

Dry for most locations, drought for upper South Island

Temperature	Temperatures were above average (0.5 to 1.2°C above average) or well above average (>1.2°C above average) for much of New Zealand with areas of near average temperatures (-0.5 to +0.5°C of average) in the eastern and lower North Island as well as the upper and western South Island.
Rainfall	February rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) for most of the country. Above normal (120-149% of normal) or well above normal (>149% of normal) rainfall was observed for parts of Gisborne, coastal Southland, and north Canterbury (between Kaikoura and Waipara) while near normal rainfall (80-119% of normal) was mostly restricted to the east coast of the North Island (south of Napier) and small pockets in several locations around the country.
Soil Moisture	At the end of February, drier than normal soils were present across much the country. Severely dry soils were present across Northland, Auckland, Bay of Plenty, Waikato and Manawatu-Whanganui and extremely dry soils were present in the Taranaki, Tasman and Nelson regions. Meteorological drought conditions (as defined by the NZ Drought Index) were present at the end of February in Nelson, Tasman and the Buller District.

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

[Overview](#)

[Temperature](#)

[Rainfall](#)

[February 2019 climate in the six main centres](#)

[Highlights and extreme events](#)

Overview

Mean atmospheric pressure during February was near normal over much of New Zealand with lower than normal pressures to the north and south. This pressure setup resulted in a slightly enhanced northwest flow over the South Island and slightly more east-southeast winds than normal for the North Island.

February was a warm month for many with large parts of the country receiving above average (0.5 to 1.2°C above average) or well above average (>1.2°C above average) temperatures while some locations observed near average temperatures (-0.5 to +0.5°C of average). The nationwide average temperature in February 2019 was 17.8°C (0.6°C above the 1981-2010 February average from NIWA's seven station temperature series which begins in 1909). Several locations experienced record mean maximum air temperatures, notably Cheviot where daytime maximum temperatures were 3.8°C warmer than average for the time of year.

Dry conditions prevailed for much of the country during February, with many locations receiving below or well below normal rainfall totals. Having followed a dry January, this resulted in several locations reaching meteorological drought conditions as well as extreme levels of fire risk. Multiple fires arose throughout the month, one of which resulted in a Civil Defence State of Emergency in the Tasman region between 6 and 27 February (refer to the [Highlights and extreme events](#) section for details). Several long dry spells came to an end near the end of the month as tropical moisture moved across the north of the country while a southerly approached from the south. The dry weather came hand in hand with plentiful sunshine during February.

Further Highlights:

- The highest temperature was 35.6°C, observed at Cheviot on 14 February
- The lowest temperature was -1.4°C, observed at Tara Hills, Omarama on 25 February.
- The highest 1-day rainfall was 192.8 mm, recorded at Milford Sound on 19 February.
- The highest wind gust was 145 km/h, observed at Puysegur Point on 1 February.
- Of the six main centres in February 2019, Tauranga was the warmest and sunniest, Dunedin was the coolest and least sunny, Wellington was the wettest, and Hamilton was the driest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four regions in 2019 are Wider Nelson (644 hours), Tasman (612 hours), Marlborough (607 hours) and Taranaki (583 hours).

For further information, please contact:

John-Mark Woolley

Climate Research Scientist

Tel. 09 375 6337

Temperature: Warm for some, near average for others

Temperatures were above average (0.5 to 1.2°C above average) or well above average (>1.2°C above average) for much of New Zealand with areas of near average temperatures (-0.5 to +0.5°C of average) in the eastern and lower North Island as well as the upper and western South Island. The nationwide average temperature in February 2019 was 17.8°C (0.6°C above the 1981-2010 February average from NIWA's seven station temperature series which begins in 1909).

Only a handful of locations observed near-record mean, or mean minimum (i.e. night-time) temperatures during February as shown in the tables below. Four locations however, set record highs for mean maximum (i.e. day-time) temperatures. Notably, the mean maximum temperature in Cheviot during February was 26.1°C, which is 3.8°C warmer than average for this location, the highest since records began in 1982.

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Cape Reinga	21.0	1.3	1951	3rd-highest
Cheviot	17.8	1.4	1982	3rd-highest
Ngawi	19.7	1.2	1972	4th-highest
Puysegur Point	15.1	1.2	1978	4th-highest
Low records or near-records				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Whangaparaoa	25.3	1.6	1982	Highest
Rotorua	25.4	3.0	1964	Highest
Motu	23.0	2.4	1990	Highest
Cheviot	26.1	3.8	1982	Highest
Paeroa	27.6	2.4	1947	2nd-highest
Hamilton (Ruakura)	27.7	3.4	1906	2nd-highest
Hamilton (Airport)	27.0	2.3	1946	2nd-highest
Te Kuiti	27.1	2.6	1959	2nd-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.

Whitianga	26.3	2.3	1962	3rd-highest
Whakatane	25.9	1.7	1974	3rd-highest
Taupo	25.5	2.8	1949	3rd-highest
Turangi	24.9	1.9	1968	3rd-highest
Motueka	25.5	2.2	1956	3rd-highest
Cape Reinga	24.1	1.3	1951	4th-highest
Auckland (Whenuapai)	26.0	1.7	1945	4th-highest
Tauranga	26.0	2.0	1913	4th-highest
Te Puke	25.3	1.6	1973	4th-highest
Rotorua	24.7	1.9	1964	4th-highest
Puysegur Point	17.8	1.3	1978	4th-highest
Blenheim	26.1	2.3	1932	4th-highest
Hanmer Forest	26.0	3.1	1906	4th-highest
Oamaru	21.0	1.7	1967	4th-highest
South West Cape	17.1	1.2	1991	4th-highest
Low records or near-records				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
South West Cape	11.3	1.2	1991	4th-highest
Low records or near-records				
Whatawhata	10.6	-3.0	1952	2nd-lowest
Kaikoura	10.1	-2.9	1963	2nd-lowest
Takaka	10.2	-1.5	1978	4th-lowest

Rainfall: Dry for most of New Zealand

Widespread dry conditions continued during February with most of the country receiving below normal (50-79% of normal) or well below normal (<50% of normal) rainfall. Nelson and Blenheim were among the driest locations during February, receiving only 6 mm of rain for the entire month (9% and 12% of normal respectively). No locations set new record lows for February rainfall totals however Whatawhata received only 18 mm for the entire month (21% of normal), which makes it the second-driest February on record there since records began in 1952. Dunedin Airport also recorded its second-driest February with only 15 mm of rainfall which is 24% of normal (records begin there in 1962).

Despite widespread dryness, parts of Gisborne, coastal Southland, and north Canterbury (between Kaikoura and Waipara) received above normal (120-149% of normal) or well above normal (>149% of normal) rainfall levels. Meanwhile, near normal rainfall levels (80-119% of normal) were mostly restricted to the east coast of the North Island (south of Napier) and small pockets in several locations around the country.

For many parts of the country, this was the second consecutive month of dry conditions. Nelson and Tasman observed very low rainfall levels during both January and February and several locations reached meteorological drought conditions. According to the New Zealand Drought Index, as of 2 March meteorological drought was occurring for Nelson, most of Tasman, most of Buller District, part of Marlborough, and for the very tip of the Far North. For the Tasman District, severe meteorological drought was occurring in low lying coastal areas. Fire risk was extremely high for many locations and wildfires were battled on multiple fronts throughout the month, particularly across the South Island, with one notable blaze resulting in the declaration of a State of Emergency in Nelson-Tasman which lasted three weeks.

At the end of February, drier than normal soils were present across much the country. Severely dry soils were present across Northland, Auckland, Bay of Plenty, Waikato and Manawatu-Wanganui and extremely dry soils were present in the Taranaki, Tasman and Nelson regions.

Record or near-record February 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				
Whatawhata	18	21	1952	2nd-lowest
Dunedin (Airport)	15	24	1962	2nd-lowest
Reefton	25	23	1960	4th-lowest

February climate in the six main centres

February was rather dry for all six main centres, with each receiving well below normal rainfall totals (<50% of normal) for the time of year. It was a warm month for Tauranga, Hamilton, Christchurch, and Dunedin, where above average temperatures (+0.51 to + 1.20 °C) were observed. Meanwhile, Auckland and Wellington experienced near average temperatures (-0.50 to +0.50°C). Of the six main centres in February 2019, Tauranga was the warmest and sunniest, Dunedin was the coolest and least sunny, Wellington was the wettest, and Hamilton was the driest.

February 2019 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland ^a	20.5	+0.5	Near average
Tauranga ^b	21.0	+1.2	Above average
Hamilton ^c	19.7	+0.9	Above average
Wellington ^d	17.6	+0.4	Near average
Christchurch ^e	17.7	+0.9	Above average
Dunedin ^f	16.1	+1.1	Above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland ^a	22	30	Well below normal
Tauranga ^b	19	22	Well below normal
Hamilton ^c	18	24	Well below normal
Wellington ^d	31	44	Well below normal
Christchurch ^e	19	44	Well below normal
Dunedin ^f	19	29	Well below normal
Sunshine			
Location	Sunshine (hours)		
Auckland ^a	246		
Tauranga ^b	254		
Hamilton ^g	238		
Wellington ^d	245 ¹		
Christchurch ^e	248		
Dunedin ^f	224		

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

¹Missing one day.

Highlights and extreme events

Rain and slips

During February, prolonged dry conditions resulted in meteorological drought and elevated the fire risk for many locations.

On 2 February, two helicopters and about 16 firefighters extinguished a fire on Broxton Rd, near Macdonald Downs, in north Canterbury. The blaze started as a rubbish fire but jumped into a nearby forestry block.

On 3 February, it was announced that water cuts of 50% were to be in place starting 4 February for consent holders on the Waimea Plains as drought conditions loomed for the Tasman District.

On 4 February, multiple fires broke out across the South Island. There were about five spot fires along a 2 km stretch between Rolleston and Islington next to a railway track and the southbound lane of SH1, south of Christchurch. It was believed that a train initiated at least one of the fires. SH1 Main South Road was shut for a while between Trents Rd and Marshs Rd after wind blew smoke from several of the nearby fires, reducing visibility. Crews from 12 fire engines fought the blaze and contained the fire later that day. Meanwhile, two helicopters and 21 firefighters from Omarama and Twizel were battling another large fire near the township of Omarama, which destroyed a barn before spreading to a stack of hay bales. In Marlborough's dry and rural Waihopai Valley, helicopters and fire crews battled a massive blaze that threatened a forestry block. In Sefton in north Canterbury near SH1, firefighters were called to a blaze near two sheds and a field about 2 p.m.

On 5 February, tinder-dry conditions in the Tasman District fuelled a large scrub fire in Pigeon Valley near Wakefield. The fire doubled in size overnight, spreading to cover 1870 hectares within a perimeter of 20 km by 3 a.m. on 6 February. A Civil Defence State of Emergency was declared which lasted until 27 February as firefighting efforts continued to work on hot spots, fight flareups, and contain the fire. By 13 February, the wildfires had burned through 2300 hectares in the Nelson-Tasman region, destroyed one home, and led to evacuations of more than 1000 people. By 24 February, the fire was contained with a 30 m boundary black-out zone. It was reportedly the largest aerial firefight in New Zealand's history, with 23 helicopters and two planes used at the peak of the fire. Fire and Emergency New Zealand stated that the cost of the aircraft, ground machinery, and other firefighting resources had been \$1 million per day for the first week of the fire.

Also on 5 February, a fire broke out in the dry countryside about 4 km north of Waiau. Crews from Culverden, Waiau, Mt Lyford and Hurunui battled the fire with help from two helicopters. The fire forced the closure of the inland route to Kaikoura (Route 70), between Waiau and Mt Lyford however the road was reopened to one lane later that day.

On 6 February, a new fire started in the Tasman District on Rabbit Island, near Nelson city. The fire was approximately 100 x 100 m and was the second fire on Rabbit Island in the space of three weeks.

On 7 February, it was reported that the Acheron Rd, through the South Island's Molesworth Station, would shut down a month early after a hot, dry summer left it with a large amount of tinder-dry growth. The Acheron Rd opened to the public each year from October to March, depending on the weather, but fire risks had closed it early three times in the last 12 years.

On 8 February, firefighters were drawn away from the main blaze in Tasman to battle a new fire on Walters Bluff in Nelson. On the same day, a medium scale adverse event was classified by the Ministry for Primary Industries concerning the fire and drought conditions in Tasman.

On 9 February, residents of the Wellington suburb of Brooklyn were being asked to conserve water for several days as a surge in water use in the area was putting significant pressure on its supplies. Meanwhile, coastal Taranaki residents were being warned they must do more to conserve water or face complete outdoor water bans. In Ōākura, the town's storage reservoir had dropped to 65 percent, which is close to the 50 percent that must be held in reserve for firefighting purposes.

On 12 February, a total fire ban for Christchurch, the Port Hills and Banks Peninsula was issued as the fire risk reached high levels. The ban prohibited any outdoor fires in the open air being lit. Meanwhile, the Waimakariri, Selwyn and Hurunui Districts remained restricted to permitted fires.

On 13 February, a total fire and equipment ban in the Nelson area put up to 240 forestry contract workers out of jobs and closed two saw mills. It was estimated that the cost to the sector of lost production and earnings was \$2 million a day.

On 14 February, a total fire ban prohibiting any outdoor fire in the open air being lit for the Canterbury High Country was issued as conditions reached extreme levels. Meanwhile restrictions were put in place on the east coast of mid and south Canterbury, between Waimate and Ashburton. For the first time in nearly two decades Picton was put on a drought-related water alert, restricting residents from watering their gardens and lawns.

On 16 February, two helicopters and six fire crews battled a scrub fire at Five Mile Bay, south of Taupō. Emergency services evacuated a nearby campsite as a precaution.

On 18 February, residents across a large chunk of drought-affected Tasman District were being asked to cut their water consumption by 50 percent. Businesses had been asked specifically to cut their use by 25 percent. The restrictions, which included a ban on most outdoor water use, applied to everyone connected to the council's reticulated supply in Richmond, Hope, Brightwater, Wakefield, Ruby Bay, Mapua, Tapawera and their rural extensions. They also applied to the rural schemes of Dovedale, Eighty-Eight Valley and Redwood Valley. In addition to the 25 percent cut to businesses and hoped-for 50 percent saving from households, water permit holders, such as growers, in most Waimea zones and the Motupiko faced a 65 percent cut. Starting 18 February, a prohibited fire season was introduced for Tairāwhiti as the fire weather index had become extreme for all areas of scrub around the district. Additionally, all areas of the Whanganui District south of Otoko Pā and all of the South Taranaki District were placed under a total fire ban. Also on 18 February, Auckland (Mangere) ended a 23-day dry spell which was the regions 9th-longest on record. The total fire ban in Canterbury was extended to the Selwyn, Hurunui, and Waimakariri Districts. Fire crews contained an out-of-control burn off that spread from a paddock near Dunsandel in Canterbury. Eight crews attended the blaze, which resulted from an out-of-control stubble burn off. Three helicopters and five fire appliances attended to a grass fire which was threatening to jump SH1 just south of Cheviot.

On 21 February, fire crews contained two vegetation fires in rural Canterbury. One was an out-of-control burn off of stubble in a paddock in Ashburton. The second fire took hold in vegetation at a property on Two Chain Rd, Burnham. A grass fire broke out near Nuggety Creek Rd, on the Kawatiri-

Murchison section of SH6. The fire covered an area of about 70 x 20 metres. The road was initially closed but reopened later that day.

On 22 February, after a heavy night of rain a large slip closed SH6 Whataroa to Harihari, which gives access to Franz Josef and Fox glaciers from the north. Hamilton and Tauranga ended a run of 36 consecutive dry days – their 3rd-longest dry spells on record.

Nelson observed a 40-day dry spell ending 24 February, which was the 4th-longest dry spell on record there (with records extending all the way back to 1862).

On 24 February, a slip occurred on SH1 north of Bulli Point at Lake Taupo causing disruptions to traffic.

On 24-25 February, fires flared up several times in Matapihi along a rail corridor. Nearby residents defended their homes with garden hoses until firefighters arrived.

On 25 February, Otago farmers and other land users were being asked to conserve water, as the region continued to dry out.

On 27 February, a new fire broke out near the Moutere Highway, forcing the evacuation of 97 properties. Seven helicopters were called out to tackle the fire which was contained later that day. Crews continued to bring it under control on 28 February. Cordons were in place on Moutere Highway at Maisey Rd and Old Coach Rd and motorists were asked to avoid the area.

On 28 February, fire crews responded to a fire in a forestry block near Picton Airport, Koromiko.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Secretary Island	145	19th	1985	4th-highest

Temperatures

On 13 February, Rotorua reached 31.4°C, the town's equal-2nd highest temperature since at least 1962, tied with 29 January 2019.

On 14 February, Cheviot reached 35.6°C, a tie for the town's 2nd-highest February temperature on record.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Tauranga	31.6	13th	1913	Highest
Te Puke	32.4	13th	1973	Highest
Rotorua	32.2	13th	1964	Highest
Motu	30.0	15th	1990	Highest

Te Kuiti	32.1	14th	1959	Highest
South West Cape	27.0	13th	1991	Highest
Whangaparaoa	29.2	11th	1982	2nd-highest
Paeroa	32.3	14th	1947	2nd-highest
Motueka	31.6	4th	1956	2nd-highest
Taupo	31.7	14th	1949	Equal 2nd-highest
Cheviot	35.6	14th	1982	Equal 2nd-highest
Hamilton (Ruakura)	32.3	14th	1906	3rd-highest
Hamilton (Airport)	31.0	14th	1946	Equal 3rd-highest
Whitianga	30.6	12th	1962	4th-highest
Masterton	33.9	14th	1906	4th-highest
Castlepoint	30.7	14th	1972	4th-highest
Waiau	35.3	14th	1974	4th-highest
Mokohinau	26.4	11th	1994	Equal 4th-highest
Turangi	30.9	13th	1968	Equal 4th-highest
Low records or near-records				
Akaroa	12.3	24th	1978	Lowest
Martinborough	14.6	24th	1986	3rd-lowest
Levin	14.6	24th	1950	3rd-lowest
Porirua	15.5	24th	1972	3rd-lowest
Brothers Island	14.5	25th	1997	3rd-lowest
Paraparaumu	15.0	24th	1972	Equal 3rd-lowest
Hanmer Forest	9.7	24th	1972	Equal 3rd-lowest
Le Bons Bay	11.6	24th	1984	Equal 3rd-lowest
Farewell Spit	16.9	24th	1972	4th-lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Secretary Island	19.2	11th	1988	Highest
Puysegur Point	19.6	10th	1978	Highest
South West Cape	17.3	10th	1991	Highest
Porirua	19.3	22nd	1972	2nd-highest
Waiau	21.5	1st	1974	2nd-highest
Akaroa	20.9	1st	1978	2nd-highest
Orari Estate	19.2	1st	1972	2nd-highest
Oamaru	17.7	1st	1972	2nd-highest
Dunedin (Musselburgh)	19.6	1st	1947	2nd-highest
Nugget Point	16.4	10th	1972	2nd-highest
Ranfurly	18.1	1st	1897	3rd-highest
Lake Tekapo	19.5	1st	1928	Equal 3rd-highest
Port Taharoa	20.8	22nd	1974	4th-highest
Cheviot	19.8	20th	1982	4th-highest
Medbury	21.5	1st	1927	Equal 4th-highest

Low records or near-records				
Porirua	4.8	26th	1968	Lowest
Arapito	3.8	25th	1978	Lowest
Dannevirke	1.4	26th	1951	2nd-lowest
Upper Hutt	0.9	26th	1939	2nd-lowest
Kaikoura	4.2	26th	1963	2nd-lowest
Franz Josef	3.5	28th	1953	3rd-lowest
Tara Hills	-1.4	25th	1949	3rd-lowest
Secretary Island	6.6	28th	1985	Equal 3rd-lowest
Le Bons Bay	6.2	28th	1984	Equal 3rd-lowest
Takaka	3.9	25th	1978	4th-lowest
Clyde	0.9	25th	1978	Equal 4th-lowest

Wind

On 24 February, the third day of the Wings over Wairarapa air show north of Wellington was cancelled due to weather conditions.

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
Secretary Island	137	1st	1994	Highest
Te Puke	54	25th	1987	2nd-highest
Oamaru	76	1st	1984	3rd-highest
Wanaka	80	1st	1992	3rd-highest

Snow and ice

On 24 February, a southerly change brought snow to high elevation areas. Mt Hutt ski field in Canterbury received 40-50 cm of snow.

Cloud and fog

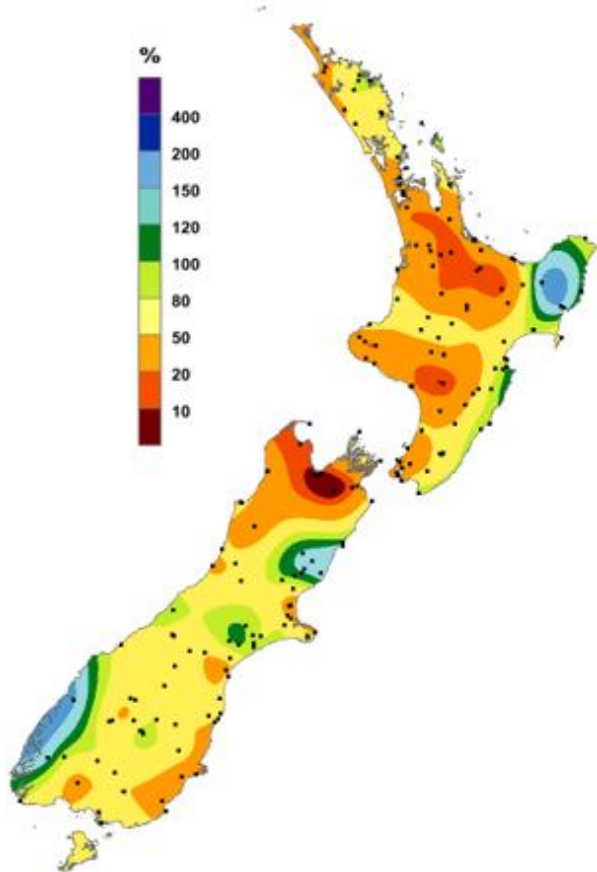
On 4 February, low lying, early morning fog disrupted motorists and caused delays throughout Christchurch. The fog also caused minor delays at Christchurch Airport.

For further information, please contact:

John-Mark Woolley

Climate Research Scientist, NIWA Auckland

Tel. 09 375 4502



February rainfall, expressed as percentage of the 1981-2010 normal.

February was a dry month with much of the country observing below normal or well below normal rainfall levels (as indicated by the yellow, orange, and red colours).

Particularly low rainfall levels around Nelson and Tasman promoted ongoing drought and fire hazard during the month.

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

© Copyright NIWA 2019.

All rights reserved. Information presented in this summary is based on data available at the time of publication, which is subject to ongoing quality assurance procedures.