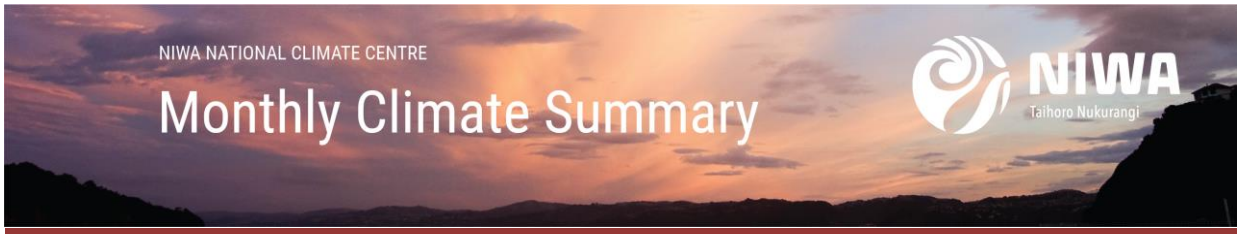

Aotearoa New Zealand Climate Summary: **September 2024** Issued: 3 October 2024

Warm and dry for northern and eastern parts of both Islands

Temperature	Temperatures were above average (0.51°C to 1.20°C above average) or well above average (>1.20°C above average) in parts of Northland, Auckland, Waikato, Bay of Plenty, Gisborne, Hawke's Bay, Taranaki, Whanganui, Tararua District, Wellington, Marlborough, much of Canterbury, and eastern Otago. Temperatures were below average (0.51°C to 1.20°C below average) for parts of Fiordland and western Southland.
Rainfall	Rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) in northern, eastern and central parts of the North Island, Tasman, Nelson, western Marlborough, and northern and central parts of Canterbury. Rainfall was above normal (120-149% of normal) or well above normal (>149% of normal) for the lower half of the South Island, the West Coast, parts of Wellington, and Manawatū-Whanganui.
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 South Canterbury, and lower than normal for parts of Bay of Plenty and Hawke's Bay. Soil moisture levels were typically near normal for most remaining parts of New Zealand.

Click on the link to jump to the information you require:

Overview

September 2024 was characterised by lower than normal mean sea level pressure over and to the south of the South Island, with higher than normal pressures over the central and northern Tasman Sea. This produced more westerly airflows than normal over most of Aotearoa New Zealand, with more southwesterly airflows over the northern North Island. These westerlies and the associated foehn effect contributed to a relatively warm and dry month for northern and eastern parts of the North and South Islands. However, the westerlies were also accompanied by regular fronts, which delivered abundant precipitation for southern and western parts of the South Island, including the hydro lake catchments. As a result, hydro lake levels increased considerably during September. This alleviated concerns over the low lake levels experienced during the prior winter season.

Temperatures were above average (0.51°C to 1.20°C above average) or well above average (>1.20°C above average) for much of Northland, Auckland, northern Waikato, western Bay of Plenty, Gisborne, Hawke's Bay, southern and inland Taranaki, Whanganui, Tararua District, Kāpiti Coast, Wellington, Marlborough, most of Canterbury, and eastern Otago. In contrast, temperatures were below average

(0.51°C to 1.20°C below average) for parts of Fiordland and western Southland. Temperatures were generally near average (±0.50°C of average) for remaining parts of the country. The nationwide average temperature in September 2024 was 11.2°C. This was 0.7°C above the 1991-2020 September average, making it New Zealand's 9th-warmest September since NIWA's seven station temperature series began in 1909.

Rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) in Northland, Auckland, Waikato, Bay of Plenty, Gisborne, Hawke's Bay, the Central Plateau, Tasman, Nelson, western Marlborough, and northern and eastern parts of Canterbury north of Ashburton. In contrast, rainfall was above normal (120-149% of normal) or well above normal (>149% of normal) for Southland, Otago, Canterbury south of Ashburton, the West Coast, southern Wellington, and parts of Manawatū-Whanganui. Rainfall was near normal (80-119% of normal) for most of Taranaki, Whanganui, and Wairarapa.

Further Highlights:

- The highest September temperature was 25.6°C, observed at Christchurch and Winchmore on 7 September.
- The lowest September temperature was -7.8°C, observed at Lake Tekapo on 17 September.
- The highest 1-day rainfall was 166 mm, recorded at Lake Manapouri (West Arm) on 1 September.
- The highest wind gust was 198 km/h, observed at Cape Turnagain on 20 September.
- Of the six main centres in September 2024, Auckland was the warmest, Tauranga was the driest, Christchurch was the coolest and sunniest, Wellington was the wettest, and Dunedin was the least sunny.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2024 so far are wider Nelson (1998 hours), Marlborough (1997 hours), Bay of Plenty (1960 hours), and Tasman (1943 hours).

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Temperature: Mild month for most

Temperatures were higher than average across most of New Zealand during September, and 13 locations observed near-record high September mean temperatures. In addition, eight locations observed record high mean maximum temperatures. Westerly winds were frequent during the month, and the foehn effect contributed to the warm temperatures observed in many areas. Increased sunshine was also a factor, with seven locations (from as far north as Auckland to as far south as Middlemarch) observing record or near-record high sunshine hours for September.

In contrast, September temperatures were lower than average for southwestern parts of the South Island. The mean maximum temperature in Te Anau was 10.4°C (2.5°C below average), making it the town's lowest September mean maximum temperature since records began in 1963.

Record[1] 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				
Kawerau	13.4	1.3	1954	2nd-highest
Brothers Island	12.7	1.1	1997	2nd-highest
Whangaparāoa	14.1	0.9	1982	3rd-highest
Akaroa	12.1	1.2	1978	3rd-highest
Kaitaia	14.5	1.4	1948	4th-highest
Pururua	14.0	0.7	1983	4th-highest
Leigh	14.8	2.5	1966	4th-highest
Auckland (Airport)	14.0	0.9	1959	4th-highest
Hāwera	11.6	1.0	1977	4th-highest
Cheviot	10.7	1.2	1982	4th-highest
Waipara West	11.6	1.3	1973	4th-highest
Middlemarch	9.5	1.1	2000	4th-highest
Motu	10.1	1.4	1990	Equal 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				
Kerikeri	19.0	1.1	1945	Highest
Whangārei	18.8	1.1	1967	Highest
Whangaparāoa	17.6	1.2	1982	Highest
Whitianga	18.3	0.8	1962	Highest
Whakatāne	18.3	1.2	1974	Highest
Kawerau	20.3	2.6	1954	Highest
Gisborne	19.3	1.7	1905	Highest
Brothers Island	14.8	1.4	1997	Highest
Pururua	17.9	1.1	1983	2nd-highest
Whakatu	19.4	2.9	1965	2nd-highest
Appleby	16.9	1.4	1932	2nd-highest
Cheviot	17.1	2.1	1982	2nd-highest
Leigh	18.7	2.4	1966	3rd-highest
Hanmer Forest	17.5	1.9	1906	3rd-highest
Waiau	17.5	1.4	1974	3rd-highest
Windsor	16.2	1.7	2000	3rd-highest
Tauranga	17.8	1.1	1913	4th-highest
Taupō	15.7	1.8	1949	4th-highest

[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.

Motu	15.8	2.6	1990	4th-highest
Low records or near-records				
Te Anau	10.4	-2.5	1963	Lowest

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	11.1	1.5	1948	2nd-highest
Dargaville	10.7	0.9	1943	2nd-highest
Hāwera	8.3	1.2	1977	3rd-highest
Auckland (Airport)	10.9	1.2	1959	4th-highest
Brothers Island	10.5	0.8	1997	4th-highest
Middlemarch	3.4	1.3	2000	4th-highest
Low records or near-records				
None observed				

Rainfall: Dry in the north and east, very wet for southern parts

Five locations observed their driest September on record, while a further six locations observed near-record low September rainfall totals. Whakatāne was New Zealand's driest location compared to normal, with the city recording just 9 mm of rain (8% of normal for September). In contrast, it was a very wet month for southern parts of the South Island. Three locations observed their wettest September on record, while a further nine locations observed near-record high September rainfall totals. Clyde was the country's wettest location compared to normal, with the town recording 89 mm of rain (347% of normal for September). Several other locations recorded more than 300% of their normal September rainfall, including Cromwell, Alexandra, and Queenstown.

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				
Lake Manapouri (West Arm)	864	230	1971	Highest
Clyde	89	347	1978	Highest
Tiwai Point	171	200	1970	Highest
Milford Sound	1190	220	1929	2nd-highest
Lumsden	171	263	1982	2nd-highest
Cromwell	87	321	1949	2nd-highest
Ōkārito	474	163	1981	3rd-highest
Alexandra	70	309	1922	3rd-highest
Roxburgh	78	199	1948	3rd-highest
Gore	143	217	1907	3rd-highest
Campbell Island	174	154	1992	3rd-highest
Queenstown	220	307	1871	4th-highest
Low records or near-records				
Kerikeri	26	18	1935	Lowest

Whitianga	41	25	1961	Lowest
Te Puke	20	15	1973	Lowest
Whakatāne	9	8	1952	Lowest
Rotorua	25	19	1963	Lowest
Purerua	35	34	1983	2nd-lowest
Tauranga	26	30	1898	2nd-lowest
Motueka	22	20	1943	2nd-lowest
Mt Ruapehu Chateau	124	44	2000	3rd-lowest
Whangārei	37	33	1937	4th-lowest
Leigh	42	45	1966	4th-lowest

September climate in the six main centres

September temperatures were above average for all main centres, except Hamilton where temperatures were near average. Rainfall was below normal in Auckland and Hamilton, while Tauranga observed its second-driest September on record. Rainfall was above normal in Dunedin, although its monthly total of 66 mm was less than that recorded in Auckland and Hamilton. Notably, Auckland observed its sunniest September since records began in 1963. Of the six main centres in September 2024, Auckland was the warmest, Tauranga was the driest, Christchurch was the coolest and sunniest, Wellington was the wettest, and Dunedin was the least sunny.

September 2024 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland[a]	14.0	+1.0	Above average
Tauranga[b]	13.4	+0.9	Above average
Hamilton[c]	11.5	+0.1	Near average
Wellington[d]	11.5	+0.6	Above average
Christchurch[e]	9.9	+0.6	Above average
Dunedin[f]	10.6	+1.1	Above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland[a]	74	68	Below normal
Tauranga[b]	26	30	2nd-lowest on record
Hamilton[c]	79	76	Below normal
Wellington[d]	123	114	Near normal
Christchurch[e]	41	98	Near normal
Dunedin[f]	66	139	Above normal
Sunshine			
Location	Sunshine (hours)		
Auckland[a]	200		
Tauranga[b]	223		
Hamilton[g]	177		
Wellington[d]	197		
Christchurch[e]	225		
Dunedin[f]	175		

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

Highlights and extreme events

Temperatures

The highest September temperature was 25.6°C, observed at Christchurch and Winchmore on 7 September. The lowest September temperature was -7.8°C, observed at Lake Tekapo on 17 September.

On 3 and 7 September, a warm northerly airflow contributed to relatively high temperatures for inland and eastern parts of the country.

On 13 and 15 September, cool southerlies delivered snowfall to low elevations of the South Island, with several locations observing record or near-record low daily maximum temperatures on these days.

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				
Dannevirke	24.1	3rd	1951	Highest
Takapau Plains	23.3	3rd	1962	2nd-highest
Winchmore	25.6	7th	1949	2nd-highest
Kerikeri	24.0	1st	1945	3rd-highest
Pururua	21.4	23rd	1983	3rd-highest
Waipawa	23.8	3rd	1945	Equal 3rd-highest
Middlemarch	23.7	30th	2000	4th-highest
Wellington (Kelburn)	19.6	24th	1928	Equal 4th-highest
Low records or near-records				
Windsor	6.1	13th	2000	Lowest
Clyde	5.1	13th	1978	Lowest
Martinborough	8.4	17th	1986	2nd-lowest
Secretary Island	6.9	15th	1989	2nd-lowest
Pukaki Aerodrome	3.9	13th	1972	2nd-lowest
Oamaru	6.3	13th	1972	2nd-lowest
Alexandra	4.8	15th	1930	2nd-lowest
Tara Hills	3.0	13th	1949	Equal 2nd-lowest
Te Anau	3.9	15th	1973	3rd-lowest
Alexandra	5.2	13th	1930	4th-lowest
Matamata	11.3	17th	1999	Equal 4th-lowest
Brothers Island	9.0	17th	1997	Equal 4th-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				
Pururua	15.6	1st	1983	Highest

Cape Reinga	14.8	2nd	1971	Equal highest
Kaitaia	17.5	1st	1948	Equal highest
Kaikohe	15.8	1st	1973	2nd-highest
Rangiora	13.5	3rd	1972	2nd-highest
Akaroa	15.1	3rd	1978	2nd-highest
Timaru	14.8	2nd	1885	2nd-highest
Wānaka	11.5	7th	1972	Equal 2nd-highest
Dargaville	16.1	1st	1951	3rd-highest
Whangārei	16.6	1st	1967	3rd-highest
Leigh	15.6	1st	1966	4th-highest
Whangaparāoa	14.5	1st	1982	4th-highest
Windsor	12.2	2nd	2000	Equal 4th-highest
Low records or near-records				
None observed				

Rain and slips

The highest 1-day rainfall was 166 mm, recorded at Lake Manapouri (West Arm) on 1 September.

On 3 September, Environment Southland activated a high river watch for the Mataura, Waikaia and Oreti rivers. This followed several days of relatively heavy rainfall in northern parts of Southland. Surface flooding was reported on SH6 at Garston, while several roads in the Gore District were closed due to flooding.

On 16 September, heavy rain fell in Wellington. A cycle lane in Newtown was blocked by a slip, while a slip partially closed SH58 near Whitby.

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
Levin	55	3rd	1949	Highest
Lake Manapouri (West Arm)	166	1st	1971	Highest
Palmerston North	52	19th	1928	2nd-highest
Five Rivers	38	1st	1982	2nd-highest
Balclutha	31	15th	1964	2nd-highest
Cromwell	33	12th	1949	3rd-highest
Lake Moeraki	131	25th	1985	4th-highest
Clyde	23	12th	1978	4th-highest
Alexandra	25	12th	1922	4th-highest
Nugget Point	35	15th	1930	4th-highest

Wind

The highest wind gust was 198 km/h, observed at Cape Turnagain on 20 September.

On 6 September, Fire and Emergency New Zealand were alerted to an out-of-control burn-off near Tokarahi, in the Waitaki district. The fire was fanned by strong northwesterly winds, and 806 ha of farmland, tussock and scrub were burned.

On 26 September, strong and gusty northerly winds in Wellington caused the cancellation of three flights, with a further seven flights delayed.

Strong and sustained winds were a feature of September's weather for southern parts of New Zealand. The mean wind speed at South West Cape (Stewart Island) was 51.8 km/h, which was its highest mean wind speed for September since records began in 1995. Invercargill's mean wind speed was 21.2 km/h, which was its equal-seventh highest September mean wind speed since records began in 1942.

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
Windsor	106	1st	2001	Highest
Martinborough	118	7th	2001	2nd-highest
Secretary Island	152	2nd	1994	2nd-highest
Te Puke	64	17th	1987	3rd-highest
Puysegur Point	157	2nd	1986	3rd-highest
Hokitika	102	9th	1972	4th-highest
Winchmore	105	3rd	1970	4th-highest

Snow and ice

On 10 September, motorists travelling on the Crown Range Road were urged to take extra care due to snow on the road. The road closed overnight from 10-11 September, with chains required on all vehicles when the road initially reopened on 11 September.

On 13 September, snow fell to low elevations for parts of northern Southland, inland Otago, and the Mackenzie Basin. Seven schools across Queenstown, Arrowtown and Alexandra were closed. Several trees were brought down by dense heavy snowfall in the Wakatipu Basin, with lanes blocked on the Arrowtown to Lake Hayes Road, Hunter Road, and Arthurs Point Road between Edith Cavell Bridge and McChesney Bridge. Downed trees and heavy snow weighting on power lines were the likely cause of power outages to approximately 3,500 customers in Alexandra, Omakau, Cromwell and Clyde. Several South Island highways were closed due to snow including the Crown Range Road, SH6 from Haast to Makarora, SH94 from Te Anau to Milford Sound, SH85 from Omakau to Palmerston, and SH80 from Lake Pukaki to Mount Cook. Southern ski areas received a welcome top up of snow, with approximately 80 cm (30 cm) reported at the top (bottom) of Coronet Peak, at least 50 cm at the top of the Remarkables, and at least 48 cm at Treble Cone.

On 15-16 September, snowfalls were reported to low elevations across the South Island, and parts of the North Island. Roads closed due to snow included the Lindis Pass (SH8), SH93 between Mataura and Clinton, and SH8 from Fairlie to Tekapo (Burkes Pass). Drivers were warned to take extra care on other roads due to snow, including the Crown Range Road, the Milford Road (SH94), SH94 from Mossburn to The Key, SH96 from Ohai to Wreys Bush, and SH85 from Kyeburn to Palmerston. Snow had settled in the settlements of Arthur's Pass, Castle Hill, Aoraki Mount Cook, Garston, Balfour, Tekapo, Oxford, and Methven.

By the end of September, staff at The Remarkables ski area (near Queenstown) reported that more than 2 metres of snowfall had occurred during September. The regular and heavy snowfalls contributed to snowpack depth and coverage that was better than it had been at any stage during winter 2024. Across the valley, Coronet Peak ski area extended their season by a week due to the favourable conditions, with the ski area closing on 29 September.

Lightning, hail, and tornadoes

On 16 September, hail was reported in several Wellington suburbs including Karori and Thorndon. The stormy weather was associated with the passage of a cold front.

Cloud and fog

On 2 September, fog at Auckland Airport caused at least 50 flight cancellations or delays.

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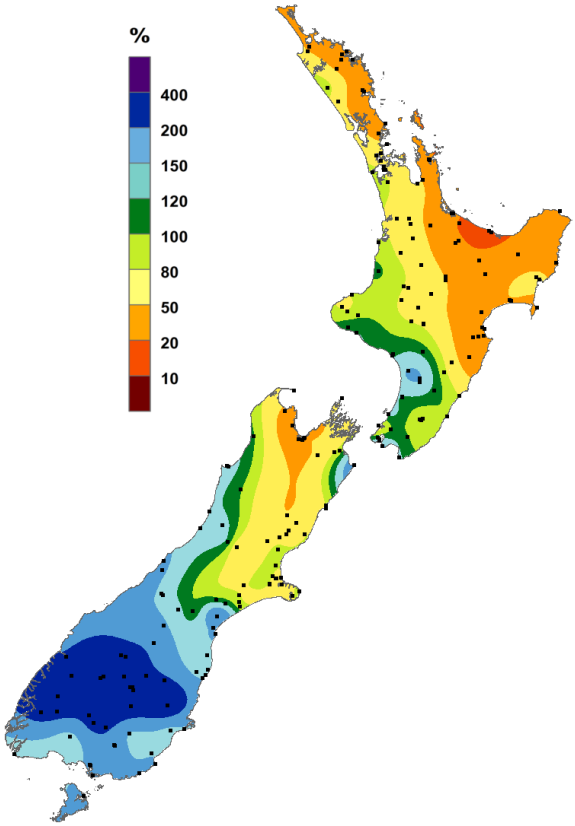
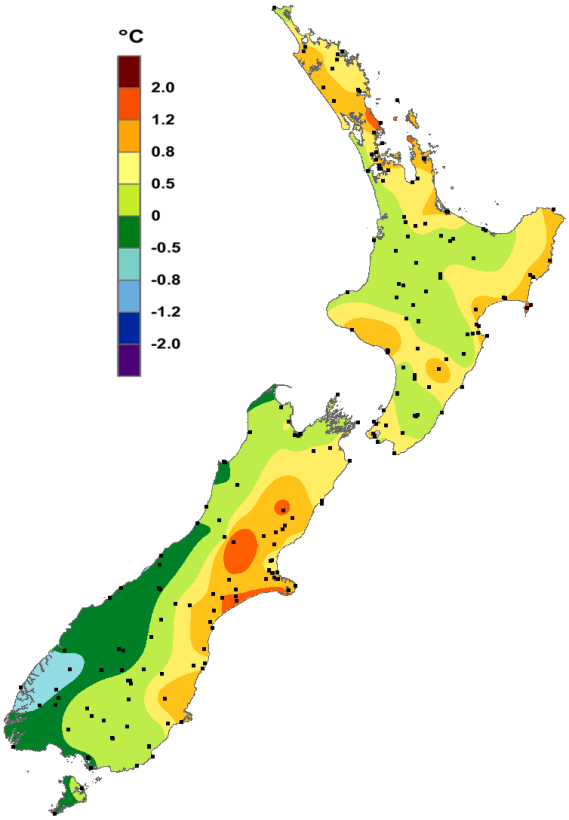


September rainfall
Expressed as a percentage of the 1991-2020 normal.



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

https://niwa.co.nz/climate-and-weather