

# New Zealand Climate Summary: January 2019

Issued: 5 February 2019

# New Zealand's 3<sup>rd</sup> warmest January on record

Temperature	It was New Zealand's 3 <sup>rd</sup> warmest January on record. Temperatures were above average (0.51-1.20°C above average) and well above average (> 1.20°C above average) across the country. The only exceptions were the coastal margins of Westland and western Southland where temperatures were near average (-0.50°C to +0.50°C of average). Many locations observed record or near-record warm mean, mean maximum or mean minimum January temperatures.
Rainfall	Rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) across much of the North Island. The only exception were the districts of Napier and Hastings where above normal rainfall was observed (120-149% of normal). In the South Island, rainfall was well below normal in Nelson, Marlborough, Tasman and parts of Canterbury. For the remainder of Canterbury and the upper West Coast, rainfall was below normal. Conversely, above normal rainfall was observed in parts of Otago and Southland.
Sunshine	The dry weather across the country meant that sunshine was plentiful with large parts of the country experiencing higher than normal sunshine hours. Both Richmond (Nelson) and Appleby observed 355 sunshine hours which is a record for the sunniest month ever recorded in the South Island. Nelson (Airport) observed 333 hours of sunshine making it the sunniest January on record there since records began in 1908. Gisborne also experienced its sunniest January on record (records began in 1905) with 325 hours of sunshine.
Soil Moisture	As of 2 February soil moisture levels were lower than normal in Northland, Auckland, parts of Waikato, Manawatu-Whanganui, Wellington, Tasman, Nelson, Marlborough and the Buller District. Soil moisture levels were largely near normal around Canterbury, Otago, Southland, Hastings District and Gisborne.

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Overview Temperature Rainfall January 2019 climate in the six main centres Highlights and extreme events

## Overview

January 2019 was characterised by lower than normal pressure to the south and south-east of New Zealand and higher than normal pressure over the Tasman Sea. This pressure set up led to more southwesterly winds than normal across the country. Warmer than average sea surface temperatures persisted throughout January around New Zealand's coastlines and marine heatwave conditions were observed in parts of the central and western Tasman Sea.

January was a hot month with many locations experiencing record or near-record warm mean, mean maximum and mean minimum January temperatures. Overall, the month ranked as the 3<sup>rd</sup> warmest

January on record. The nationwide average temperature in January 2019 was 18.8°C (1.7°C above the 1981-2010 January average from NIWA's seven station temperature series which begins in 1909). For comparison, January 2018 was New Zealand's warmest month on record and had a mean temperature of 20.3°C. It has now been 24 months since New Zealand experienced a nationwide average temperature that was below average (0.51 to 1.20°C below the 1981-2010 average).

The month ended on a particularly hot note during which widespread heatwave conditions led to several locations experiencing their warmest January day on record. The warmest temperature during the month was 38.4°C recorded in Hanmer Forest. This was Hanmer Forest's warmest temperature on record (data since 1906) and New Zealand's 18th-equal warmest temperature on record for all months.

With a high pressure pattern overhead, widespread dry conditions prevailed across much of the North Island and upper South Island. According to the New Zealand Drought Index, meteorological drought conditions were being approached near Westport as of 2 February. Cape Reinga observed just 4 mm of rain in January which was the 2<sup>nd</sup> driest January on record there (records beginning in 1919). In Masterton, only 6mm of rain fell during the month, making it the driest January on record there since records began in 1926. The dryness went hand in hand with high sunshine hours around the country. The stations in Richmond and Appleby both recorded 355 hours for the month which is a new record for the sunniest month in the South Island. This is also just 1 hour short of the national record which is 356 hours and was observed in New Plymouth in January 2015.

Further Highlights:

- The highest temperature was 38.4°C, observed at Hanmer Forest on 31 January.
- The lowest temperature was -0.3°C, observed at Manapouri on 12 January.
- The highest 1-day rainfall was 200 mm, recorded at Milford Sound on 19 January.
- The highest wind gust was 182km/h, observed at Cape Turnagain on 27 January.
- Of the six main centres in January 2019, Tauranga was the warmest, driest and sunniest and Dunedin was the coolest, least sunny and wettest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2019 are Wider Nelson (355 hours), Tasman (355 hours), Gisborne (325 hours) and Bay of Plenty (322 hours).

### For further information, please contact:

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# Temperature: 3<sup>rd</sup> warmest January on record

Frequent bouts of high pressure and sunny skies in addition to warmer than normal seas around the country contributed to a warm month. Overall the month ranked as New Zealand's 3<sup>rd</sup> warmest January on record. The nationwide average temperature in January 2019 was 18.8°C (1.7°C above the 1981-2010 January average from NIWA's seven station temperature series which begins in 1909). Numerous locations observed record or near-record warm mean, mean maximum and mean minimum January temperatures as shown in the tables below.

In addition to the records and near-records, widespread above average (0.51-1.20°C above average) and well above average (> 1.20°C above average) temperatures were observed across the country. The only exceptions were the coastal margins of Westland and western Southland where temperatures were near average (-0.50°C to +0.50°C of average).

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments				
High records or near-records								
Kerikeri	21.3	2.2	1945	Highest				
Rotorua	20.1	2.6	1964	Highest				
Mahia	20.3	2.0	1990	Highest				
Kaikoura	19.0	2.3	1963	Highest				
Cheviot	19.8	3.1	1982	Highest				
Whangarei	21.8	1.8	1967	2nd-highest				
Mokohinau	21.3	1.5	1994	2nd-highest				
Auckland (Whenuapai)	20.6	1.6	1945	2nd-highest				
Whitianga	22.0	3.1	1962	2nd-highest				
Tauranga	22.1	2.6	1913	2nd-highest				
Te Puke	21.0	2.7	1973	2nd-highest				
Whakatane	21.4	2.5	1974	2nd-highest				
Таиро	19.9	2.8	1949	2nd-highest				
Turangi	19.3	2.2	1968	2nd-highest				
Martinborough	20.0	2.1	1986	2nd-highest				
Ngawi	20.7	2.0	1972	2nd-highest				
Gisborne	21.6	2.6	1905	2nd-highest				
Napier	22.0	2.8	1870	2nd-highest				
Hastings	21.2	3.5	1965	2nd-highest				
Waipawa	19.9	1.7	1945	2nd-highest				
Wairoa	21.5	2.3	1964	2nd-highest				
Stratford	18.3	2.4	1960	2nd-highest				

#### Record<sup>1</sup> or near-record mean air temperatures for January were recorded at:

<sup>&</sup>lt;sup>1</sup> The rankings (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>.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.

Motueka   20.3   2.6   1956   2nd-highest     Blenheim   20.7   2.6   1932   2nd-highest     Brothers Island   18.0   1.6   1997   2nd-highest     Waiau   20.3   2.9   1974   2nd-highest     Kakaroa   20.6   2.0   1973   3rd-highest     Kaikohe   20.6   2.0   1973   3rd-highest     Whangaparaoa   21.2   1.6   1982   3rd-highest     Wakagaparaoa   20.5   2.0   1969   3rd-highest     Hicks Bay   20.5   2.0   1969   3rd-highest     Hawera   18.2   1.8   1977   3rd-highest     Waiouru   16.3   2.4   1952   3rd-highest     Nelson   20.6   2.5   1862   3rd-highest     Nelson   2.0   1927   3rd-highest     Medbury   19.5   2.0   1927   3rd-highest     Medbury   19.5   2.0   1929   3rd-hig	Farewell Spit	19.9	2.1	1971	2nd-highest
Brothers Island   18.0   1.6   1997   2nd-highest     Waiau   20.3   2.9   1974   2nd-highest     Akaroa   19.6   2.1   1978   2nd-highest     Kaikohe   20.6   2.0   1973   3rd-highest     Whangaparaoa   21.2   1.6   1982   3rd-highest     Takapau Plains   18.5   1.6   1962   3rd-highest     Hicks Bay   20.5   2.0   1969   3rd-highest     Hawera   18.2   1.8   1977   3rd-highest     Waiouru   16.3   2.4   1962   3rd-highest     Waiouru   16.3   2.4   1962   3rd-highest     Nelson   20.6   2.5   1862   3rd-highest     Nelson   20.6   2.5   1862   3rd-highest     Medbury   19.5   2.0   1927   3rd-highest     Medbury   19.5   2.0   1927   3rd-highest     Medbury   19.5   2.0   1927 <td>Motueka</td> <td>20.3</td> <td>2.6</td> <td>1956</td> <td>2nd-highest</td>	Motueka	20.3	2.6	1956	2nd-highest
Waiau   20.3   2.9   1974   2nd-highest     Akaroa   19.6   2.1   1978   2nd-highest     Kaikohe   20.6   2.0   1973   3rd-highest     Whangaparaoa   21.2   1.6   1982   3rd-highest     Takapau Plains   18.5   1.6   1962   3rd-highest     Hicks Bay   20.5   2.0   1969   3rd-highest     Paraparaumu   19.3   2.1   1953   3rd-highest     Hawera   18.2   1.8   1977   3rd-highest     Waiouru   16.3   2.4   1962   3rd-highest     Puysegur Point   15.3   1.5   1978   3rd-highest     Nelson   20.6   2.5   1862   3rd-highest     Medbury   19.5   2.0   1927   3rd-highest     Medbury   19.5   2.0   1927   3rd-highest     Lumsden   16.7   1.5   1962   3rd-highest     South West Cape   14.1   1.0	Blenheim	20.7	2.6	1932	2nd-highest
Akaroa   19.6   2.1   1978   2nd-highest     Kaikohe   20.6   2.0   1973   3rd-highest     Whangaparaoa   21.2   1.6   1982   3rd-highest     Takapau Plains   18.5   1.6   1962   3rd-highest     Hicks Bay   20.5   2.0   1969   3rd-highest     Paraparaumu   19.3   2.1   1953   3rd-highest     Hawera   18.2   1.8   1977   3rd-highest     Hawera   18.2   1.8   1977   3rd-highest     Puysegur Point   15.3   1.5   1978   3rd-highest     Nelson   20.6   2.5   1862   3rd-highest     Hamer Forest   18.7   2.7   1906   3rd-highest     Medbury   19.5   2.0   1927   3rd-highest     Mut Cook Airport   16.7   2.1   1929   3rd-highest     Lumsden   16.2   1.4   1982   3rd-highest     South West Cape   14.1   1	Brothers Island	18.0	1.6	1997	2nd-highest
Kaikohe   20.6   2.0   1973   3rd-highest     Whangaparaoa   21.2   1.6   1982   3rd-highest     Takapau Plains   18.5   1.6   1962   3rd-highest     Hicks Bay   20.5   2.0   1969   3rd-highest     Paraparaumu   19.3   2.1   1953   3rd-highest     Hawera   18.2   1.8   1977   3rd-highest     Waiouru   16.3   2.4   1962   3rd-highest     Puysegur Point   15.3   1.5   1978   3rd-highest     Nelson   20.6   2.5   1862   3rd-highest     Hamer Forest   18.7   2.7   1906   3rd-highest     McDury   19.5   2.0   1927   3rd-highest     Mut Cook Airport   16.7   2.1   1929   3rd-highest     Lumsden   16.2   1.4   1982   3rd-highest     South West Cape   14.1   1.0   1991   3rd-highest     Hamilton (Ruakura)   20.5	Waiau	20.3	2.9	1974	2nd-highest
Whangaparaoa   21.2   1.6   1982   3rd-highest     Takapau Plains   18.5   1.6   1962   3rd-highest     Hicks Bay   20.5   2.0   1969   3rd-highest     Paraparaumu   19.3   2.1   1953   3rd-highest     Hawera   18.2   1.8   1977   3rd-highest     Waiouru   16.3   2.4   1962   3rd-highest     Puysegur Point   15.3   1.5   1978   3rd-highest     Nelson   20.6   2.5   1862   3rd-highest     Hamer Forest   18.7   2.7   1906   3rd-highest     Medbury   19.5   2.0   1927   3rd-highest     Medbury   19.5   2.0   1927   3rd-highest     Mt Cook Airport   16.7   2.1   1929   3rd-highest     Dunedin (Airport)   16.7   1.5   1962   3rd-highest     Lumsden   16.2   1.4   1982   3rd-highest     South West Cape   14.1	Akaroa	19.6	2.1	1978	2nd-highest
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Wellington (Kelburn)   18.9   2.0   1927   4th-highest     Wellington (Airport)   19.6   1.7   1962   4th-highest     Ohakune   17.2   1.8   1962   4th-highest     Christchurch   19.2   2.0   1863   4th-highest     Ranfurly   16.6   1.5   1897   4th-highest     Dunedin (Musselburgh)   17.0   1.7   1947   4th-highest     Low records or near-records	Masterton	19.9	2.5	1906	4th-highest
Wellington (Airport)   19.6   1.7   1962   4th-highest     Ohakune   17.2   1.8   1962   4th-highest     Christchurch   19.2   2.0   1863   4th-highest     Ranfurly   16.6   1.5   1897   4th-highest     Dunedin (Musselburgh)   17.0   1.7   1947   4th-highest     Low records or near-records	Porirua	19.0	1.2	1968	4th-highest
Ohakune17.21.819624th-highestChristchurch19.22.018634th-highestRanfurly16.61.518974th-highestDunedin (Musselburgh)17.01.719474th-highestLow records or near-records	Wellington (Kelburn)	18.9	2.0	1927	4th-highest
Christchurch19.22.018634th-highestRanfurly16.61.518974th-highestDunedin (Musselburgh)17.01.719474th-highestLow records or near-records	Wellington (Airport)	19.6	1.7	1962	4th-highest
Ranfurly16.61.518974th-highestDunedin (Musselburgh)17.01.719474th-highestLow records or near-records	Ohakune	17.2	1.8	1962	4th-highest
Dunedin (Musselburgh)17.01.719474th-highestLow records or near-records	Christchurch			1863	-
Low records or near-records	•				-
		17.0	1.7	1947	4th-highest
None observed	Low records or near-records				
	None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kerikeri	27.5	3.2	1945	Highest
Kaikohe	25.7	2.8	1973	Highest
Whangarei	26.7	2.2	1967	Highest
Whitianga	27.9	4.0	1962	Highest
Te Puke	26.4	2.8	1973	Highest
Whakatane	26.7	2.7	1974	Highest
Rotorua	26.0	3.6	1964	Highest
Takaka	26.0	3.0	1978	Highest

Motueka	27.0	3.7	1956	Highest
Appleby	25.7	3.3	1932	Highest
Blenheim	27.8	3.6	1932	Highest
Hanmer Forest	27.4	4.0	1906	Highest
Kaikoura	24.0	3.6	1963	Highest
Waiau	27.1	2.9	1974	Highest
Cheviot	26.8	3.7	1982	Highest
Mokohinau	23.8	1.6	1994	2nd-highest
Whangaparaoa	25.3	2.0	1982	2nd-highest
Tauranga	26.7	2.8	1913	2nd-highest
Таиро	26.0	3.3	1949	2nd-highest
Turangi	25.7	2.6	1968	2nd-highest
Ngawi	25.3	2.7	1972	2nd-highest
Hicks Bay	24.1	2.4	1969	2nd-highest
Wairoa	27.8	3.3	1964	2nd-highest
Puysegur Point	18.4	1.9	1978	2nd-highest
Richmond	26.3	3.9	1862	2nd-highest
Brothers Island	20.5	1.8	1997	2nd-highest
Christchurch (Airport)	25.1	2.5	1863	2nd-highest
Waipawa	26.2	1.7	1945	3rd-highest
Mahia	23.5	1.7	1990	3rd-highest
Stratford	23.2	2.4	1960	3rd-highest
Farewell Spit	24.1	2.4	1971	3rd-highest
Medbury	26.0	1.9	1927	3rd-highest
Rangiora	24.7	2.4	1965	3rd-highest
Akaroa	25.4	2.4	1978	3rd-highest
Dunedin (Musselburgh)	21.2	2.3	1947	3rd-highest
Kaitaia	26.3	2.5	1948	4th-highest
Martinborough	25.8	2.2	1986	4th-highest
Gisborne	27.3	2.7	1905	4th-highest
Napier	27.0	2.8	1870	4th-highest
Hastings	26.6	3.4	1965	4th-highest
Wellington (Kelburn)	22.5	2.2	1927	4th-highest
Upper Hutt	24.4	2.4	1939	4th-highest
Waipara West	25.5	1.7	1973	4th-highest
Le Bons Bay	21.0	1.8	1984	4th-highest
Oamaru	21.4	1.5	1967	4th-highest
ow records or near-records				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Mokohinau	18.8	1.5	1994	2nd-highest
Auckland (Whenuapai)	16.2	1.9	1945	2nd-highest
Auckland (Western Springs)	17.3	2.1	1948	2nd-highest

Whitianga	16.6	2.8	1962	2nd-highest
Tauranga	17.4	2.3	1913	2nd-highest
Таиро	14.2	2.8	1949	2nd-highest
Gisborne	15.9	2.3	1905	2nd-highest
Hastings	15.8	3.7	1965	2nd-highest
Mahia	17.0	2.3	1990	2nd-highest
Stratford	13.4	2.3	1960	2nd-highest
Hawera	14.8	2.3	1977	2nd-highest
Farewell Spit	15.7	1.8	1971	2nd-highest
Brothers Island	15.5	1.3	1997	2nd-highest
Medbury	12.9	1.9	1927	2nd-highest
Waiau	13.5	2.9	1974	2nd-highest
Dargaville	16.5	1.5	1943	3rd-highest
Te Puke	15.7	2.6	1973	3rd-highest
Auckland (Airport)	17.8	1.8	1959	3rd-highest
Takapau Plains	13.4	2.4	1962	3rd-highest
Martinborough	14.2	1.9	1986	3rd-highest
Ngawi	16.2	1.4	1972	3rd-highest
Napier	16.9	2.8	1870	3rd-highest
Paraparaumu	15.7	2.4	1953	3rd-highest
Levin	15.5	2.4	1895	3rd-highest
Waiouru	10.7	2.3	1962	3rd-highest
Blenheim	14.5	1.9	1932	3rd-highest
Kaikoura	14.7	1.7	1963	3rd-highest
Culverden	13.5	2.8	1928	3rd-highest
Cheviot	12.9	2.5	1982	3rd-highest
Akaroa	13.8	1.8	1978	3rd-highest
Lumsden	10.5	1.6	1982	3rd-highest
Whangarei	17.3	1.7	1967	4th-highest
Port Taharoa	16.9	1.6	1973	4th-highest
Waipawa	13.6	1.7	1945	4th-highest
Porirua	15.3	1.1	1968	4th-highest
Wellington (Kelburn)	15.4	1.9	1927	4th-highest
Wellington (Airport)	16.1	1.4	1962	4th-highest
Ohakune	10.9	1.2	1962	4th-highest
Whanganui	16.1	2.3	1937	4th-highest
Nelson	16.0	2.2	1862	4th-highest
Mt Cook	10.9	2.0	1929	4th-highest
South West Cape	11.0	1.0	1991	4th-highest
Low records or near-records				
None observed				

# Rainfall: Dry for much of the North Island and upper South Island

Widespread dry conditions occurred across the North Island and upper South Island with Northland, Auckland, Waikato, Wellington, Tasman, Nelson, Marlborough as well as pockets of Bay of Plenty, Taranaki, Manawatu-Whanganui and northern Canterbury all experiencing well below normal rainfall (<50% of normal). Notably, Masterton recorded just 6 mm of rain for the whole month which makes it the driest January on record there since records began in 1926. Cape Reinga observed 4 mm of rain in January which was the 2<sup>nd</sup> driest January on record there with records beginning in 1919.

Conversely, the Napier and Hastings Districts saw above normal rainfall (120-149% of normal) which was largely driven by several days of rain mid-month. Likewise, the occasional passage of cold fronts (which didn't continue further up the country due to persistent high pressure) brought above normal rainfall to Stewart Island and parts of Otago, Southland and Westland.

After a wet end to 2018, the prolonged dry conditions throughout January caused soil moisture levels in all regions other than Southland to rapidly decrease. As of 2 February soil moisture levels were much lower than normal in Tasman and parts of Northland and lower than normal in Auckland, parts of Waikato, Manawatu-Whanganui, Wellington, Nelson, Marlborough and the Buller District. Soil moisture levels were largely near normal around Canterbury, Otago, Southland, Hastings District and Gisborne.

According to the New Zealand Drought Index, meteorological drought conditions were being approached near Westport as of 2 February.

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments				
High records or near-records								
None observed								
Low records or near-recor	ds							
Mokohinau	5	9	1994	Lowest				
Masterton	6	10	1926	Lowest				
Cape Reinga	4	7	1919	2nd-lowest				
Warkworth	7	8	1966	2nd-lowest				
Takaka	11	9	1976	2nd-lowest				
Arapito	61	32	1978	2nd-lowest				
Appleby	4	5	1932	2nd-lowest				
Kaitaia	5	7	1948	3rd-lowest				
Kerikeri	5	4	1935	3rd-lowest				
Whitianga	13	16	1961	3rd-lowest				
Paraparaumu	13	22	1945	3rd-lowest				
Whangarei	7	8	1937	4th-lowest				

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

## January climate in the six main centres

January was a hot month across all six main centres with well above temperatures recorded. The mean temperatures in Tauranga, Wellington and Christchurch were in the top 4 warmest on record. January was also a dry month for the North Island with all main centres there recording well below normal rainfall. Tauranga received just one fifth of its normal January rainfall. The dry month and lack of cloud cover there contributed to high sunshine hours (322 hours), and it was only the 10<sup>th</sup> time more than 300 hours of sunshine have been recorded during any month in Tauranga since records began in 1933. Rainfall was near normal in Christchurch and Dunedin. Of the six main centres in January 2019, Tauranga was the warmest, driest and sunniest and Dunedin was the coolest, least sunny and wettest.

Temperature						
Location	Mean temp.	Departure	Comments			
	(°C)	from normal (°C)				
Auckland <sup>a</sup>	21.1	+1.3	Well above average			
Tauranga <sup>b</sup>	22.1	+2.6	Well above average - 2 <sup>nd</sup> highest on record			
Hamilton <sup>c</sup>	19.8	+1.5	Well above average			
Wellington <sup>d</sup>	18.9	+2.0	Well above average - 4 <sup>th</sup> highest on record			
Christchurch <sup>e</sup>	19.2	+2.0	Well above average - 4 <sup>th</sup> highest on record			
Dunedin <sup>f</sup>	17.0	+1.7	Well above average - 4 <sup>th</sup> highest on record			
Rainfall						
Location	Rainfall (mm)	% of normal	Comments			
Auckland <sup>a</sup>	32	48	Well below normal			
Tauranga <sup>b</sup>	16	20	Well below normal			
Hamilton <sup>c</sup>	32	39	Well below normal			
Wellington <sup>d</sup>	25	33	Well below normal			
Christchurch <sup>e</sup>	30	85	Near normal			
Dunedin <sup>f</sup>	84	115	Near normal			
Sunshine						
Location	Sunshine					
	(hours)					
Auckland <sup>a</sup>	287					
Tauranga <sup>b</sup>	322					
Hamilton <sup>g</sup>	271					
Wellington <sup>d</sup>	244					
Christchurch <sup>e</sup>	251					
Dunedin <sup>f</sup>	216					
<sup>1</sup> Mangere <sup>b</sup> Tauranga Airport <sup>c</sup> Hamilton Airport <sup>d</sup> Kelburn <sup>e</sup> Christchurch Airport <sup>f</sup> Musselburgh <sup>g</sup> Ruakura						

#### January 2019 main centre climate statistics:

# Highlights and extreme events

#### **Rain and slips**

On 14 January an 18-day dry spell affecting many parts of the North Island and upper South Island came to an end.

On 23 January, heavy rainfall led to a rockfall and the closure of State Highway 23 between Arthur's Pass and Otira.

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
None observed				

#### Temperatures

Between 23 and 24 January, Christchurch saw a large temperature swing of 25.4°C over 16 hours, from a maximum of 33.4°C to a minimum of 8.0°C as the Southern Alps became dusted with snow following the passage of a cold front.

From 27 January – 1 February a combination of warm seas, high pressure over the country and a hot airmass originating from Australia led to heatwave conditions across New Zealand. Several locations across the country observed record or near record high daily maximum and minimum January temperatures. The warmest temperature during the month was 38.4°C recorded in Hanmer Forest on 31 January. This was Hanmer Forest's warmest temperature on record (data since 1906) and New Zealand's 18th-equal warmest temperature on record for all months in New Zealand. On 28<sup>th</sup> January, Richmond only dropped to 24.3°C, which became the new warm minimum temperature record for the Wider Nelson region (data since 1862). On the 29<sup>th</sup> of January, both Hamilton and Wellington set new all-time highest temperature records (32.9°C and 30.3°C respectively). This was the first time two main centres broke their all-time maximum temperature records in the same day. The heatwave conditions led to water restrictions put in place in the Tasman District as well as the closure of recreational bike/walking trails through private and council owned forest areas due to high fire risk in the district.

Throughout the month of January, sea surface temperatures around the New Zealand coastline and in the Tasman Sea were warmer than normal. The warmest temperatures occurred during the early part of January with the largest anomalies observed off the coast of Hawke's Bay (up to 4°C warmer than average). Marine heatwave conditions were observed in parts of the central and western Tasman Sea.

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments			
High records or near-records	High records or near-records						
Kaitaia	31.2	29th	1948	Highest			
Whangaparaoa	29.4	29th	1982	Highest			
Auckland (Whenuapai)	30.3	29th	1945	Highest			
Whitianga	31.7	11th	1962	Highest			
Whakatane	33.3	28th	1975	Highest			

Таиро	32.9	29th	1949	Highest
Whatawhata	32.2	29th	1952	Highest
Hamilton (Ruakura)	32.9	29th	1906	Highest
Hamilton (Airport)	32.0	29th	1946	Highest
Te Kuiti	33.3	29th	1959	Highest
Taumarunui	33.6	29th	1935	Highest
Levin	32.6	29th	1895	Highest
Porirua	31.0	29th	1968	Highest
Wellington (Kelburn)	30.3	29th	1908	Highest
Upper Hutt	33.5	29th	1939	Highest
Stratford	29.5	29th	1960	Highest
Ohakune	31.1	29th	1962	Highest
Waiouru	29.7	29th	1962	Highest
Takaka	32.6	28th	1978	Highest
Motueka	34.0	27th	1956	Highest
Appleby	32.6	27th 28th	1930	Highest
Richmond	33.8	27th	1952	Highest
Brothers Island	27.0	27th	1862	Highest
Hanmer Forest	38.4	31st	1906	Highest
Medbury	37.9	31st	1900	Highest
Waiau	37.8	31st	1927	Highest
Lake Tekapo	35.0	31st	1974	Highest
Paeroa	31.9	29th	1925	Equal highest
Farewell Spit	29.0	29th	1947	Equal highest
Ranfurly	33.7	31st	1897	Equal highest
Rotorua	31.4	29th	1964	2nd-highest
Hicks Bay	29.1	7th	1964	2nd-highest
Kerikeri	31.2	6th	1969	Equal 2nd-highest
Kaikohe	29.8	29th	1945	3rd-highest
Nelson	32.9	29th	1975	3rd-highest
Blenheim	35.3	27th	1862	3rd-highest
Kaikoura	35.3	27th 23rd	1932	-
				3rd-highest
Cheviot	36.1	30th	1982	3rd-highest
Cape Reinga	26.0 31.7	30th 31st	1951 1929	Equal 3rd-highest Equal 3rd-highest
Mt Cook Airport Tara Hills	31.7 34.6	31st 31st	1929	
	34.6			Equal 3rd-highest
Whakatane		6th	1975	4th-highest
Pukekohe	30.4 31.3	30th	1969	4th-highest
Turangi Ruwsegur Point	23.9	29th 29th	1968	4th-highest
Puysegur Point			1978	4th-highest
Nelson	32.3	28th	1862	4th-highest
Blenheim	35.0	28th	1932	4th-highest
Le Bons Bay	28.9	2nd	1984	4th-highest
Ngawi	31.5	30th	1972	Equal 4th-highest
Wairoa	33.7	28th	1964	Equal 4th-highest
Dunedin (Musselburgh) Low records or near-records	31.4	5th	1947	Equal 4th-highest
	10.4	22rd	1001	4th-lowest
South West Cape	10.4	23rd	1991	4(11-10west

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments				
High records or near-records								
Tauranga	21.6	30th	1941	Highest				
Te Puke	20.4	29th	1973	Highest				
Appleby	20.5	28th	1941	Highest				
Richmond	24.3	28th	1862	Highest				
Tara Hills	19.9	6th	1949	Equal highest				
Whitianga	21.2	30th	1971	2nd-highest				
Puysegur Point	19.4	31st	1978	2nd-highest				
Cheviot	20.2	23rd	1982	2nd-highest				
Nugget Point	16.6	31st	1972	2nd-highest				
South West Cape	17.1	31st	1991	2nd-highest				
Whangarei	21.6	30th	1967	3rd-highest				
Mahia	20.3	20th	1990	3rd-highest				
Secretary Island	17.1	31st	1988	3rd-highest				
Waiau	20.8	28th	1974	3rd-highest				
Whangaparaoa	20.4	30th	1982	Equal 3rd-highest				
Taumarunui	20.0	30th	1947	Equal 3rd-highest				
Clyde	20.6	23rd	1978	Equal 3rd-highest				
Mokohinau	20.5	29th	1994	4th-highest				
Whakatane	20.8	19th	1975	4th-highest				
Porirua	18.4	2nd	1972	4th-highest				
Queenstown	18.6	23rd	1871	4th-highest				
Wanaka	18.9	6th	1972	Equal 4th-highest				
Low records or near-records								
Cromwell	1.6	24th	1949	4th-lowest				

## Wind

On 22 January, gale force winds across south Otago fanned a fire in Pukeawa. Three milking sheds were destroyed in the incident. Additional fires occurred in northern Southland.

On 23 January, a strong southerly change caused damage to the electricity network across Queenstown Lakes and Central Otago and brought rain and cooler temperatures to the lower South Island. Downed trees and powerlines resulted in the loss of power for 4500 homes and/or businesses as well as road closures throughout the region. The maximum gust in Queenstown was 106 km/hr and this was the equal highest wind gust on record there.

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

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
Kaikoura	172	23rd	1972	Highest
Queenstown	106	23rd	1972	Equal highest
Whakatu	89	21st	1997	2nd-highest
Oamaru	91	23rd	1984	2nd-highest
Secretary Island	124	26th	1994	Equal 3rd-highest
Dannevirke	85	21st	1961	Equal 4th-highest
Castlepoint	156	27th	1972	Equal 4th-highest
South West Cape	163	26th	1991	Equal 4th-highest

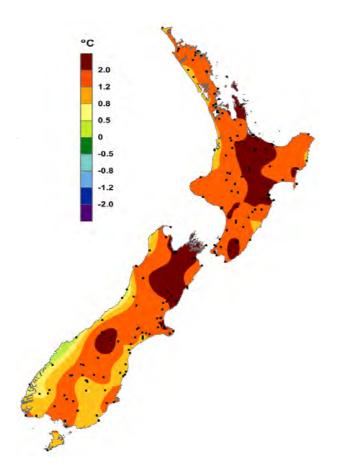
### Cloud and fog

On 29 January, fog cancelled at least 30 flights and delayed several others at Wellington Airport. The fog was caused by a very humid air mass and relatively light winds.

#### For further information, please contact:

### Nava Fedaeff

Climate Scientist, NIWA Auckland Tel. 09 375 6337



January temperature, expressed as a difference from average (1981-2010 normal).

Temperatures were above average (0.51-1.20°C above average) and well above average (> 1.20°C above average) across the country.

The only exception were the coastal margins of Westland and western Southland where temperatures were near average (-0.50°C to +0.50°C of average).

Several locations observed record or near-record warm mean, meanmaximum and mean-minimum January temperatures.

#### https://www.niwa.co.nz/our-science/climate

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