

## Very dry for many parts of New Zealand

<b>Rainfall</b>	Rainfall was well below normal (<50% of normal) or below normal (50-79% of normal) for most of the North Island, Nelson, Tasman, Marlborough, Canterbury and eastern parts of Central Otago. Several locations in Wairarapa, coastal Marlborough and coastal North Canterbury received less than 5 mm of rain for the entire month. Rainfall was above normal (120-149% of normal) for some western parts of the South Island and Oamaru.
<b>Soil Moisture</b>	At the end of the month, soil moisture levels were considerably lower than normal for most of the North Island, as well as northern parts of the South Island. Soils were also drier than normal for many eastern parts of the South Island. Near normal soil moisture levels were typical in western and southern parts of the South Island.
<b>Temperature</b>	Temperatures were above average (0.51-1.20°C above average) for parts of Waikato, Bay of Plenty, Gisborne, Hawke's Bay, Wairarapa, Manawatu, Canterbury, eastern Central Otago and Southland. Temperatures were typically near average ( $\pm 0.50^\circ\text{C}$ of average) for the remainder of the country.

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### Overview

April 2020 mean sea level air pressure was below normal to the southwest of the South Island. This was associated with more westerly air flows than usual over New Zealand. It was a very dry month for much of New Zealand, especially in eastern parts which were sheltered from the prevailing westerly airflow. Parts of Hawke's Bay, Wairarapa and Canterbury received less than 20% of normal rainfall, while rainfall amounts for many locations in the North Island and upper South Island were close to record lows. Kaikoura received a mere 1.4 mm of rainfall during the month, with a 34-day dry spell<sup>1</sup> observed there from 31 March – 4 May 2020. The ongoing lack of rain resulted in soils remaining considerably drier than normal in many parts of the North Island, especially about Hawke's Bay, Coromandel, Auckland and Northland. Soils were also drier than normal for northern and eastern parts of the South Island.

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<sup>1</sup> Consecutive days with less than 1 mm on each day.

Temperatures were generally mild throughout April, although a cold front delivered snow to low elevations of Southland and Otago around mid-month (see *Highlights and extreme events* for further details). Overall, the nationwide average temperature in April 2020 was 13.5°C. This was 0.2°C above the 1981-2010 April average from NIWA's seven station temperature series which begins in 1909.

Further Highlights:

- The highest temperature was 27.9°C, observed at Waiau on 11 April.
- The lowest temperature was -3.9°C, observed at Middlemarch on 29 April.
- The highest 1-day rainfall was 119 mm, recorded at Arthur's Pass Village on 12 April.
- The highest wind gust was 161 km/h, observed at South West Cape on 30 April.
- Of the six main centres in April 2020, Auckland was the warmest, Tauranga was the sunniest, Christchurch was the driest, Hamilton was the wettest, and Dunedin was the coldest and least sunny.
- Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2020 so far are Bay of Plenty (1096 hours), Taranaki (1080 hours), Greater Nelson (1029 hours) and Auckland (991 hours).

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## Rainfall: Ongoing lack of rainfall for much of the North Island

April was yet another dry month for many parts of the North Island. Rainfall was well below normal (<50% of normal) for many northern, eastern and southern parts of the North Island. Total rainfall from January to April was less than 40% of usual for parts of Northland, Auckland, Waikato, Bay of Plenty and Hawke's Bay. April was also a dry month in Nelson, Tasman, Marlborough, Canterbury and eastern parts of Central Otago, with well below normal or below normal (50-79% of normal) rainfall in these parts. Taupo, Masterton and Wairoa each observed their driest April on record, while Kaikoura recorded a mere 1 mm of rainfall during the month. In contrast, rainfall was above normal (120-149% of normal) for some western parts of the South Island and Oamaru.

**Record<sup>2</sup> or near-record April rainfall totals were recorded at:**

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
<b>High records or near-records</b>				
None recorded				
<b>Low records or near-records</b>				
Taupo	13	19	1949	Lowest

<sup>2</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.

Masterton	4	7	1926	Lowest
Wairoa	20	15	1964	Lowest
Whitianga	37	25	1961	2nd-lowest
Martinborough	3	7	1924	2nd-lowest
Mahia	25	20	1990	2nd-lowest
Cape Campbell	2	5	1873	2nd-lowest
Kaikoura	1	3	1898	2nd-lowest
Waipara West	9	16	1973	2nd-lowest
Auckland (Whenuapai)	38	40	1943	3rd-lowest
Auckland (Western Springs)	25	27	1948	3rd-lowest
Wellington (Kelburn)	22	25	1928	3rd-lowest
Wellington (Airport)	15	21	1958	3rd-lowest
Lincoln	8	18	1881	3rd-lowest
Whitianga	42	28	1961	4th-lowest
Tauranga	16	14	1898	4th-lowest
Dunedin (Airport)	18	38	1962	4th-lowest

## Temperature: A relatively mild month for most

The nationwide average temperature in April 2020 was 13.5°C. This was 0.2°C above the 1981-2010 April average from NIWA's seven station temperature series which begins in 1909. It has now been 39 consecutive months since New Zealand experienced a nationwide temperature that was below average. Fourteen locations observed record or near-record high mean maximum temperatures, while two locations observed near-record low mean minimum temperatures.

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Farewell Spit	16.4	1.8	1971	Highest
Low records or near-records				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Farewell Spit	21.2	2.7	1971	Highest
Medbury	20.2	1.9	1927	Highest
Taupo	19.5	2.3	1949	2nd-highest
Te Kuiti	21.4	1.7	1959	2nd-highest
Takaka	20.3	1.6	1978	2nd-highest

Blenheim	20.8	1.9	1932	3rd-highest
Hanmer Forest	20.6	2.9	1906	3rd-highest
Waiau	20.8	2.5	1974	3rd-highest
Whangarei	22.3	1.7	1967	4th-highest
Leigh	22.3	2.2	1966	4th-highest
Whitianga	21.7	1.5	1962	4th-highest
Waipawa	20.5	1.9	1945	4th-highest
Cheviot	19.9	1.7	1982	4th-highest
Ranfurly	17.5	1.7	1897	4th-highest
<b>Low records or near-records</b>				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
<b>High records or near-records</b>				
None observed				
<b>Low records or near-records</b>				
Te Kuiti	6.6	-1.9	1959	4th-lowest
Taumarunui	5.2	-2.0	1947	4th-lowest

## April climate in the six main centres

April was a very dry month in Auckland, Tauranga, Wellington and Christchurch, where rainfall was well below normal. Temperatures were above average in Tauranga and Christchurch, and near normal for remaining main centres. Of the six main centres in April 2020, Auckland was the warmest, Tauranga was the sunniest, Christchurch was the driest, Hamilton was the wettest, and Dunedin was the coldest and least sunny.

### April 2020 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland <sup>a</sup>	16.3	+0.1	Near average
Tauranga <sup>b</sup>	16.2	+0.6	Above average
Hamilton <sup>c</sup>	14.4	+0.2	Near average
Wellington <sup>d</sup>	13.9	+0.2	Near average
Christchurch <sup>e</sup>	12.7	+0.8	Above average
Dunedin <sup>f</sup>	11.6	-0.1	Near average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland <sup>a</sup>	25	29	Well below normal
Tauranga <sup>b</sup>	16	14	Well below normal
Hamilton <sup>c</sup>	76	87	Near normal
Wellington <sup>d</sup>	22	26	Well below normal
Christchurch <sup>e</sup>	13	30	Well below normal
Dunedin <sup>f</sup>	46	90	Near normal
Sunshine			
Location	Sunshine (hours)		
Auckland <sup>a</sup>	202		
Tauranga <sup>b</sup>	203		
Hamilton <sup>g</sup>	195		
Wellington <sup>d</sup>	196		
Christchurch <sup>e</sup>	199		
Dunedin <sup>f</sup>	159		

<sup>a</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

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## Highlights and extreme events

### Temperatures

On 6 April, warm northerly winds and cloud cover resulted in high overnight and early-morning temperatures in many parts of the lower South Island. Several locations observed record or near-record high daily minimum temperatures for April. The daily minimum temperature in Te Anau was 16.1°C, its highest daily minimum temperature in April on record.

The highest temperature was 27.9°C, observed at Waiau on 11 April.

The lowest temperature was -3.9°C, observed at Middlemarch on 29 April.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
South West Cape	21.3	5th	1991	Highest
Puysegur Point	21.3	5th	1978	3rd-highest
Farewell Spit	23.2	1st	1971	4th-highest
Le Bons Bay	24.4	30th	1984	Equal 4th-highest
Low records or near-records				
Secretary Island	8.5	13th	1989	Lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Te Anau	16.1	6th	1973	Highest
Campbell Island	10.9	6th	1991	Highest
Wanaka	15.6	6th	1972	Equal highest
Secretary Island	15.8	5th	1988	2nd-highest
Queenstown	16.0	6th	1871	2nd-highest
South West Cape	14.3	6th	1991	3rd-highest
Wairoa	18.2	18th	1972	4th-highest
Haast	15.3	6th	1949	4th-highest
Tiwai Point	13.6	6th	1972	4th-highest
Low records or near-records				
None observed				

### Rain and slips

Heavy rain events were few and far between in April. More notable was the ongoing lack of significant rain and resulting dry conditions for many parts of the country. On 15 April, *Watercare* reported that Auckland's nine water storage dams were only 50% full, saying such low levels in April had not been

seen since 1994. On 17 April, drought conditions in Northland were reported as the worst experienced there in at least 20 years.

The highest 1-day rainfall was 119 mm, recorded at Arthur’s Pass Village on 12 April.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
None observed				

**Wind**

On 15 April, a deep low centred east of the South Island generated strong southerly winds and large swells. Coastal parts of Wellington were inundated by large waves, measured to be at least 5.5 m high by a NIWA buoy near Baring Head. The large waves deposited debris over coastal roads and caused damage to private property, including garage doors and walls. The occupants of five properties were forced to evacuate. One person was swept out to sea, but was retrieved shortly thereafter suffering moderate injuries.

The highest wind gust was 161 km/h, observed at South West Cape on 30 April.

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

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
Clyde	95	12th	1983	Equal highest
Motu	106	13th	1991	2nd-highest
Secretary Island	146	27th	1994	2nd-highest
Palmerston North	83	13th	1991	3rd-highest
South West Cape	161	30th	1991	Equal 3rd-highest
Te Puke	50	13th	1987	Equal 4th-highest
Turangi	93	13th	1973	Equal 4th-highest
Hawera	85	14th	1986	Equal 4th-highest
Waiouru	93	12th	1970	Equal 4th-highest
Cape Campbell	102	13th	1963	Equal 4th-highest

**Snow and ice**

On 14 April, snow fell to low elevations in parts of Otago and Southland. Approximately 5cm of snow was reported in Kingston, with a dusting on the hilltops near Dunedin. The Milford Road (SH94) and Crown Range Road were temporarily closed due to snow, with a warning in place on SH6 between Athol and Garston due to snow.

**Lightning and hail**

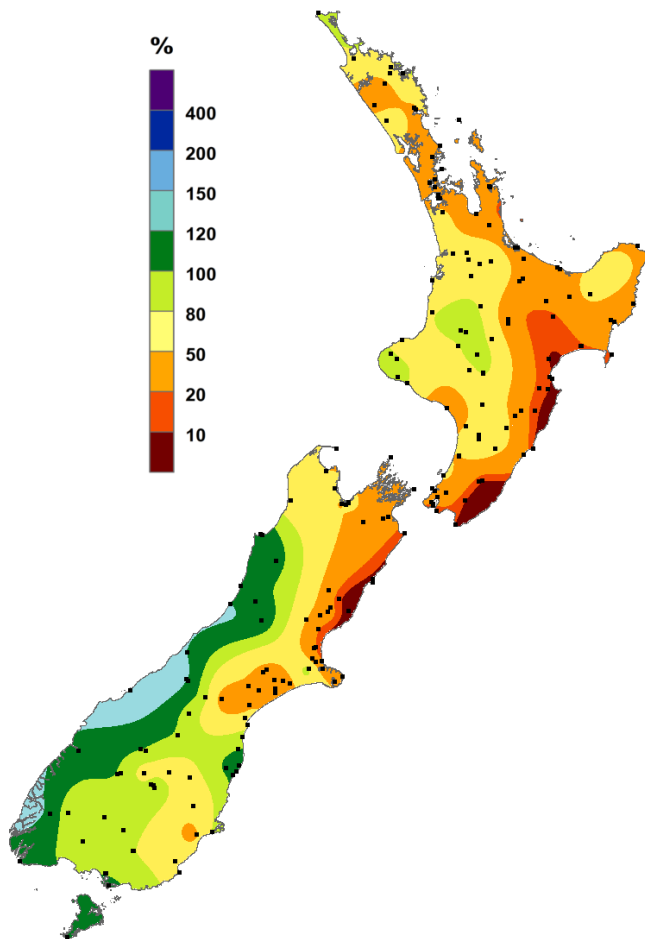
On 13 April, a thunderstorm developed over South Canterbury, with lightning causing a mobile outage in the Glenavy and Morven areas.

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April 2020 rainfall expressed as a percentage of normal (1981-2010 normal).

It was a very dry month for many parts of the North Island, as well as northern and eastern parts of the South Island.

Parts of Hawke's Bay, Wairarapa and Canterbury received less than 20% of normal rainfall, as indicated by the dark orange and red colours on the map.

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

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