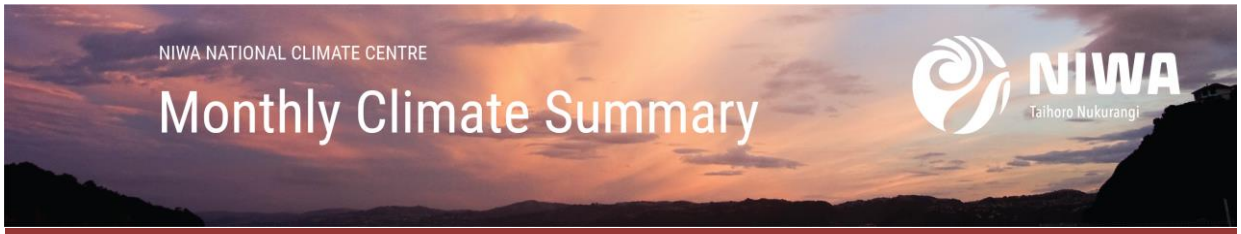

Aotearoa New Zealand Climate Summary: **September 2023** Issued: 3 October 2023

New Zealand's warmest September on record

Temperature	Temperatures were above average (0.51°C to 1.20°C above average) or well above average (>1.20°C above average) in every region of the country. The nationwide average temperature was 1.3°C above the 1991-2020 September average, making it the country's warmest September on record.
Rainfall	Rainfall was above normal (120-149% of normal) or well above normal (>149% of normal) in parts of Southland, Otago, Canterbury, coastal Wairarapa, Gisborne, Bay of Plenty, Waikato, and Auckland. Rainfall was below normal (50-79% of normal) in parts of the Hutt Valley, Kāpiti Coast, Manawatū-Whanganui, southern Hawke's Bay, and Banks Peninsula.
Soil Moisture	At the end of the month, soil moisture levels were higher than normal for the time of year in eastern and inland parts of Otago and Canterbury, and coastal parts of Wairarapa and Gisborne. Soil moisture levels were typically near normal for most remaining parts of New Zealand.

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Overview

The nationwide average temperature in September 2023 was 11.9°C. This was 1.3°C above the 1991-2020 September average, making it Aotearoa New Zealand's warmest September since NIWA's seven station temperature series began in 1909[1]. Temperatures were above average (0.51°C to 1.20°C above average) or well above average (>1.20°C above average) throughout Aotearoa New Zealand. A period of exceptionally high temperatures for early spring were recorded from 20-21 September (see *Highlights and extreme events* section for details). This included a maximum temperature of 29.6°C in Wairoa, which is the highest September temperature on record for the North Island, and New Zealand's third-highest September temperature on record.

September 2023 was characterised by higher than normal mean sea level pressure (MSLP) over Aotearoa New Zealand, but especially over and to the east and west of the North Island. This produced more westerly and northwesterly airflows than normal, particularly over the South Island.

[1] September 2023 is distinguished as Aotearoa New Zealand's warmest September on record when using data rounded to three decimal points. The nationwide average temperature anomaly in September 2023 was +1.281°C, which is higher than the previous record September record set in 1988 (+1.278°C). The country's third-warmest September on record occurred in 1996, with an anomaly of +1.061°C.

High pressure systems were most prevalent over the country during the first half of the month, delivering a period of relatively benign weather for many areas. The second half of September became more unsettled, with several frontal systems contributing to very strong westerly and northwesterly wind events, which are a hallmark of early spring weather patterns in New Zealand. By the end of September, an El Niño event was declared, and this climate driver was a likely contributor to the persistent westerly and northwesterly winds observed during the latter half of the month.

Rainfall was above normal (120-149% of normal) or well above normal (>149% of normal) in parts of Southland, Otago, Canterbury, coastal Wairarapa, Gisborne, Bay of Plenty, Waikato, and Auckland. The majority of rainfall recorded in these areas occurred in the second half of the month, when several heavy rainfall events delivered record or near-record high daily rainfall totals to 19 locations across the North and South Islands (see *Highlights and extreme events* section). In contrast, rainfall was below normal (50-79% of normal) in parts of the Hutt Valley, Kāpiti Coast, Manawatū-Whanganui, southern Hawke's Bay, and Banks Peninsula. Rainfall was typically near normal (80-119% of normal) for the remainder of the country.

Further Highlights:

- The highest September temperature was 29.6°C, observed at Wairoa on 21 September.
- The lowest September temperature was -5.9°C, observed at Mount Cook Airport on 26 September.
- The highest 1-day rainfall was 234 mm, recorded at Milford Sound on 20 September.
- The highest wind gust was 246 km/h, observed at Cape Turnagain on 17 September.
- Of the six main centres in September 2023, Auckland was the warmest, Tauranga was the sunniest, Dunedin was the driest, Wellington was the wettest and least sunny, and Christchurch was the coolest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2023 so far are wider Nelson (1859 hours), Mackenzie Basin (1821 hours), Taranaki (1809 hours), and Tasman (1799 hours).

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Temperature: Record or near-record warmth for many

Temperatures were higher than average across New Zealand during September, and 14 locations set new record high September mean temperatures. In addition, dozens of locations observed record or near-record high mean maximum and mean minimum temperatures. This warmth contrasted to the short spell of relatively cool temperatures that occurred across New Zealand in August, when the country observed its first cooler than average month since May 2017.

Record[2] or near-record mean air temperatures for September were recorded at:

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kerikeri	14.2	1.0	1945	Highest
Purerua	14.5	1.2	1983	Highest
Leigh	15.1	2.9	1966	Highest
Whangaparāoa	14.2	1.0	1982	Highest
Whitianga	14.0	1.2	1962	Highest
Whakatāne	13.7	1.6	1974	Highest
Auckland (Airport)	14.2	1.1	1959	Highest
Hamilton (Ruakura)	13.1	1.5	1906	Highest
Mt Ruapehu Chateau	6.9	2.0	2000	Highest
Māhia	13.1	1.2	1990	Highest
Brothers Island	12.7	1.1	1997	Highest
Akaroa	12.2	1.3	1978	Highest
Roxburgh	11.0	1.6	1950	Highest
Chatham Island	12.0	1.9	1878	Highest
Kaitaia	14.7	1.6	1948	2nd-highest
Tauranga	13.9	1.4	1913	2nd-highest
Te Puke	13.4	1.4	1973	2nd-highest
Rotorua	11.7	1.6	1964	2nd-highest
Taupō	11.8	2.6	1949	2nd-highest
Motu	10.4	1.7	1990	2nd-highest
Hamilton (Airport)	12.7	1.3	1946	2nd-highest
Port Taharoa	13.9	1.2	1973	2nd-highest
Hicks Bay	14.0	1.3	1969	2nd-highest
Napier	14.5	2.4	1870	2nd-highest
Hastings	13.3	1.5	1965	2nd-highest
Waipawa	12.0	1.7	1945	2nd-highest
Palmerston North	12.5	1.5	1928	2nd-highest
Hāwera	11.8	1.2	1977	2nd-highest
Ohakune	9.7	1.6	1962	2nd-highest
Arapito	12.1	1.8	1978	2nd-highest
Greymouth	11.6	1.4	1947	2nd-highest
Waiau	11.3	1.3	1974	2nd-highest
Cheviot	11.2	1.7	1982	2nd-highest
Rangiora	11.5	2.0	1965	2nd-highest
Waipounamu	9.4	1.3	1980	2nd-highest
Auckland (Western Springs)	14.3	1.3	1948	3rd-highest
Te Kuiti	12.7	1.3	1959	3rd-highest
Taumarunui	12.2	1.9	1947	3rd-highest

[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.

New Plymouth	12.6	1.0	1944	3rd-highest
Lower Retaruke	11.6	1.3	1966	3rd-highest
Masterton	12.3	1.4	1906	3rd-highest
Dannevirke	11.9	1.9	1951	3rd-highest
Martinborough	12.3	1.7	1986	3rd-highest
Ngawi	13.7	1.3	1972	3rd-highest
Whakatu	13.1	2.1	1965	3rd-highest
Levin	12.4	1.3	1895	3rd-highest
Tākaka	11.6	1.4	1978	3rd-highest
Westport	11.8	1.1	1937	3rd-highest
Medbury	10.5	1.2	1927	3rd-highest
Waipara West	11.7	1.4	1973	3rd-highest
Windsor	9.9	1.2	2000	3rd-highest
Ranfurly	8.3	1.1	1897	3rd-highest
Oamaru	10.7	1.5	1967	3rd-highest
Dunedin (Musselburgh)	10.9	1.4	1947	3rd-highest
Te Anau	9.3	1.8	1963	3rd-highest
Balclutha	9.9	1.4	1964	3rd-highest
Wellington (Kelburn)	11.9	1.0	1928	Equal 3rd-highest
Dargaville	14.0	0.9	1943	4th-highest
Auckland (Whenuapai)	13.4	0.8	1945	4th-highest
Kawerau	13.3	1.2	1954	4th-highest
Gisborne	13.6	1.0	1905	4th-highest
Paraparaumu	12.2	1.1	1953	4th-highest
Puysegur Point	10.5	0.9	1978	4th-highest
Winchmore	10.7	1.5	1949	4th-highest
Christchurch (Botanic Gardens)	11.8	2.0	1863	4th-highest
Waimate	10.7	1.7	1908	4th-highest
Five Rivers	9.4	1.6	1982	4th-highest
Gore	9.8	1.4	1907	4th-highest
Low records or near-records				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Purerua	18.0	1.2	1983	Highest
Whangārei	18.7	1.0	1967	Highest
Whangaparāoa	17.4	1.0	1982	Highest
Taupō	16.6	2.7	1949	Highest
Hamilton (Airport)	17.5	1.2	1946	Highest
Mt Ruapehu Chateau	11.4	2.3	2000	Highest
Gisborne	19.2	1.6	1905	Highest
Hastings	19.7	2.5	1965	Highest
Waipawa	17.9	2.1	1945	Highest
Appleby	17.1	1.6	1932	Highest
Te Kuiti	17.9	1.4	1959	2nd-highest

Dannevirke	16.1	2.0	1951	2nd-highest
Ohakune	14.4	1.8	1962	2nd-highest
Greymouth	15.5	1.8	1947	2nd-highest
Cheviot	16.6	1.6	1982	2nd-highest
Winchmore	16.9	2.1	1949	2nd-highest
Waipounamu	14.7	1.2	1980	2nd-highest
Chatham Island	15.1	1.9	1878	2nd-highest
Kawerau	18.6	0.9	1954	3rd-highest
Motu	15.9	2.7	1990	3rd-highest
Auckland (Airport)	17.7	1.2	1959	3rd-highest
Hamilton (Ruakura)	17.8	1.2	1906	3rd-highest
Waikeria	17.8	1.2	1957	3rd-highest
Napier	19.2	2.0	1870	3rd-highest
Whakatu	19.2	2.7	1965	3rd-highest
Paraparaumu	15.9	1.2	1953	3rd-highest
Hāwera	15.4	1.3	1977	3rd-highest
Tākaka	17.2	1.5	1978	3rd-highest
Arapito	16.4	1.6	1978	3rd-highest
Brothers Island	14.6	1.2	1997	3rd-highest
Waiau	17.0	0.9	1974	3rd-highest
Kerikeri	18.8	0.9	1945	4th-highest
Kaikohe	16.8	1.0	1973	4th-highest
Leigh	18.5	2.2	1966	4th-highest
Whitianga	18.0	0.5	1962	4th-highest
Lower Retaruke	16.5	1.6	1966	4th-highest
Palmerston North	16.6	1.5	1928	4th-highest
Levin	16.3	1.3	1895	4th-highest
Windsor	16.0	1.5	2000	4th-highest
Low records or near-records				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kaitaia	11.4	1.8	1948	Highest
Whitianga	10.3	2.3	1962	Highest
Te Puke	9.5	2.3	1973	Highest
Whakatāne	9.4	2.2	1974	Highest
Port Taharoa	11.2	1.7	1973	Highest
Ngawi	11.1	1.6	1972	Highest
Hicks Bay	11.2	1.6	1969	Highest
Māhia	10.1	1.2	1990	Highest
Blenheim	7.7	1.5	1932	Highest
Brothers Island	10.7	1.0	1997	Highest
Kaikōura	8.4	1.3	1963	Highest
Medbury	5.8	2.0	1927	Highest
Akaroa	7.9	1.3	1978	Highest

Te Anau	5.5	3.3	1963	Highest
Roxburgh	5.9	1.5	1950	Highest
Chatham Island	9.0	2.1	1878	Highest
Purerua	11.0	1.2	1983	2nd-highest
Auckland (Western Springs)	10.6	1.4	1948	2nd-highest
Mt Ruapehu Chateau	2.4	1.7	2000	2nd-highest
Wellington (Kelburn)	9.3	1.2	1928	2nd-highest
Cape Campbell	9.8	1.0	1953	2nd-highest
Cheviot	5.8	1.9	1982	2nd-highest
Le Bons Bay	7.5	1.4	1984	2nd-highest
Oamaru	6.1	1.4	1967	2nd-highest
Five Rivers	4.6	1.8	1982	2nd-highest
Waipounamu	4.1	1.3	1980	2nd-highest
Mokohinau Island	12.7	0.7	1994	3rd-highest
Tauranga	10.3	2.0	1913	3rd-highest
Rotorua	7.9	2.1	1964	3rd-highest
Taupō	6.9	2.3	1949	3rd-highest
Taumarunui	7.0	1.6	1947	3rd-highest
Martinborough	8.0	2.1	1986	3rd-highest
Napier	9.7	2.7	1870	3rd-highest
Arapito	7.7	1.8	1978	3rd-highest
Nelson	7.8	1.6	1862	3rd-highest
Culverden	5.9	1.9	1928	3rd-highest
Rangiora	6.0	2.1	1965	3rd-highest
Gore	5.4	1.4	1907	3rd-highest
Kerikeri	9.6	1.2	1945	4th-highest
Dargaville	10.5	0.7	1943	4th-highest
Leigh	11.7	3.5	1966	4th-highest
Hamilton (Ruakura)	8.5	2.0	1906	4th-highest
Castlepoint	10.1	1.5	1972	4th-highest
Hāwera	8.3	1.2	1977	4th-highest
Westport	8.4	1.4	1937	4th-highest
Ōkārito	6.7	1.1	1982	4th-highest
Puysegur Point	7.9	0.8	1978	4th-highest
Waiau	5.7	1.7	1974	4th-highest
Waipara West	6.6	1.3	1973	4th-highest
Low records or near-records				
None observed				

Rainfall: Very wet for inland parts of the South Island and eastern Bay of Plenty

It was an exceptionally wet month for several inland locations of the South Island and the eastern Bay of Plenty. Tara Hills (near Omarama) recorded 166 mm of rainfall, which is 441% of its normal for September. Whakatāne observed its wettest September since records began in 1952, with 287 mm of rainfall. A number of areas received more than double their normal September rainfall, including Gisborne, and inland parts of Otago and Southland. Gore observed 225% of its normal September rainfall, making it the second-wettest September in well over 100 years of records there.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
Whakatāne	287	324	1952	Highest
Tautuku	207	211	1976	Highest
Tara Hills	166	441	1949	2nd-highest
Windsor	53	224	2000	2nd-highest
Lumsden	137	211	1982	2nd-highest
Alexandra	74	326	1922	2nd-highest
Gore	148	225	1907	2nd-highest
Mokohinau Island	129	206	1994	3rd-highest
Auckland (Albany)	210	198	1966	3rd-highest
Māhia	148	211	1990	3rd-highest
Clyde	74	287	1978	3rd-highest
Auckland (Whenuapai)	171	151	1943	4th-highest
Motu	407	204	1920	4th-highest
Cromwell	72	266	1949	4th-highest
Low records or near-records				
None Observed				

September climate in the six main centres

September temperatures were well above average or above average for all main centres. Rainfall was above normal or well above normal in all main centres except Auckland, where rainfall was near normal. Of the six main centres in September 2023, Auckland was the warmest, Tauranga was the sunniest, Dunedin was the driest, Wellington was the wettest and least sunny, and Christchurch was the coolest.

September 2023 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland[a]	14.0	+1.0	Above average
Tauranga[b]	13.9	+1.4	2nd-highest on record
Hamilton[c]	12.7	+1.3	2nd-highest on record
Wellington[d]	11.9	+1.0	Equal 3rd-highest on record
Christchurch[e]	10.8	+1.5	Well above average
Dunedin[f]	10.9	+1.4	3rd-highest on record
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland[a]	128	118	Near normal
Tauranga[b]	111	129	Above normal
Hamilton[c]	142	136	Above normal
Wellington[d]	150	139	Above normal
Christchurch[e]	74	175	Well above normal
Dunedin[f]	58	124	Above normal
Sunshine			
Location	Sunshine (hours)		
Auckland[a]	178		
Tauranga[b]	192[3]		
Hamilton[g]	173		
Wellington[d]	157[3]		
Christchurch[e]	167[3]		
Dunedin[f]	164		

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

[3] Missing one day of data.

Highlights and extreme events

Temperatures

The highest September temperature was 29.6°C, observed at Wairoa on 21 September.

The lowest September temperature was -5.9°C, observed at Mount Cook Airport on 26 September.

From 20-21 September, a strong northwesterly flow over New Zealand delivered very high temperatures for the time of year to eastern and inland parts of the country. On 20 September, the most exceptional heat was centred on Southland, Otago, and Canterbury, with several locations setting new record high daily maximum temperatures for September. This included Oban (Stewart Island), which recorded a maximum temperature of 23.5°C: 6°C higher than its normal daily maximum temperature in February.

Timaru recorded a maximum temperature of 28.9°C on 20 September, which is New Zealand's fifth-highest September temperature on record. The northwesterly airflow remained strong overnight, and contributed to a number of locations setting record or near-record high daily minimum temperatures for September. On 21 September, the exceptional heat shifted to the North Island. Wairoa recorded a maximum temperature of 29.6°C. This is New Zealand's third-highest September temperature on record, and the North Island's highest September temperature on record. The North Island's previous highest September temperature was 27.7°C, recorded in Hastings in 1955, and Waikaremoana in 1975.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Kaikohe	23.5	20th	1973	Highest
Auckland (Whenuapai)	22.6	21st	1945	Highest
Te Puke	24.9	20th	1973	Highest
Kawerau	26.0	20th	1954	Highest
Taupō	23.8	20th	1949	Highest
Motu	25.8	20th	1990	Highest
Auckland (Airport)	23.0	21st	1959	Highest
Mt Ruapehu Chateau	19.4	20th	2000	Highest
Takapau Plains	25.0	21st	1962	Highest
Dannevirke	23.4	21st	1951	Highest
Gisborne	27.1	21st	1905	Highest
Wairoa	29.6	21st	1964	Highest
Waipawa	25.3	21st	1945	Highest
Ohakune	21.3	21st	1962	Highest
Waiouru	21.3	21st	1962	Highest
Secretary Island	21.4	26th	1985	Highest
Pukaki (Aerodrome)	24.3	20th	1972	Highest
Orari	28.2	20th	1972	Highest
Timaru	28.9	20th	1885	Highest
Windsor	25.2	21st	2000	Highest
Ranfurly	23.6	20th	1897	Highest

Waipounamu	23.5	20th	1980	Highest
Tapanui	24.6	20th	1900	Highest
Oban (Stewart Island)	23.5	20th	1975	Highest
Balclutha	26.6	20th	1964	Highest
Nugget Point	24.7	20th	1970	Highest
Tautuku	25.6	20th	1976	Highest
Pukekohe	22.0	21st	1969	Equal highest
Kerikeri	24.2	20th	1945	2nd-highest
Whangaparāoa	21.9	20th	1982	2nd-highest
Rotorua	21.8	20th	1964	2nd-highest
Hamilton (Airport)	22.8	21st	1946	2nd-highest
Tūrangi	23.6	20th	1968	2nd-highest
Puysegur Point	19.9	19th	1978	2nd-highest
Whitianga	22.8	20th	1962	Equal 2nd-highest
Lumsden	22.7	20th	1982	Equal 2nd-highest
Cromwell	24.9	20th	1949	Equal 2nd-highest
Purerua	21.3	18th	1983	3rd-highest
Hamilton (Ruakura)	22.4	21st	1906	3rd-highest
Te Kuiti	23.2	21st	1959	3rd-highest
Taumarunui	24.0	21st	1947	3rd-highest
Lower Retaruke	22.8	21st	1966	3rd-highest
Whakatu	26.4	17th	1965	3rd-highest
Oamaru	25.2	20th	1967	3rd-highest
Dunedin (Musselburgh)	25.3	20th	1947	3rd-highest
Manapouri (Airport)	20.4	20th	1963	3rd-highest
Clyde	25.1	20th	1978	3rd-highest
Roxburgh	25.2	20th	1950	3rd-highest
Gore	24.3	20th	1907	3rd-highest
Tiwai Point	22.7	20th	1970	3rd-highest
Kaitaia	22.0	20th	1948	Equal 3rd-highest
Waimate	26.7	20th	1908	Equal 3rd-highest
Manapouri (West Arm Jetty)	18.0	20th	1971	Equal 3rd-highest
Taupō	21.5	21st	1949	4th-highest
Hastings	25.6	22nd	1965	4th-highest
Greymouth	20.4	4th	1947	4th-highest
Waiau	24.8	21st	1974	4th-highest
Timaru	26.6	21st	1885	4th-highest
Campbell Island	12.1	6th	1991	4th-highest
Stratford	19.1	8th	1960	Equal 4th-highest
Low records or near-records				
Clyde	5.5	22nd	1978	Lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Whakatāne	16.0	23rd	1975	Highest

Mt Ruapehu Chateau	7.9	23rd	2000	Highest
Martinborough	15.4	23rd	1986	Highest
Hastings	16.8	18th	1972	Highest
Whakatu	16.7	18th	1972	Highest
Waipawa	14.9	18th	1945	Highest
Paraparaumu	14.3	23rd	1972	Highest
Wellington (Kelburn)	13.3	23rd	1931	Highest
Wellington (Airport)	14.8	23rd	1972	Highest
Upper Hutt (Trentham)	14.5	23rd	1972	Highest
Ōkārito	13.1	22nd	1983	Highest
Appleby	13.6	23rd	1941	Highest
Brothers Island	13.4	18th	1997	Highest
Kaikōura	14.2	21st	1972	Highest
Cheviot	13.8	17th	1982	Highest
Winchmore	14.3	21st	1949	Highest
Ashburton	15.1	21st	1928	Highest
Waipara West	17.2	21st	1973	Highest
Rangiora	16.3	21st	1972	Highest
Lincoln	16.8	21st	1881	Highest
Akaroa	16.5	21st	1978	Highest
Pukaki (Aerodrome)	13.1	21st	1972	Highest
Wānaka	12.1	21st	1972	Highest
Ranfurly	13.4	21st	1897	Highest
Middlemarch	16.1	21st	2000	Highest
Dunedin (Musselburgh)	16.5	21st	1947	Highest
Clyde	13.5	21st	1978	Highest
Alexandra	15.9	21st	1930	Highest
Roxburgh	16.7	21st	1950	Highest
Reefton	12.8	21st	1972	Equal highest
Lake Tekapo	11.5	21st	1928	Equal highest
Lauder	14.5	21st	1924	Equal highest
Kaitaia	16.4	23rd	1948	2nd-highest
Whitianga	16.2	23rd	1971	2nd-highest
Taumarunui	13.6	23rd	1947	2nd-highest
Lower Retaruke	13.0	23rd	1972	2nd-highest
Ohakune	11.8	22nd	1972	2nd-highest
Greymouth	12.7	21st	1972	2nd-highest
Franz Josef	12.1	21st	1953	2nd-highest
Haast	12.7	21st	1949	2nd-highest
Christchurch (Botanic Gardens)	15.7	21st	1863	2nd-highest
Le Bons Bay	14.2	21st	1984	2nd-highest
Orari	12.5	21st	1972	2nd-highest
Cromwell	14.5	21st	1949	2nd-highest
Chatham Island	13.3	23rd	1878	2nd-highest
Tauranga	15.8	23rd	1941	Equal 2nd-highest
Te Puke	15.0	23rd	1973	Equal 2nd-highest
Hokitika	13.0	21st	1866	Equal 2nd-highest
Milford Sound	12.1	21st	1935	Equal 2nd-highest

Queenstown	11.1	21st	1871	Equal 2nd-highest
Dargaville	15.6	23rd	1951	3rd-highest
Rotorua	13.7	24th	1972	3rd-highest
Port Taharoa	14.9	23rd	1974	3rd-highest
Hicks Bay	15.3	24th	1972	3rd-highest
Napier	16.6	18th	1940	3rd-highest
Hanmer Forest	13.0	21st	1972	3rd-highest
Culverden	15.1	20th	1930	3rd-highest
Tara Hills	11.5	21st	1949	3rd-highest
Waipounamu	11.6	21st	1980	3rd-highest
Tautuku	10.6	21st	1976	3rd-highest
Auckland (Western Springs)	15.6	23rd	1971	Equal 3rd-highest
Ngawi	15.3	22nd	1972	Equal 3rd-highest
Levin	14.0	23rd	1950	Equal 3rd-highest
Hamilton (Airport)	14.3	23rd	1946	4th-highest
Masterton	14.4	23rd	1943	4th-highest
Motueka	12.6	23rd	1972	4th-highest
Motu	11.5	24th	1990	Equal 4th-highest
Westport	13.2	21st	1966	Equal 4th-highest
Manapouri (West Arm Jetty)	9.8	21st	1972	Equal 4th-highest
Low records or near-records				
None observed				

Rain and slips

The highest 1-day rainfall was 234 mm, recorded at Milford Sound on 20 September.

From 21-22 September, heavy rain caused flooding in parts of Southland, Otago, and Canterbury, with a State of Emergency declared in Southland and Queenstown. The Gore and Mataura combined stormwater and wastewater network was reportedly overwhelmed, leading to widespread surface flooding that threatened homes and businesses. Sandbags were in high demand with the local council requesting volunteer assistance to fill the sandbags. Surface flooding was also prominent in other parts of Southland, with flooded storm water drains reported to be contaminated with sewage in Winton, Lumsden, and Nightcaps. A number of State Highways and rural roads were closed due to flooding. In Queenstown, 68 properties were evacuated due to flooding and associated debris. Farther north, SH6 between Makarora and Haast Pass was closed due to flooding and a slip at Muddy Creek.

From 25-26 September, heavy rainfall occurred over eastern parts of the Bay of Plenty and inland Gisborne. A section of SH2 at Waiotahe was closed due to a slip, with fallen trees blocking lanes at SH2 Awakeri, SH2 Waimana Gorge, SH2 Waioeka Gorge and SH30 Rotoma. Multiple slips were reported on SH35 with the road closed in some areas, while a slip was partially blocking SH5 at Tumunui (south of Rotorua).

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Tara Hills	68	21st	1949	Highest
Wānaka	98	21st	1927	Highest
Queenstown	87	21st	1890	Highest
Lumsden	68	21st	1982	Highest
Waipounamu	62	21st	1917	Highest

Cromwell	45	21st	1949	Highest
Clyde	50	21st	1978	Highest
Alexandra	47	21st	1922	Highest
Gore	68	21st	1907	Highest
Whanganui	44	23rd	1937	2nd-highest
Manapouri (Airport)	63	20th	1963	2nd-highest
Lauder	34	21st	1924	2nd-highest
Tautuku	49	21st	1976	2nd-highest
Whakatāne	95	25th	1952	3rd-highest
Motu	115	23rd	1920	3rd-highest
Port Taharoa	58	23rd	1973	3rd-highest
Pukaki (Aerodrome)	30	22nd	1972	4th-highest
Windsor	22	21st	2000	4th-highest
Tiwai Point	33	20th	1970	4th-highest

Dry spells and drought

A prolonged period of settled weather prevailed over inland parts of the South Island during the first half of September, continuing a dry spell which began in August 2023. Cromwell recorded 14.2 mm of rain on 16 September, ending a 45-day dry spell which began on 2 August 2023. Both Alexandra and Clyde observed 42-day dry spells, which ended when approximately 16 mm of rain was recorded on 16 September at each location.

Wind

The highest wind gust was 246 km/h, observed at Cape Turnagain on 17 September.

From 17-18 September, strong winds occurred over much of the South Island and lower North Island, with widespread reports of damage and accidents as a result. Approximately 7,000 properties in Wellington were without power, as were properties in Waimatua (near Invercargill) as strong winds caused damage to power lines. A campervan and SUV were blown over by strong winds on the road between Tekapo and Twizel (SH8), while two campervans were blown over on the Mt Cook Highway (SH80). There were a raft of flight cancellations throughout the country but especially in Wellington, where aircraft were simply unable to land on the evening of 17 September due to the winds. A tree was blown onto a house in Levin, with downed trees also reported in Invercargill, Puramahoi (near Golden Bay), and Wainuiomata. Strong winds lifted roofs in parts of the Manawatū and Wellington. Fires near Culverden, Dunsandel, Kaikōura and Renwick were exacerbated by gusty winds, before being brought under control by the local Fire Services.

On 20 September, strong winds forced the cancellation of six flights at Dunedin Airport. Farther north, a large wildfire at Pukaki Downs (north of Twizel) began in the early evening and continued through until the following day. As many as seven helicopters with monsoon buckets were deployed to battle the blaze, and residents of six properties were forced to evacuate. The fire caused the closure of SH80 from the intersection of SH8 through to Mt Cook. South of Twizel, 11 power poles were snapped in half due to the strong winds, causing power outages for some local customers.

On 21 September, strong winds fanned a fire at Mt. Gerald Station on Lilybank Rd, towards the north end of Lake Tekapo. Seven fire trucks were called in to deal with the fire.

On 26 September, strong winds and large southerly swells forced the cancellation of interisland ferry services between Wellington and Picton.

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

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
Baring Head	161	17th	1991	Highest
Palmerston North	98	18th	1991	Highest
Puysegur Point	183	20th	1986	Highest
Hanmer Forest	109	17th	1995	Highest
Mt Cook (Airport)	178	17th	2000	Highest
Middlemarch	135	20th	2000	Highest
Whanganui	98	17th	1977	Equal highest
Wānaka	93	20th	1992	Equal highest
South West Cape	180	20th	1991	Equal highest
Castlepoint	174	17th	1972	2nd-highest
Mt Kaukau (Wellington)	163	17th	1969	2nd-highest
Upper Hutt (Trentham)	96	17th	1999	2nd-highest
Blenheim	96	17th	1972	Equal 2nd-highest
Cape Campbell	122	17th	1963	Equal 2nd-highest
Tūrangi	96	18th	1973	Equal 3rd-highest
Whakatu	85	18th	1997	Equal 3rd-highest
Palmerston North	91	17th	1991	Equal 3rd-highest
Secretary Island	130	20th	1994	Equal 3rd-highest
Clyde	87	20th	1983	4th-highest
Bromley	82	17th	1972	Equal 4th-highest
Tiwai Point	126	18th	1971	Equal 4th-highest

Cloud and fog

On 21 September, heavy fog in Auckland forced the cancellation of at least 30 flights, and caused delays for commuter ferries in the harbour as the poor visibility forced them to sail at a slower speed.

Snow and ice

On 22 September, heavy snow fell to low elevations in inland parts of Canterbury and northern Otago. SH80 to Mount Cook Village was closed because of snow, notably just a day after it had been closed due to a fire at Pukaki Downs. Ōhau ski area reported 1 metre of new snow. Farther south, Coronet Peak ski area was forced to call an early end to their ski season after warm temperatures and heavy rainfall melted a great deal of their snowpack. Although fresh snowfall did occur at Coronet Peak on 22 September, it wasn't enough to recover from the snowpack losses from the preceding days. Across the Wakatipu Basin, the Remarkables ski area also suffered from rainfall during the early portion of the event, but reported up to 45 cm of new snow at higher elevations by the end of the event.

On 30 September, a cold front delivered snow showers down to approximately 200 metres above sea level in Southland.

For further information, please contact:

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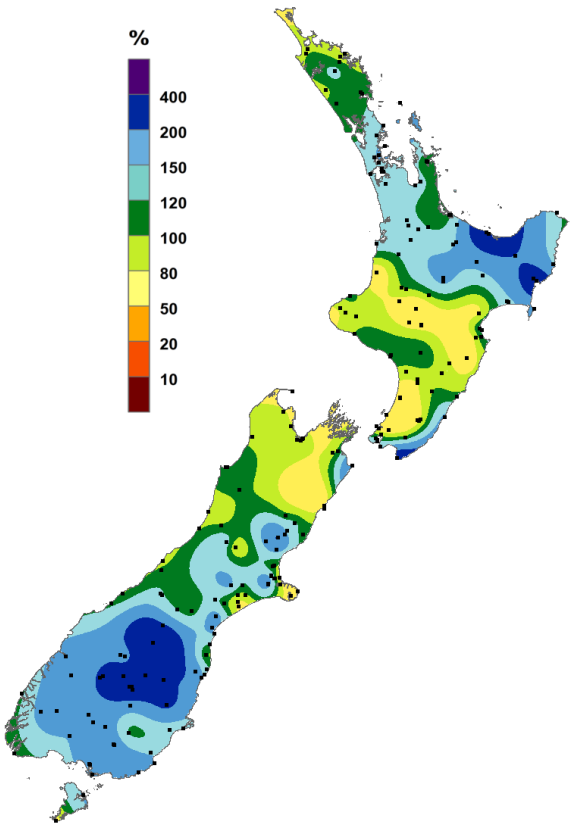
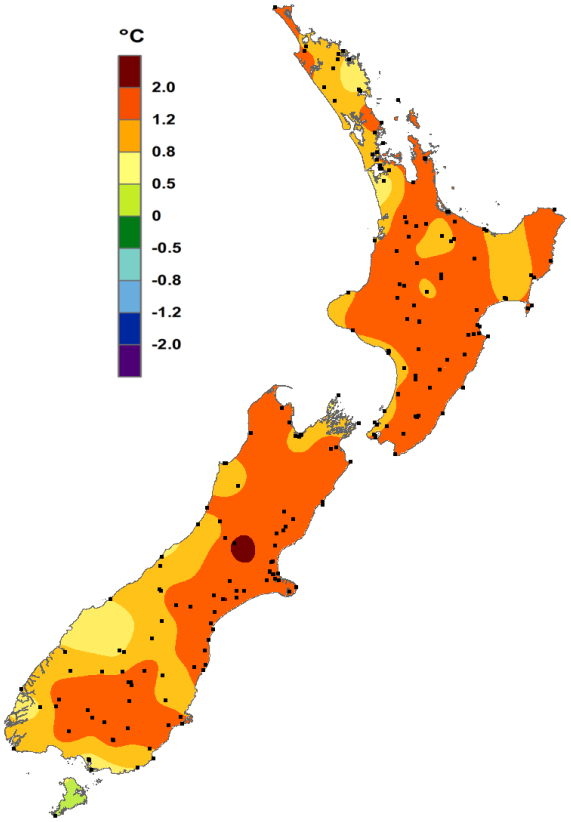


September rainfall
Expressed as a percentage of the 1991-2020 normal.



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

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