

An unusually dry start to winter

Temperature	Temperatures were near average (-0.50 to +0.50°C of average) for the majority of the North Island. A portion of south Waikato observed below average temperatures (-0.51°C to -1.20°C of average) while coastal southern Hawke's Bay and interior Manawatu-Whanganui observed above average temperatures (0.51°C to 1.2°C above average). Inland parts of Marlborough and Tasman along with northern Canterbury and West Coast experienced below average or well below temperatures (< -1.2°C below average). Temperatures were above average or well above average (>1.2°C above average) in much of Southland, coastal Otago, and a portion of interior Canterbury. Temperatures were near average for the remainder of the South Island.
Rainfall	Rainfall was below normal (50% to 79% of normal) or well below normal (<50% of normal) for the majority of New Zealand with the only exceptions being parts of lower Hawke's Bay and Wairarapa where above normal rainfall (120-149% of normal) was observed.
Soil Moisture	As of 30 June, soil moisture levels for the time of year were near normal across most of the country with pockets of drier than normal soils in Northland, Auckland, eastern Waikato, interior Manawatu-Whanganui, coastal Wairarapa, interior Marlborough and parts of lower coastal Canterbury and northern coastal Otago. Conversely, a small area about Kaikōura observed wetter than normal soils.

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Overview

June 2019 was characterised by higher than normal mean sea level pressure. This resulted in more southwesterly winds than usual over the country. Late in the month, frequent rounds of high pressure contributed to unusually dry conditions and several rounds of colder than average morning temperatures due to clear skies, light winds, long nights, and less soil moisture than normal.

Rainfall was below or well below normal across much of the country, particularly in southern coastal Canterbury and northern coastal Otago where record or near record dryness occurred for the month of June.

With recurring high pressure systems, there were few significant weather events during the month of June. However, the month started on a stormy note as an active low pressure system brought seasonably cold temperatures, snow, strong winds, lightning and heavy rain to many areas (refer to the [highlights and extreme events](#) section for further details).

One particularly strong high pressure system (anticyclone) affected the country during the final days of the month. On 29 June, a mean sea level pressure of 1043.2 hPa was recorded in Motu, Gisborne, the highest value observed in the North Island during June on record. While anticyclones do impact the New Zealand region during the winter season, this feature was rare because of its strength (>1040 hPa) and was the strongest on the planet at the time it was over New Zealand. The pattern of high pressure was contributed to by a strongly positive Southern Annular Mode and influenced by ongoing El Niño-Modoki conditions in the Pacific Ocean.

The nationwide average temperature in June 2019 was 8.7°C (0.1°C above the 1981-2010 June average from NIWA's seven station temperature series which begins in 1909).

Further Highlights:

- The highest temperature was 21.3°C, observed at Whakatu on 21 June.
- The lowest temperature was -9.2°C, observed at Lake Tekapo on 3 June.
- The highest 1-day rainfall was 99.4 mm, recorded Cape Turnagain on 23 June.
- The highest wind gust was 163 km/h, observed at Cape Turnagain on 6 June.
- Of the six main centres in June 2019, Auckland was the warmest and sunniest, Christchurch was the coldest, Wellington was the wettest and least sunny and Dunedin was the driest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2019 are Wider Nelson (1446 hours), Marlborough (1429 hours), Bay of Plenty (1403 hours) and Taranaki (1380 hours).

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Rainfall: A dry June for most

Rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) for the majority of New Zealand with the only exception being parts of lower Hawke's Bay and Wairarapa where above normal (120-149% of normal) rainfall was observed.

Several locations in southern coastal Canterbury and northern coastal Otago observed one of their driest Junes on record. Notably, Waimate and Oamaru only recorded 1 mm of rainfall, which is the driest June in both locations since records began there in 1898 and 1941, respectively. Timaru also only recorded 1 mm of rainfall, which was the second-lowest June rainfall total with records starting in 1881. Following consecutive drier than normal months, Auckland's water supplier (Watercare) encouraged people to reduce their water use in case the drier than normal weather continued through winter.

As of 30 June, soil moisture levels for the time of year were near normal across the majority of the country with pockets of drier than normal soils in Northland, Auckland, eastern Waikato, interior Manawatu-Wanganui, coastal Wairarapa, interior Marlborough and parts of lower coastal Canterbury and northern coastal Otago. A small area about Kaikōura observed wetter than normal soils.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
None observed				
Low records or near-records				
Waimate	1	2	1898	Lowest
Ōamaru	1	3	1941	Lowest
Motu	70	29	1920	2nd-lowest
Timaru	1	3	1881	2nd-lowest
Auckland (Western Springs)	64	53	1948	3rd-lowest
Whitianga	78	38	1961	3rd-lowest
Lower Retaruke	71	50	1966	4th-lowest

Temperature: Near average for most

The nationwide average temperature in June 2019 was 8.7°C (0.1°C above the 1981-2010 June average from NIWA’s seven station temperature series which begins in 1909).

Overall, most of the country observed near average mean temperatures. The notable exceptions were inland parts of Marlborough and Tasman along with northern Canterbury and West Coast, where mean temperatures were below (-1.20 to -0.51°C below average) or well below average (< -1.20°C below average). It was a mild month for lower Southland, coastal Otago and a portion of interior Canterbury with above (0.51 to 1.20°C above average) or well above average temperatures (> 1.20°C above average).

It has now been 29 consecutive months (dating back to January 2017) since New Zealand experienced a nationwide average temperature that was below average (0.51°C to 1.20°C below the 1981-2010 average).

Record¹ or near-record mean air temperatures for June were recorded at:

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Ōamaru	7.6	0.5	1967	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.

Manapouri	5.6	1.7	1971	4th-highest
South West Cape	8.7	0.9	1991	4th-highest
Low records or near-records				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Te Kuiti	15.3	1.4	1959	4th-highest
Porirua	14.1	0.9	1968	4th-highest
Low records or near-records				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Puysegur Point	7.3	1.0	1978	4th-highest
South West Cape	7.0	1.1	1991	4th-highest
Low records or near-records				
None observed				

June climate in the six main centres

June rainfall was below or well below normal for all main centres. It was Auckland's third-driest June on record. It was a mild month in Dunedin with above average temperatures while the rest of the main centres observed near average temperatures. Of the six main centres in June 2019, Auckland was the warmest and sunniest, Christchurch was the coldest, Wellington was the wettest and least sunny and Dunedin was the driest.

June 2019 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland ^a	11.7	-0.1	Near average
Tauranga ^b	11.0	0.0	Near average
Hamilton ^c	9.5	-0.1	Near average
Wellington ^d	10.2	+0.5	Near average
Christchurch ^e	6.0	-0.4	Near average
Dunedin ^f	8.1	+0.8	Above average

Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland ^a	65	55	Below normal
Tauranga ^b	52	45	Well below normal
Hamilton ^c	69	59	Below normal
Wellington ^d	94	68	Below normal
Christchurch ^e	42	73	Below normal
Dunedin ^f	32	55	Below normal

Sunshine	
Location	Sunshine (hours)
Auckland ^a	161
Tauranga ^b	149
Hamilton ^e	156
Wellington ^d	125
Christchurch ^e	138
Dunedin ^f	126

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

Highlights and extreme events

Rain and slips

On 1 June, two people off-roading through Waimea River near Appleby Bridge in their four-wheel drive were rescued by Fire and Emergency (FENZ) after being caught in flash flooding. Heavy rain in Christchurch caused surface flooding, forcing the closure of a number of roads and sports events to be cancelled.

On 2 June, Christchurch marathon runners were battling challenging conditions with rain, chilly temperatures and gusty winds. Twenty people had to be taken off the course by organisers after succumbing to the conditions and one participant was taken to hospital with potential hypothermia.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Dannevirke	63	12th	1951	3rd-highest
Whanganui	56	1st	1937	3rd-highest

Temperatures

Frequent bouts of high pressure brought several rounds of chilly morning temperatures nationwide. A large high pressure system persisted over New Zealand towards the end of the month, trapping low cloud and cold air in some inland basins of the South Island. For example, in the 72 hours from 9 a.m. on 26 June, the maximum temperature recorded in Alexandra was just 0.9°C.

The highest temperature was 21.3°C, observed at Whakatu on 21 June. The lowest temperature was -9.2°C, observed at Lake Tekapo on 3 June.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Arapito	20.3	13th	1978	Highest
Farewell Spit	18.1	14th	1971	Equal highest
Porirua	19.0	14th	1968	2nd-highest
Greymouth	17.9	13th	1947	2nd-highest
Appleby	20.5	14th	1932	2nd-highest
Nelson	19.4	14th	1862	3rd-highest
Richmond	19.8	14th	1862	3rd-highest
Motu	16.6	8th	1990	Equal 3rd-highest
Nelson	19.3	14th	1862	4th-highest
Westport	17.8	14th	1937	Equal 4th-highest
Low records or near-records				
None observed				

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Palmerston North	13.5	14 th	1940	3rd-highest
Porirua	13.0	14 th	1972	Equal 3rd-highest
Low records or near-records				
None observed				

Wind

On 5 June, 1000 households lost power in Bay of Plenty as strong winds and heavy rain moved through the region. Flights were delayed out of Auckland airport due to poor weather conditions.

On 8 June, strong winds caused power outages for Vector customers in west and north Auckland. A tourist bus was blown off the road and into a bank off State Highway 39, north of Pirongia in Waikato. Luckily no one was injured.

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
South West Cape	163	29th	1991	2nd-highest
Mahia	96	6th	1991	Equal 4th-high

Lightning and hail

On 1 June, a flight from Palmerston North heading to Christchurch had to turn back shortly after take-off after it was struck by lightning.

On 5 June, the Sky Tower in Auckland was hit by a lightning strike as thunderstorms battered the region. Fortunately, the Sky Tower is equipped with a dynasphere to withstand lightning. Northland recorded 3200 lightning strikes and a microburst caused damage in Coopers Beach in the Far North as roofs were ripped from buildings and caravans were flipped. One couple suffered minor injuries.



Lightning hits the Auckland Sky Tower.
Source: North Shore Weather Facebook

Snow and ice

June 1st, the first day of meteorological winter, started on a chilly note with snow falling in the South Island and in the Central Plateau. Arthur's Pass to Springfield (SH73) and Lewis Pass between Hanmer Springs and Springs Junction (SH7) were closed due to heavy snow. Two people were temporarily stuck in their car on a remote section of State Highway 8 between Burkes Pass and Kimbell as rockfalls and snow closed main thoroughfares. Another vehicle was stranded for more than four hours in a snow-filled ditch on the highway between Geraldine and Fairlie in Canterbury. On a brighter note, skiers enjoyed a snowy opening day at the Happy Valley area of Whakapapa ski field on Mt Ruapehu.

On 2 June, State Highway 1 between Waiouru and Rangipo closed due to heavy snow.

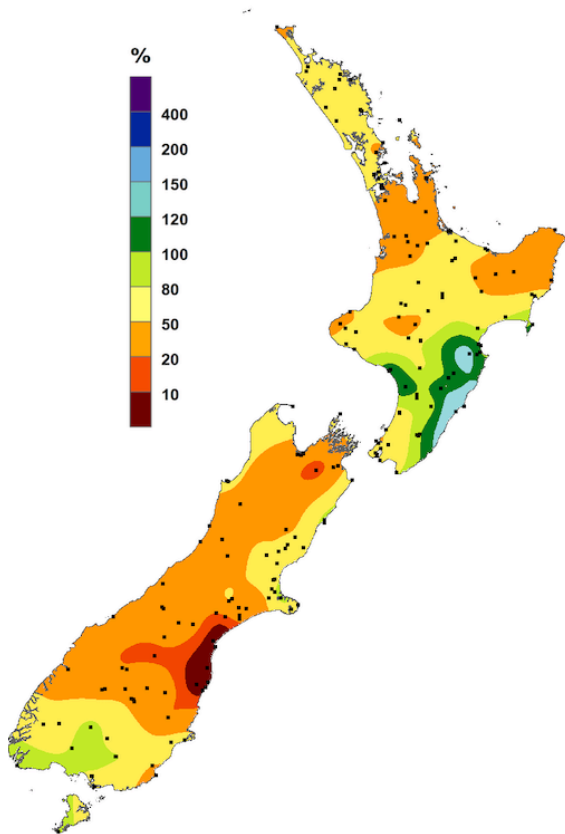
Cloud and fog

On 13 June, fog caused domestic flight delays and cancellations out of Auckland and Queenstown Airports. Also, low visibility caused a multi-vehicle crash that blocked southbound lanes of the Southwestern Motorway, near the Dominion Rd on-ramp in Auckland.

On 14 June, for the second consecutive day, fog blanketed parts of Auckland city causing 59 flight cancellations and 40 delays out of Auckland Airport.

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June rainfall, expressed as a departure from the 1981-2010 average.

Rainfall was below normal or well below normal for the majority of New Zealand.

Several locations in southern coastal Canterbury and northern coastal Otago observed one of their driest Junes on record. Notably, Waimate in southern Canterbury only recorded 1 mm of rainfall, which is the driest June there since records began there in 1898.

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

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