

Wet for southern parts, dry for the eastern North Island

Rainfall	Rainfall was above normal (120-149% of normal) or well above normal (>149% of normal) for the southern half of the South Island and the West Coast. In contrast, rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) in parts of Northland, Coromandel Peninsula, Bay of Plenty, Gisborne, Hawke's Bay, the Central Plateau, and eastern Wairarapa. Elsewhere, rainfall was generally near normal (80-119% of normal).
Temperature	Spring temperatures were above average (+0.51°C to +1.20°C of average) for much of the North Island and eastern parts of the South Island. Temperatures were mostly near average ($\pm 0.50^\circ\text{C}$ of average) for the remainder of the country.
Soil moisture	At the end of spring, soil moisture levels were below normal for northern, inland, and eastern parts of the North Island, as well as central and northern parts of Canterbury. Above normal soil moisture levels were observed in southern and western parts of Southland, and eastern parts of Otago. Elsewhere, near normal soil moisture levels were typically observed.

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Overview

Spring 2024 was characterised by a higher-than-normal mean sea level pressure (MSLP) over and surrounding Aotearoa New Zealand, with lower-than-normal MSLP to the southwest of the country. This generally resulted in more westerly winds than normal. However, a notable exception occurred in October, with more easterly winds than normal over the lower South Island. It was a very wet season for Southland and Otago, and rainfall was well above normal (>149% of normal) for many parts of these regions. Several locations in the southern South Island received more than double their usual spring rainfall. In contrast, it was a very dry season in eastern parts of the North Island. This was especially the case for Hawke's Bay, where eastern parts of the region recorded well below normal spring rainfall (<50% of normal).

Temperatures were above average (+0.51°C to +1.20°C of average) for most of the North Island, and eastern parts of the South Island from Marlborough to Otago. Near average temperatures ($\pm 0.50^\circ\text{C}$ of average) were observed in Southland, inland Otago, the Mackenzie Basin, West Coast, Nelson, Tasman, and northeastern parts of Northland. Overall, the nationwide average temperature for spring was 12.9°C, 0.8°C above the 1991-2020 average from NIWA's seven-station temperature series which begins in 1909. This ranked as New Zealand's 7th-warmest spring on record.

Further highlights for spring 2024:

- The highest temperature was 32.1°C, observed at Bromley (Christchurch) on 28 November.
- The lowest temperature was -7.8°C, observed at Lake Tekapo on 17 September.
- The highest 1-day rainfall was 373 mm, recorded at Franz Josef on 8 November.
- The highest wind gust was 198 km/h, observed at Cape Turnagain on 20 September.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2024 so far are Marlborough (2489 hours), wider Nelson (2477 hours), Bay of Plenty (2454 hours), and Tasman (2387 hours).
- Of the six main centres in spring 2024, Auckland was the warmest, Dunedin was the coolest and wettest, Tauranga was the sunniest, Christchurch was the driest, and Wellington was the least sunny.

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Rainfall: A season of contrasts

Seventeen locations observed record or near-record high spring rainfall totals. It was the wettest spring on record in Dunedin, Invercargill, and Gore, with records at each of these locations extending back more than 100 years. Notably, Alexandra observed its 2nd-highest spring rainfall total on record, despite the town recording just 3 mm of rain in November (its 2nd-lowest November rainfall total on record). This highlights just how wet that area was for the remainder of the season (particularly October).

In contrast, 12 locations observed record or near-record low spring rainfall totals. Whakatu recorded just 25% of its normal spring rainfall, resulting in its lowest spring rainfall total since records began in 1965. Similarly, Napier received just 46 mm of spring rainfall (27% of normal), which was its 2nd-lowest spring rainfall total since records began in 1870. The prolonged dry conditions for eastern parts of the North Island meant meteorological drought had developed in coastal parts of Hawke's Bay by the end of November¹.

Record² or near-record spring rainfall totals were recorded at:

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
Oamaru	335	232	1941	Highest
Dunedin (Airport)	281	182	1962	Highest
Dunedin (Musselburgh)	358	211	1918	Highest

¹ According to NIWA's New Zealand Drought Index: <https://niwa.co.nz/hazards/weather-hazards/new-zealand-drought-monitor>

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.

Lumsden	447	200	1982	Highest
Gore	352	145	1907	Highest
Invercargill	394	132	1900	Highest
Balclutha	343	214	1964	Highest
Tautuku	499	153	1976	Highest
Windsor	201	182	2000	2nd-highest
Queenstown	443	208	1871	2nd-highest
Alexandra	176	205	1922	2nd-highest
Milford Sound	2690	157	1929	3rd-highest
Nugget Point	327	163	1930	3rd-highest
Ōkārito	1197	139	1981	4th-highest
Manapouri (West Arm Jetty)	1540	146	1971	4th-highest
Cromwell	172	175	1949	4th-highest
Campbell Island	414	120	1992	4th-highest
Low records or near-records				
Whitianga	220	58	1961	Lowest
Mt Ruapehu Chateau	304	38	2000	Lowest
Whakatu	37	25	1965	Lowest
Tutira	81	26	1894	2nd-lowest
Napier	46	27	1870	2nd-lowest
Waipawa	65	35	1945	2nd-lowest
Kaitaia	179	72	1948	3rd-lowest
Kerikeri	168	50	1935	3rd-lowest
Whangārei	135	51	1937	3rd-lowest
Waiouru	164	58	1950	3rd-lowest
Akaroa	121	57	1977	3rd-lowest
Wairoa	130	50	1964	4th-lowest

Temperature: Warm for eastern and northern parts of the country

Twenty locations observed record or near-record high mean air temperatures for spring. New Zealand's warmest locations relative to average were Motu and Hanmer Forest, where the spring mean temperature was 1.6°C higher than average.

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kaitaia	15.8	1.5	1948	Highest
Kawerau	15.7	1.4	1954	Highest
Paraparaumu	13.7	1.2	1953	Highest
Wellington (Kelburn)	13.1	1.0	1928	Highest
Ngawi	14.8	1.0	1972	2nd-highest
Hāwera	12.9	1.0	1977	2nd-highest
Whanganui	14.6	1.2	1937	2nd-highest

Kaikōura	13.0	1.1	1963	2nd-highest
Waipara West	13.2	1.2	1973	2nd-highest
Akaroa	13.9	1.5	1978	2nd-highest
Motu	12.0	1.6	1990	3rd-highest
Wellington (Airport)	13.9	0.9	1962	3rd-highest
Hanmer Forest	11.8	1.6	1906	3rd-highest
Waiau	12.9	0.9	1974	3rd-highest
Cheviot	12.3	0.9	1982	3rd-highest
Windsor	11.1	0.8	2000	3rd-highest
Campbell Island	6.9	0.5	1991	3rd-highest
Whangaparāoa	15.6	1.0	1982	4th-highest
Christchurch	13.1	1.4	1863	4th-highest
Chatham Island	12.4	1.2	1878	4th-highest
Low records or near-records				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Whakatāne	20.2	1.3	1974	Highest
Kawerau	22.5	2.5	1954	Highest
Windsor	17.5	1.4	2000	Highest
Ngawi	18.0	1.0	1972	2nd-highest
Whakatu	20.8	2.5	1965	2nd-highest
Appleby	18.2	0.9	1932	2nd-highest
Cheviot	18.5	1.3	1982	2nd-highest
Motu	17.3	2.1	1990	3rd-highest
Dannevirke	17.8	1.8	1951	3rd-highest
Hastings	20.8	1.5	1965	3rd-highest
Paraparaumu	17.2	1.2	1953	3rd-highest
Whanganui	18.4	1.2	1937	3rd-highest
Hanmer Forest	19.3	1.8	1906	3rd-highest
Kaikōura	17.0	1.5	1963	3rd-highest
Waiau	19.4	1.2	1974	3rd-highest
Akaroa	18.7	1.7	1978	3rd-highest
Purerua	18.9	0.8	1983	4th-highest
Whangaparāoa	19.2	1.2	1982	4th-highest
Tauranga	19.5	0.9	1913	4th-highest
Masterton	19.1	0.9	1906	4th-highest
Waipara West	18.8	1.5	1973	4th-highest
Chatham Island	15.9	1.4	1878	4th-highest
Low records or near-records				
Te Anau	13.2	-1.6	1963	Lowest

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Wellington (Kelburn)	10.3	1.1	1928	Highest
Ngawi	11.6	1.0	1972	2nd-highest
Wellington (Airport)	11.1	1.0	1962	2nd-highest
Ohakune	6.3	1.2	1962	2nd-highest
Akaroa	9.1	1.3	1978	2nd-highest
Le Bons Bay	8.0	0.9	1984	2nd-highest
Middlemarch	4.7	1.0	2000	2nd-highest
Port Taharoa	12.2	1.3	1973	3rd-highest
Culverden	6.8	1.0	1928	3rd-highest
Campbell Island	4.6	0.6	1991	3rd-highest
Kaitaia	12.1	1.4	1948	4th-highest
Motu	6.8	1.1	1990	4th-highest
Hāwera	9.3	0.9	1977	4th-highest
Low records or near-records				
None observed				

Spring in the six main centres

Temperatures were above average in all main centres for the season overall. It was particularly warm for Wellington, which recorded its warmest spring since records began in 1928. It was a very wet spring in Dunedin: the city recorded 211% of normal rainfall, which is its wettest spring since records began in 1918. Rainfall was near normal in the remaining main centres. Spring sunshine was abundant in Auckland and Tauranga, where both cities observed their highest spring sunshine total on record. Of the six main centres in spring 2024, Auckland was the warmest, Dunedin was the coolest and wettest, Tauranga was the sunniest, Christchurch was the driest, and Wellington was the least sunny.

Spring 2024 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland ^a	15.3	+0.8	Above average
Tauranga ^b	15.1	+0.8	Above average
Hamilton ^c	13.7	+0.7	Above average
Wellington ^d	13.1	+1.0	Above average (highest on record)
Christchurch ^e	12.1	+0.8	Above average
Dunedin ^f	11.7	+0.8	Above average

Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland ^a	241	97	Near normal
Tauranga ^b	190	83	Near normal
Hamilton ^c	240 ³	83	Near normal
Wellington ^d	354	111	Near normal
Christchurch ^e	138	101	Near normal
Dunedin ^f	358	211	Well above normal (highest on record)

Sunshine	
Location	Sunshine (hours)
Auckland ^a	663
Tauranga ^b	716
Hamilton ^g	583
Wellington ^d	580 ⁴
Christchurch ^e	685
Dunedin ^f	581

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

³ Missing one day of data.

⁴ Missing three days of data.

Highlights and extreme events

This section contains information pertaining to some of the more significant highlights and extreme events that occurred during spring 2024. Note that a more detailed list of significant weather events for spring 2024 can be found in the *Highlights and extreme events* section of NIWA's monthly Climate Summaries. These monthly summaries are available online, and may be viewed [here](#).

Temperatures

The highest temperature was 32.1°C, observed at Bromley (Christchurch) on 28 November.

The lowest temperature was -7.8°C, observed at Lake Tekapo on 17 September.

From 25-26 October, a cold southerly airflow became established over the southern and central South Island, and five locations set record or near-record low daily maximum temperatures for spring. This included Alexandra, where the temperature of 3.4°C was the town's lowest daily maximum for spring since records began in 1930.

From 26-29 November, a warm north to northwest airflow prevailed over New Zealand, delivering high temperatures to many eastern and northern areas. Temperatures were especially high on 28 November, when nine locations observed record or near-record high spring temperatures.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Le Bons Bay	28.0	Nov-28th	1984	Highest
Bromley (Christchurch)	32.1	Nov-28th	1962	Highest
Tākaka	29.0	Nov-28th	1978	2nd-highest
Brothers Island	22.6	Nov-27th	1997	2nd-highest
Appleby	27.8	Nov-28th	1932	Equal 2nd-highest
Hanmer Forest	30.6	Nov-28th	1906	Equal 2nd-highest
Rangiora	31.5	Nov-28th	1965	Equal 2nd-highest
Mokohinau Island	22.8	Nov-29th	1994	3rd-highest
Leigh	26.7	Nov-29th	1966	3rd-highest
Kawerau	31.5	Nov-29th	1954	3rd-highest
Wairoa	31.3	Nov-28th	1964	3rd-highest
Farewell Spit	26.3	Nov-26th	1971	3rd-highest
Akaroa	31.0	Nov-28th	1978	3rd-highest
Chatham Island	22.6	Nov-09th	1878	3rd-highest
Kaitaia	26.2	Nov-29th	1948	Equal 3rd-highest
Hastings	31.7	Nov-28th	1965	Equal 3rd-highest
Whangaparāoa	24.8	Nov-29th	1982	4th-highest
Nelson	27.4	Nov-26th	1862	4th-highest
Kaikohe	25.3	Nov-28th	1973	Equal 4th-highest
Low records or near-records				
Windsor	6.1	Sep-13th	2000	Lowest

Clyde	4.1	Oct-26th	1978	Lowest
Alexandra	3.4	Oct-26th	1930	Lowest
Secretary Island	6.9	Sep-15th	1989	2nd-lowest
Tara Hills	2.5	Oct-26th	1949	2nd-lowest
Arthurs Pass	1.3	Oct-26th	1978	Equal 2nd-lowest
Oamaru	6.3	Sep-13th	1972	Equal 2nd-lowest
Martinborough	8.4	Sep-17th	1986	3rd-lowest
Pukaki Airport	3.5	Oct-26th	1972	3rd-lowest
Te Anau	3.9	Sep-15th	1973	3rd-lowest
Roxburgh	5.5	Sep-15th	1950	3rd-lowest
Five Rivers	4.6	Sep-15th	1982	4th-lowest
Port Taharoa	12.1	Sep-17th	1974	Equal 4th-lowest
Brothers Island	9.0	Sep-17th	1997	Equal 4th-lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Kaitaia	20.3	Nov-15th	1948	Highest
Purerua	17.8	Nov-15th	1983	Highest
Blenheim	18.8	Nov-9th	1947	Highest
Mt Cook (Airport)	16.7	Nov-28th	1929	Highest
Akaroa	20.5	Nov-9th	1978	Equal highest
Brothers Island	14.8	Nov-26th	1997	2nd-highest
Kaikōura	17.7	Nov-9th	1972	2nd-highest
Cheviot	17.1	Nov-9th	1982	2nd-highest
Rangiora	18.9	Nov-9th	1972	2nd-highest
Le Bons Bay	17.7	Nov-9th	1984	2nd-highest
Wānaka	16.2	Nov-28th	1972	2nd-highest
Campbell Island	9.9	Nov-19th	1991	2nd-highest
Hāwera	16.7	Nov-15th	1977	3rd-highest
Appleby	16.3	Nov-29th	1941	3rd-highest
Hanmer Forest	17.2	Nov-9th	1972	3rd-highest
Waiau	18.5	Nov-9th	1974	3rd-highest
Auckland (Whenuapai)	17.9	Nov-15th	1951	Equal 3rd-highest
Farewell Spit	16.0	Nov-29th	1972	Equal 3rd-highest
Waipara West	19.6	Nov-8th	1973	Equal 3rd-highest
Manapouri (Airport)	14.1	Nov-28th	1973	Equal 3rd-highest
Upper Hutt (Trentham)	16.6	Nov-15th	1972	4th-highest
Ohakune	14.4	Nov-15th	1972	4th-highest
Mokohinau Island	17.6	Nov-15th	1994	Equal 4th-highest
Te Kuiti	17.0	Nov-30th	1959	Equal 4th-highest
Māhia	16.4	Nov-11th	1990	Equal 4th-highest
Stratford	14.8	Nov-15th	1972	Equal 4th-highest
Tākaka	15.6	Nov-9th	1978	Equal 4th-highest
Nelson	17.4	Nov-29th	1862	Equal 4th-highest

Low records or near-records

Mokohinau Island	-1.0	Sep-18th	1994	Lowest
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Rain and slips

The highest 1-day rainfall was 373 mm, recorded at Franz Josef on 8 November.

From 3-4 October, persistent and heavy rain fell over southeastern parts of the South Island. A state of emergency was declared in Dunedin and the Clutha District. In Dunedin, two welfare centres opened for about 70 residents who evacuated their properties due to flooding. Eleven properties were red-stickered (i.e. access was prohibited), with a further 31 properties yellow-stickered (i.e. access was restricted). Approximately 40 Dunedin roads were closed due to flooding. Numerous State Highways were closed in Otago due to flooding and slips including SH1 from Hampden to Evansdale and Waihola to Milton, SH85 from Kyeburn to Palmerston, SH87 from Kyeburn to Hyde, SH88 from Forsyth Barr Stadium to Port Chalmers, and SH90 from Waikoikoi to Tapanui. Areas of surface flooding also impacted Southland, with 13 road closures near Gore, and other closures including the Otautau Bridge due to rising floodwaters.

On 4 October, the Government announced a medium-scale adverse event classification for Southland and the Clutha District, after persistently wet conditions over the previous five weeks caused considerable challenges for farmers.

On 9 November, a local state of emergency was declared for the Southern Ward of Westland District as heavy rain caused extensive flooding, evacuations, land slips and road closures in the area. The highway between Fox Glacier and Haast was closed for several days due to slips, flooding, and cracks in the road near Knights Point. Extensive surface flooding occurred in the township of Haast. Farther north, SH6 was closed between Ross and Fox Glacier due to flooding.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Ngawi	114	Oct-13th	1930	Highest
Franz Josef	373	Nov-8th	1926	Highest
Haast	223	Nov-8th	1943	Highest
Waipara West	64	Oct-25th	1973	Highest
Green Island, Kaikorai	121	Oct-3rd	1993	Highest
Dunedin (Musselburgh)	131	Oct-3rd	1918	Highest
Manapouri (West Arm Jetty)	166	Sep-1st	1971	Highest
Glenledi	174	Oct-3rd	1984	Highest
Inchclutha	130	Oct-3rd	1967	Highest
Murchison	72	Oct-25th	1997	2nd-highest
Secretary Island	171	Oct-23rd	1985	2nd-highest
Melford Hills	70	Oct-3rd	1964	2nd-highest
Oamaru	82	Oct-3rd	1950	2nd-highest
Palmerston	78	Oct-3rd	1969	2nd-highest
Long Beach	81	Oct-3rd	1979	2nd-highest
Balclutha	73	Oct-3rd	1964	2nd-highest

Tautuku	89	Oct-3rd	1976	2nd-highest
Athenree	61	Oct-2nd	2000	3rd-highest
Ōkārito	165	Nov-8th	1981	3rd-highest
Waiau	49	Oct-25th	1974	3rd-highest
Mt Cook (Village)	280	Nov-8th	1928	3rd-highest
Windsor	36	Oct-26th	2000	3rd-highest
Islay Downs	64	Oct-3rd	1969	3rd-highest
Alexandra	28	Oct-26th	1990	3rd-highest
Roxburgh	42	Oct-3rd	1946	3rd-highest
Palmerston North	52	Sep-19th	1928	Equal 3rd-highest
Woodend	55	Oct-25th	1981	Equal 3rd-highest
Whangapoua	97	Oct-2nd	1991	4th-highest
Levin	55	Sep-3rd	1949	4th-highest
Rakaia, Greenfields	58	Oct-25th	1949	4th-highest
Maungatua	51	Oct-3rd	1970	4th-highest
Nugget Point	43	Oct-3rd	1930	4th-highest

Wind

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

From 24-25 October, strong northerly winds impacted Wellington. Over 150 homes in Johnsonville were without power due to damaged power lines, while at least 24 flights at Wellington airport were delayed or cancelled.

Record or near record spring extreme wind gusts were recorded at:

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
Martinborough	118	Sep-7th	2001	2nd-highest
Windsor	106	Sep-1st	2001	2nd-highest
Secretary Island	152	Sep-2nd	1994	3rd-highest
Te Puke	64	Sep-17th	1987	4th-highest
Māhia	102	Oct-3rd	1991	Equal 4th-highest

Snow and ice

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.

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.

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.

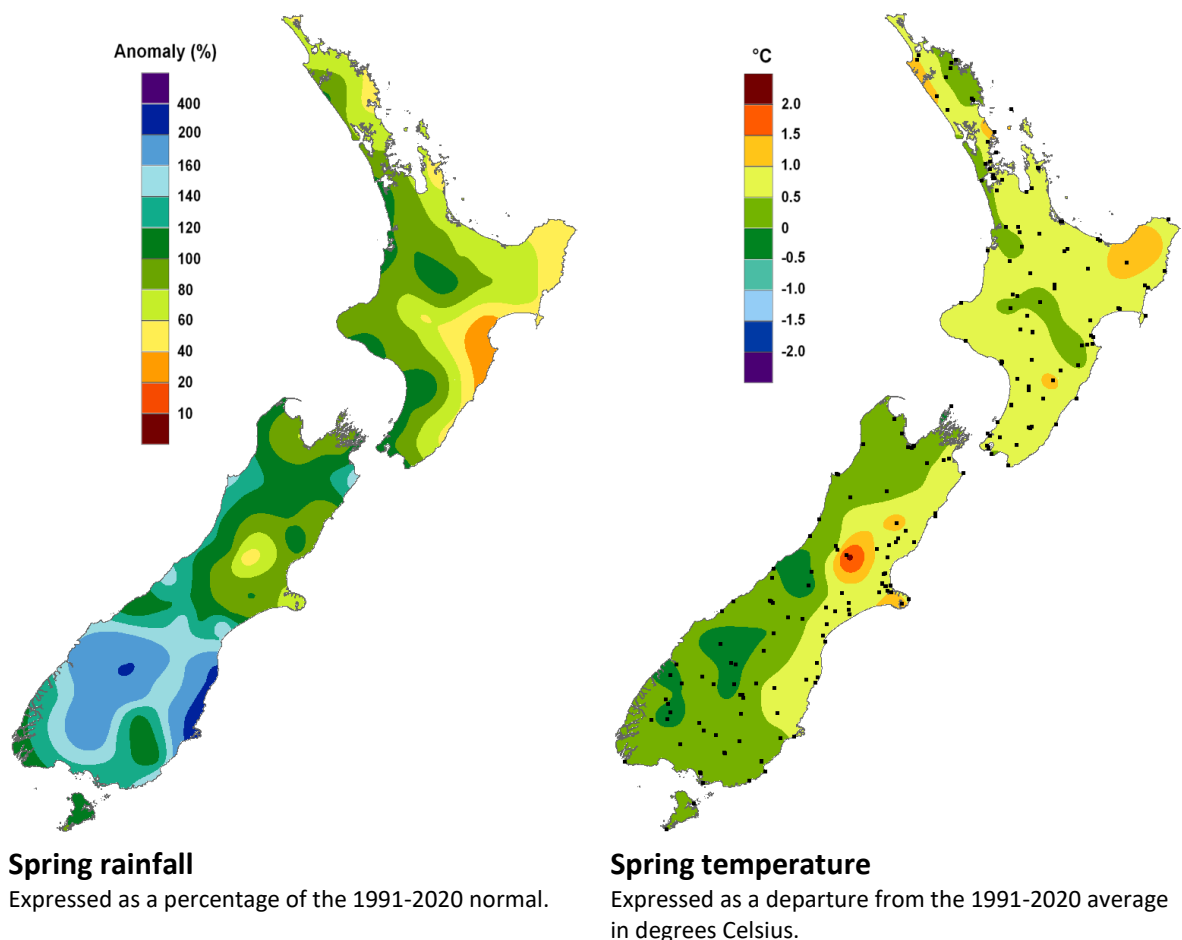
On 26 October, heavy snow fell in the South Island's high elevation terrain, with snow settling to relatively low elevations in parts of inland Otago such as Alexandra, Clyde, and Wānaka. The heaviest snowfalls occurred about inland parts of Canterbury, with NIWA's climate stations measuring 56 cm of snow depth at Mt Cook Village, and 27 cm at Arthur's Pass Village. Other settlements that received settled snow included Castle Hill Village, Lake Tekapo, Twizel, and Lake Ōhau Village.

Lightning, hail, and tornadoes

From 2-3 October, squally rain and thunderstorms struck parts of the upper North Island. Approximately 100 properties in Whitianga were without power after a fallen tree downed power lines.

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

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