 in August was 198 mm, recorded at Akaroa on 12 August.

On 1 August, surface flooding affected SH1 between Clarence and Kaikoura. In Blenheim, the Opawa River burst its banks, and two young people had to be rescued when their car became stranded in the floodwaters. Many roads in Marlborough were closed by flooding and slips, including Queen Charlotte Drive, and the Awatere Valley Road. Flooding closed SH3 between Fairlie and Lake Tekapo, and surface flooding also affected SH79 between Geraldine and Fairlie, and SH83 between Duntroon and Kurow. Further north in the Wairarapa, roads and paddocks were flooded.

On 2 August, heavy rain and flooding closed many roads and bridges in South Canterbury. Further north, there was extensive surface flooding in the Gisborne region, with soils waterlogged, and all sports grounds closed.

On 3 August, residents in the Clarence area were isolated after heavy rains made the fords on George River impassable. Flooding also affected properties on Inland Road, west of Kaikoura.

On 4 August, several minor roads in the Gisborne region were closed by fallen trees, or slips, slumping, and washouts, caused by heavy rain.

On 8 August, heavy rain caused surface flooding on SH1 between Blenheim and Kaikoura, Kaikoura and Waipara, and Pareora and Glenavy, and on SH63 between Renwick and Wairau Village. Many other minor roads in Marlborough were affected by flooding and slips, with several closed completely. In Blenheim, the heavy rain and surface flooding caused raw sewage to overflow the sewer network. Surface flooding affected SH83 from Kurow to Pukeuri. In Timaru sports fields were closed. Many rural roads in north Otago were closed by flooding.

On 9 August, just after midnight, SH1 was closed by a large slip near Ward, and flooding at Seddon, between Blenheim and Kaikoura. Surface flooding also affected SH1 between Waitaki and Oamaru, and SH83 at Blackpoint and Otekaieke. Many minor roads in Marlborough remained closed by flooding and slips, and most Blenheim sports grounds were closed. Some schools sent rural pupils home early. Surface flooding and slips also affected commuter roads in Wellington, with Makara Beach cut off.

On 10 August, many roads in Marlborough, including SH6 and SH63, remained closed by flooding and slips.

On 12 August, flooding closed SH70 between Fairlie and Geraldine, and further north, a slip closed one lane of SH29 over the Kaimai Ranges. The heavy rain caused a lahar from Tongariro's northern slopes, closing a section of SH46 near Lake Rotoaira. Flooding closed SH2 both north and south of

Katikati. Flooding also occurred in Rotorua, particularly in the Ngongotaha area, and in the Wairarapa.

On 13 August, flooding affected SH83 between Pukeuri and Duntroon, SH1 from Christchurch to Rakaia, and SH75 from Christchurch to Akaroa. There was widespread surface flooding in Christchurch, particularly in eastern suburbs, with many roads closed. The Ashley River bridge was closed by flooding, and the Heathcote River, Dudley Creek, and streams at Akaroa and Duvauchelle burst their banks. In Lyttelton, the heavy rain caused a retaining wall to collapse, blocking stormwater drains and creating a flash flood which damaged property. A slip isolated Okains Bay, and slips on The Summit Road trapped some motorists. In Temuka, Opihi College delayed the start of the school day because of the conditions. Many minor roads in Dunedin were closed by flooding. In Northland, a slip closed one lane of SH10 near Matauri Bay.

On 14 August, SH75 was closed by a slip between Birdlings Flat and Barrys Bay. Flooding affected SH1 between Oamaru and Palmerston, SH85 between Palmerston and Dunback, and SH88 between Dunedin and Port Chalmers. A large slip closed Portobello Road, and many minor roads in Otago were closed by flooding. A mud slide forced the evacuation of properties in Lyttelton, and one cottage was inundated with mud up to a metre deep. Further north in Tauranga, two landslides occurred in the suburb of Matua, about 10-15 m away from houses.

On 15 August, after heavy rain overnight, many more roads in Otago were closed by flooding and slips, isolating rural properties. SH1 was flooded between Oamaru and Waitaki Bridge. School bus services were cancelled in North Otago. All rural roads in Waitaki were effectively off-limits to motorists, after the Waitaki District Council issued a no non-essential travel notice. In South Canterbury, slips with the consistency of soupy mud, closed some rural roads.

On 16 August, many roads in Otago remained closed by slips and flooding.

On 20 August, surface flooding affected SH1 from Oamaru to Pukeuri, SH83 between Duntroon and Pukeuri, and SH88 at St Leonards. In Palmerston North all sports grounds were closed after heavy rain. In Dunedin, Portobello Road was closed by a slip. In Taranaki, a large slip at Oakura covered the road and buried a set of public toilets. This was one of eight slips on the coastal road around Mt Taranaki.

On 21 August, two slips occurred in Hamilton due to persistent rain.

On 25 August, heavy rain, high winds, and snow prevented the search for a man who had failed to return from a climb in Aoraki Mt Cook National Park the day before. He was found safe in a shelter on the afternoon of 26 August. In Queenstown, heavy rain cancelled a freestyle motocross demonstration at the 2012 Remarkables Parklife Invitational rail jam.

There were no record high or near-record high 24-hour rainfalls in August.

Temperatures

The highest temperature in August was 22.7°C, observed in Christchurch on 26 August. The lowest temperature was -5.3°C, recorded at Ranfurly on 23 August.

Notably, temperatures during a warm northwest event between 25-27 August were extremely high for the time of year at a number of locations around Wellington, and the north and east of the South Island.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Ranking
High records or near-records				
Leigh	20.2	18th	1966	Equal highest
Auckland	20.6	3rd	1959	2nd-highest
Port Taharoa	19.2	31st	1973	4th-highest
Westport	18.1	1st	1937	Equal 4th-highest
Secretary Island	17.8	1st	1985	3rd-highest
Motueka	20.6	27th	1956	3rd-highest
Appleby	18.8	30th	1943	2nd-highest
Ranfurly	17.9	31st	1975	3rd-highest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Ranking
High records or near-records				
Martinborough	13.0	27th	1986	3rd-highest
Ngawi	13.9	27th	1972	4th-highest
Takaka	12.8	27th	1978	Highest
Farewell Spit	13.0	27th	1972	Equal 2nd-highest
Westport	12.1	3rd	1966	3rd-highest
Reefton	10.1	27th	1972	Equal 2nd-highest
Milford Sound	10.4	1st	1935	Equal 4th-highest
Secretary Island	11.5	1st	1988	Equal 2nd-highest
Puysegur Point	12.4	25th	1978	Highest
Nelson	12.6	27th	1943	Highest
Blenheim	11.8	27th	1972	Equal 4th-highest
Kaikoura	11.8	27th	1972	2nd-highest
Waipara West	12.4	26th	1973	Equal 3rd-highest
Le Bons Bay	11.8	26th	1984	2nd-highest
South West Cape	10.6	25th	1991	Highest

Wind

The highest gust recorded in August was 135 km/hr, observed at Puysegur Point, Fiordland, on 25 August. There were no August wind gust records set during the month.

On 12 August, a tornado ripped out trees and deposited them on SH10 near Taipa, northeast of Kaitaia, closing the road. Property and crops were damaged, and a dinghy's flight was stopped only when its anchor was caught in a tree. A power pole and lines near Lake Ohia were brought down, cutting off power to about 1200 properties.

On 20 August, a tornado was reported in Bell Block, New Plymouth.

On 22 August, a fallen tree blocked SH 25 north of Whangamata, Coromandel.

Lightning and hail

On 13 August a hail storm struck Palmerston North, accompanied by heavy rain which caused surface flooding.

On 18 August, a band of thunderstorms moved across Northland, Auckland, Waikato and parts of Coromandel Peninsula.

On 20 August, it was Wellington's turn for thunder and lightning, particularly the southern and eastern suburbs. Marble-sized hailstones covered the Miramar Peninsula, as the storm passed from the airport to Eastbourne, leaving surface flooding in its wake.

Snow and ice

On 8 August, snow fell on SH8 between Fairlie and Lake Tekapo, closing it to towing vehicles, with chains required on all other vehicles.

On 12 August, snow fell on SH8 at Burkes Pass, and in Lake Tekapo Village. Several drivers became stuck in the snow and had to be rescued. South Island ski fields received significant snow falls.

On 14 August, snow closed the access road to Mt Cheeseman ski-field, trapping about 40 people on the mountain overnight.

On 27 August, snow required chains to be carried on all vehicles on SH 94 from Lower Hollyford to Milford Sound.

Cloud and fog

On both 6 and 7 August, fog disrupted flights into and out of Invercargill Airport.

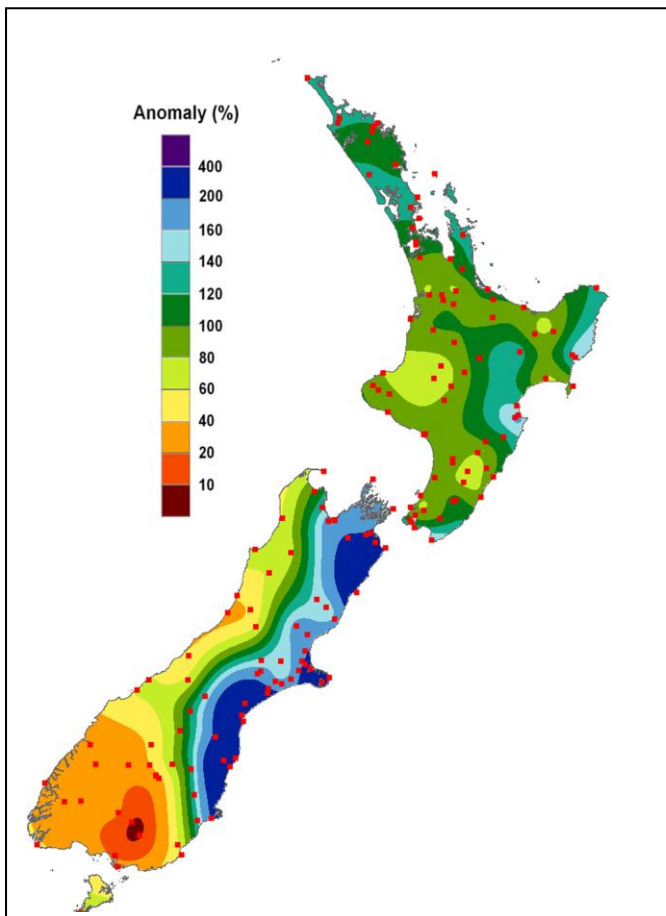
From 16 to 19 August, fog caused cancellations and delays to flights into and out of Dunedin Airport every day, and on the 19th the fog prevented a container ship entering Dunedin Harbour.

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August 2012 rainfall, expressed as an anomaly from normal August conditions (percent of August normal rainfall). The dark blue colour indicates August rainfall exceeding double (200 percent) of the August normal, such as in the north and east of the South Island. In contrast, a medium orange colour indicates rainfall less than 40 percent of August normal (for example, in the southwest of the country).