NIWA National Climate Centre

Monthly Climate Summary

NIWA Taihoro Nukurangi

National Climate Summary: **July 2013** Issued: 5 August 2013

4th-warmest July on record for NZ. Very warm in the South, dry in the North

Temperature	4th-warmest July on record for NZ. Record-high July mean temperatures throughout much of the South Island, particularly in the east and south, with many locations more than 2.0°C above July average. Well above average temperatures (more than 1.2°C above July average) in southwest North Island, also. Above average temperatures (0.5-1.0°C above July average) for northern South Island and central North Island. Near average temperatures (within 0.5°C of July average) north of Taupo.
Rainfall	Well below normal rainfall (less than 40 percent of July normal) for the upper half of the North Island (except for the Far North – near normal rainfall there), as well as parts of coastal Manawatu, Nelson-Tasman, south Canterbury, and coastal Otago north of Dunedin. In contrast, well above normal rainfall (more than 150 percent of July normal) in the southwest of the South Island, as well as southern Hawkes Bay and Ohakune. Near normal rainfall elsewhere.
Sunshine	An extremely sunny month for eastern areas. Well above normal sunshine totals (more than 125 percent of normal July sunshine) for eastern North Island, north Canterbury, and Queenstown Lakes. Above normal sunshine (110-125 percent of normal July sunshine) for the remainder of the country, except for coastal southern Southland and Stewart Island (below normal sunshine, 75-90 percent of normal July sunshine), and coastal Manawatu-Wanganui and around Greymouth (near normal sunshine, within 10 percent of normal July sunshine).
Soil moisture	As at 1 August 2013, most soils around the country were at normal soil moisture levels for the time of year. In Otago, soils were wetter than normal for the time of year, due to high rainfall in June.

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Overview

July 2013 was characterised by much higher pressures than normal over and to the north, east, and west of New Zealand. Persistent lower pressures than normal were present well to the south of the country. This pressure pattern caused largely settled conditions over New Zealand for July, resulting in high mean temperatures for the time of year in much of the South Island and parts of the North Island, and dry conditions in the northern half of the North Island and eastern South Island.

A very warm July was experienced in the South Island. Mean temperatures for July were well above average (more than 1.2°C above the July average) across most of the South Island, with many locations in Canterbury and Otago recording their highest July mean temperatures on record. Mean temperatures were also well above average in the south Taranaki, Manawatu-Wanganui, Wellington, and Wairarapa regions. Temperatures were above average (0.5 to 1.0°C above July average) in the northern South Island, as well as Hawke's Bay, parts of Taranaki, and the Central Plateau. North of Taupo, temperatures were generally near average (within 0.5°C of July average). The nation-wide average temperature in July 2013 was 9.0°C (1.2°C above the 1971-2000 July average) from NIWA's seven-station temperature series which begins in 1909. July 2013 recorded the 4th-highest July mean temperature on record for the seven-station series.

July was a very dry month for the upper half of the North Island (except for the Far North), as well as parts of coastal Manawatu, Nelson-Tasman, south Canterbury, and coastal Otago north of Dunedin. In these areas, well below normal rainfall for July occurred (less than 50 percent of normal July rainfall). Numerous locations had near-record-breaking low rainfall for July. In contrast, the southwest of the South Island, Ohakune, and southern Hawke's Bay received well above normal rainfall for July (more than 150 percent of normal July rainfall). Near normal rainfall was experienced elsewhere (within 20 percent of normal July rainfall). As at 1 August, most soils around the country were at normal soil moisture levels for the time of year. In Otago, soils were wetter than normal for the time of year, due to high rainfall in June.

Sunshine hours were well above normal (more than 125 percent of July normal) for the eastern half of the North Island, north Canterbury, and Queenstown Lakes. Above normal sunshine (110-125 percent of normal July sunshine) was experienced for the remainder of the country, except for coastal southern Southland and Stewart Island (below normal sunshine, 75-90 percent of normal July sunshine), and coastal Manawatu-Wanganui and around Greymouth (near normal sunshine, within 10 percent of normal July sunshine). Of the available, regularly reporting sunshine observation sites, the sunniest four centres so far in 2013 (January to July) are: Whakatane (1630 hours), New Plymouth (1532), Tauranga (1468 hours), and Blenheim (1454 hours).

Further Highlights:

- The highest temperature was 21.5 °C, recorded at Wairoa on 5 July.
- The lowest temperature was -8.4 °C, observed at Arthur's Pass on 11 July.
- The highest 1-day rainfall was 145 mm, recorded at Mt Cook on 5 July.
- The highest wind gust was 170 km/hr, at Brothers Island on 14 July and Upper Rakaia on 7 July.
- In July 2013, Auckland was the warmest and driest, Tauranga was the sunniest, Christchurch was the coolest, Wellington was the wettest, and Hamilton was the cloudiest of the six main centres.

- Of the available, regularly reporting sunshine observation sites, the sunniest four centres so far in 2013 (January to July) are: Whakatane (1630 hours), New Plymouth (1532), Tauranga (1468 hours), and Blenheim (1454 hours).

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Temperature: Record-breaking warm temperatures for central and southern South Island. Very warm for southwest North Island. Above average temperatures for northern South Island and remainder of North Island south of Taupo. Near average temperatures north of Taupo.

A very warm July was experienced in the South Island. Mean temperatures for July were well above average (more than 1.2°C above the July average) across most of the South Island, with many locations in Canterbury and Otago recording their highest July mean temperatures on record. Mean temperatures were also well above average in the south Taranaki, Manawatu-Wanganui, Wellington, and Wairarapa regions. Temperatures were above average (0.5 to 1.0°C above July average) in the northern South Island, as well as Hawke's Bay, parts of Taranaki, and the Central Plateau. North of Taupo, temperatures were generally near average (within 0.5°C of July average).

The nation-wide average temperature in July 2013 was 9.0°C (1.2°C above the 1971-2000 July average) from NIWA's seven-station temperature series which begins in 1909. July 2013 recorded the 4th-highest July mean temperature on record for the seven-station series.

Record or near-record[1] mean air temperatures for July were recorded at:

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
HIgh records or near-records				
Masterton	9.1	1.8	1992	3rd-highest
Dannevirke	9.2	1.3	1951	4th-highest
Waione	10.2	1.6	1991	2nd-highest
Martinborough	9.1	1.3	1986	4th-highest
Ngawi	11.8	1.6	1972	2nd-highest
Mahia	11.0	1.0	1990	3rd-highest
Paraparaumu	10.4	1.7	1953	2nd-highest
Levin	10.0	1.5	1895	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.

Wellington (Airport)	10.9	1.3	1962	2nd-highest
Stratford	8.7	1.1	1960	4th-highest
Hawera	9.6	1.2	1977	3rd-highest
Wanganui	11.0	1.5	1937	3rd-highest
Farewell Spit	11.1	1.4	1971	4th-highest
Reefton	7.4	2.2	1960	Highest
Milford Sound	7.5	2.2	1934	Highest
Secretary Island	9.9	0.8	1985	3rd-highest
Puysegur Point	10.1	1.9	1978	Highest
Cape Campbell	10.0	0.8	1953	4th-highest
Kaikoura	10.3	2.2	1963	Highest
Culverden	7.6	2.6	1928	2nd-highest
Waiau	7.8	2.8	1974	Highest
Cheviot	8.5	2.5	1982	Highest
Mt Cook	4.6	2.4	1929	2nd-highest
Ashburton	7.6	1.9	1927	4th-highest
Waipara West	9.7	2.5	1973	Highest
Christchurch (NIWA)	8.1	1.8	1863	3rd-highest
Lincoln	7.8	1.7	1881	3rd-highest
Lake Tekapo	4.6	3.0	1927	Highest
Orari Estate	6.9	1.9	1972	Highest
Timaru	7.5	1.8	1885	2nd-highest
Tara Hills	5.2	3.3	1949	Highest
Wanaka	6.4	3.1	1955	Highest
Ranfurly	4.8	2.6	1975	Highest
Oamaru	8.8	2.2	1908	Highest
Dunedin	8.4	1.9	1947	Highest
Manapouri	6.8	3.2	1963	Highest
Queenstown	5.6	2.5	1871	2nd-highest
Lumsden	7.2	3.3	1982	Highest
Cromwell	6.1	2.9	1949	Highest
Lauder	5.8	3.8	1924	Highest
Alexandra	5.8	2.8	1983	Highest
Gore	7.6	3.1	1971	Highest
Invercargill	7.7	2.6	1948	2nd-highest
Tiwai Point	8.0	1.8	1970	Highest
Nugget Point	8.2	2.1	1970	Highest
South West Cape	9.5	2.0	1991	Highest
Low records or near-records				
Kaitaia	11.0	-0.9	1985	Lowest

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
HIgh records or near-records				

Leigh	17.0	1.9	1966	Highest
Motu	13.3	3.3	1990	Highest
Hamilton (Ruakura)	15.9	2.1	1906	2nd-highest
Turangi	12.6	1.1	1968	3rd-highest
Masterton (Airport)	14.5	1.9	1906	Highest
Masterton (Te Ore Ore)	15.0	2.4	1992	Highest
Takapau Plains	12.4	1.2	1962	3rd-highest
Dannevirke	13.8	2.1	1951	2nd-highest
Waione	14.3	1.2	1991	3rd-highest
Martinborough	14.1	1.7	1986	2nd-highest
Ngawi	14.3	1.7	1972	2nd-highest
Gisborne	15.6	1.4	1905	3rd-highest
Waipawa	14.0	1.6	1945	Highest
Wairoa	16.2	2.3	1964	Highest
Mahia	13.9	1.4	1990	3rd-highest
Palmerston North	13.6	1.0	1928	4th-highest
Wellington (Airport)	13.4	1.1	1962	4th-highest
Stratford	12.5	1.1	1960	3rd-highest
Hawera	13.0	1.0	1977	4th-highest
Takaka	14.9	1.6	1978	2nd-highest
Westport	13.9	1.3	1937	4th-highest
Reefton	11.9	2.0	1960	2nd-highest
Milford Sound	10.6	1.4	1934	4th-highest
Puysegur Point	11.8	1.2	1978	2nd-highest
Motueka	15.6	2.9	1956	Highest
Nelson	14.0	1.5	1943	3rd-highest
Appleby	14.2	1.4	1932	2nd-highest
Blenheim	14.8	1.8	1941	Highest
Blenheim (Airport)	14.5	1.9	1932	2nd-highest
Hanmer Forest	12.4	2.3	1906	4th-highest
Kaikoura	13.6	2.7	1963	Highest
Culverden	13.3	2.4	1928	2nd-highest
Waiau	13.7	2.7	1974	Highest
Cheviot	14.1	2.4	1982	Highest
Mt Cook	9.5	2.9	1929	2nd-highest
Ashburton	13.2	2.4	1928	Highest
Waipara West	14.4	2.4	1973	Highest
Christchurch (Airport)	13.5	2.6	1863	2nd-highest
Christchurch (NIWA)	13.8	2.7	1863	Highest
Lincoln	13.4	2.6	1881	Highest
Lake Tekapo	9.5	3.3	1927	Highest
Orari Estate	12.8	2.5	1972	Highest
Timaru (Airport)	13.6	3.0	1885	Highest
Timaru	12.7	2.5	1885	3rd-highest
Tara Hills	11.0	4.1	1949	Highest
Wanaka	10.9	3.3	1955	Highest
Ranfurly	9.9	2.7	1975	2nd-highest
Oamaru	13.4	2.5	1908	2nd-highest

Dunedin (Airport)	12.7	2.3	1962	Highest
Dunedin (Musselburgh)	12.5	2.5	1947	Highest
Manapouri	10.7	2.8	1963	Highest
Queenstown	10.6	2.9	1871	Highest
Lumsden	11.3	2.7	1982	Highest
Cromwell	11.6	3.6	1949	Highest
Lauder	10.7	3.9	1924	Highest
Alexandra	11.5	3.5	1983	Highest
Gore	11.6	3.4	1971	Highest
Invercargill	11.6	2.3	1948	2nd-highest
Tiwai Point	11.8	2.3	1970	Highest
Balclutha	10.6	1.2	1964	4th-highest
Nugget Point	11.1	2.2	1970	Highest
South West Cape	11.1	1.7	1991	Highest

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
HIgh records or near-records				
Waione	6.1	1.9	1991	4th-highest
Ngawi	9.3	1.5	1972	Highest
Paraparaumu	7.4	2.7	1953	2nd-highest
Levin	6.5	2.2	1895	3rd-highest
Wellington (Airport)	8.3	1.4	1962	Equal 3rd-highest
Wanganui	8.1	2.3	1937	2nd-highest
Reefton	2.9	2.4	1960	3rd-highest
Haast	5.2	1.4	1949	4th-highest
Milford Sound	4.5	3.2	1934	Highest
Secretary Island	7.9	1.6	1985	2nd-highest
Puysegur Point	8.3	2.5	1978	Highest
Cape Campbell	8.1	1.1	1953	3rd-highest
Kaikoura	7.0	1.7	1963	Highest
Culverden	1.8	2.7	1928	2nd-highest
Waiau School	1.9	2.8	1974	Highest
Cheviot	2.9	2.5	1982	Highest
Mt Cook	-0.2	2.0	1929	3rd-highest
Waipara West	4.9	2.6	1973	Highest
Lake Tekapo	-0.4	2.6	1927	Highest
Orari Estate	1.0	1.3	1972	4th-highest
Tara Hills	-0.7	2.4	1949	Highest
Wanaka	1.9	2.8	1955	Highest
Ranfurly	-0.2	2.5	1975	2nd-highest
Oamaru	4.1	1.9	1908	Highest
Dunedin	4.4	1.3	1947	2nd-highest
Manapouri	2.9	3.6	1963	Highest

Lumsden	3.0	3.7	1982	Highest
Cromwell	0.5	2.0	1949	2nd-highest
Lauder	0.8	3.6	1924	Highest
Alexandra Cws	0.0	2.0	1983	Highest
Gore Aws	3.7	2.9	1971	Highest
Tiwai Point Ews	4.2	1.4	1970	2nd-highest
Nugget Point Aws	5.4	2.0	1970	Highest
South West Cape Aws	8.0	2.4	1991	Highest
Low records or near-records				
Kaitaia Observatory	6.9	-1.2	1985	2nd-lowest
Motu Ews	0.7	-1.5	1990	3rd-lowest

Rainfall: Very dry July in upper North Island and coastal Manawatu, south Canterbury, and coastal Otago. Wet month in southwest South Island, Ohakune, and southern Hawke's Bay.

July was a very dry month for the upper half of the North Island (except for the Far North), as well as parts of coastal Manawatu, Nelson-Tasman, south Canterbury, and coastal Otago north of Dunedin. In these areas, well below normal rainfall for July occurred (less than 50 percent of normal July rainfall). Numerous locations had near-record-breaking low rainfall for July.

In contrast, the southwest of the South Island, Ohakune, and southern Hawke's Bay received well above normal rainfall for July (more than 150 percent of normal July rainfall). Near normal rainfall was experienced elsewhere (within 20 percent of normal July rainfall).

As at 1 August, most soils around the country were at normal soil moisture levels for the time of year. In Otago, soils were wetter than normal for the time of year, due to high rainfall in June.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
Lumsden Aws	72	121	1982	3rd-highest
Low records or near-records				
Warkworth Ews	38	21	1966	4th-lowest
Whitianga Aero Aws	53	22	1961	2nd-lowest
Toenepi Ews	33	31	1951	4th-lowest
Te Puke Ews	67	41	1973	3rd-lowest
Motu Ews	81	37	1990	3rd-lowest
Auckland, Mangere E	32	24	1959	2nd-lowest
Pukekohe Ews	51	34	1944	4th-lowest
Hamilton, Ruakura 2	31	26	1905	3rd-lowest
Hamilton Aws	39	30	1935	4th-lowest
Te Kuiti Ews	32	19	1950	2nd-lowest

Turangi 2 Ews	56	37	1968	4th-lowest
Stratford Ews	76	37	1960	4th-lowest
Takaka Ews	57	29	1976	4th-lowest
Motueka, Riwaka Ews	27	21	1943	4th-lowest
Timaru Ews	5	11	1881	4th-lowest
Oamaru Airport Aws	3	8	1898	4th-lowest
Campbell Island Aws	74	70	1992	3rd-lowest

Sunshine: Very sunny for eastern half of North Island, north Canterbury, and Queenstown Lakes. Below normal sunshine for southern Southland and Stewart Island. Above normal sunshine experienced elsewhere.

Sunshine hours were well above normal (more than 125 percent of July normal) for the eastern half of the North Island, north Canterbury, and Queenstown Lakes. Above normal sunshine (110-125 percent of normal July sunshine) was experienced for the remainder of the country, except for coastal southern Southland and Stewart Island (below normal sunshine, 75-90 percent of normal July sunshine), and coastal Manawatu-Wanganui and around Greymouth (near normal sunshine, within 10 percent of normal July sunshine).

Of the available, regularly reporting sunshine observation sites, the sunniest four centres so far in 2013 (January to July) are: Whakatane (1630 hours), New Plymouth (1532), Tauranga (1468 hours), and Blenheim (1454 hours).

Record or near-record July sunshine hours were recorded at:

Location	Sunshine hours	Percentage of normal	Year records began	Comments
High records or near-records				
Turangi	165	134	1976	Highest
Dannevirke	151	148	1963	Highest
Martinborough	142	143	1986	2nd-highest
Gisborne	195	157	1905	2nd-highest
Waipawa	175	143	1945	Highest
Takaka	194	127	1985	2nd-highest
Cheviot	174	166	1983	Highest
Queenstown	125	142	1930	2nd-highest

July climate in the six main centres

July mean temperatures were well above average in the main centres from Wellington southwards. It was the warmest July on record for Dunedin. It was a dry month across all of the main centres in July, with Auckland and Hamilton experiencing near-record-breaking low rainfall for the month. Sunshine was above normal in Tauranga, Wellington, and Dunedin.

In July 2013, Auckland was the warmest and driest, Tauranga was the sunniest, Christchurch was the coolest, Wellington was the wettest, and Hamilton was the cloudiest of the six main centres.

July 2013 main centre climate statistics:

Temperature			
Location	**Mean temp. (°C)**	**Departure from normal (°C)**	**Comments**
Auckland[a]	11.0	+0.1	Near average
Tauranga[b]	10.3	0.0	Near average
Hamilton[c]	8.8	+0.1	Near average
Wellington[d]	10.2	+1.3	Well above average
Christchurch[e]	7.5	+1.7	Well above average
Dunedin[f]	8.4	1.9	Warmest July on record
Rainfall			
Location	**Rainfall (mm)**	**% of normal**	**Comments**
Auckland[a]	32	24%	2nd-lowest July rainfall on record
Tauranga[b]	61	48%	Well below normal
Hamilton[c]	39	30%	4th-lowest July rainfall on record
Wellington[d]	101	74%	Below normal
Christchurch[e]	47	73%	Below normal
Dunedin[f]	33	57%	Below normal
Sunshine			
Location	**Sunshine (hours)**	**% of normal**	**Comments**
Auckland[a]	140	106%	Near normal
Tauranga[b]	172	114%	Above normal
Hamilton[g]	120	101%	Near normal
Wellington[d]	143[2]	120%	Above normal
Christchurch[e]	134	105%	Near normal
Dunedin[f]	130	118%	Above normal

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

[2] Estimated – 3 days of Kelburn data estimated due to earthquake evacuations.

Highlights and extreme events

Rain and slips

The highest 1-day rainfall total for July 2013 was 145 mm, recorded at Mt Cook on 5 July.

On 3 July, heavy rain caused surface flooding on roads in Waikaka, north of Gore. Snowmelt and heavy rain caused streams to burst their banks in south Otago and northern Southland, closing some roads and blocking drains. Surface water was shin-deep in parts of Clinton township.

On 4 July, the Mataura River in Southland flooded across some minor roads. A washed out culvert caused a section of SH 1 to close between Waipahi and Arthurton, east of Gore. This part of SH 1 was not reopened until 18 July.

On 6 July, a rock fall closed SH 6 at the Kawarau Gorge, between Cromwell and Queenstown. The rock fall was caused by the heavy rain over the preceding weeks. The detour to get to Queenstown meant motorists had to go via Wanaka and the Crown Range, adding more than an hour to the journey. Hundreds of motorists were held up from crossing the Crown Range because snow and icy conditions set in.

On 6-7 July, the Manuherikia River flooded near Omakau and Alexandra due to snowmelt from the snow storm three weeks prior. A bridge between Omakau and Ophir was closed due to surface flooding.

On 11 July, a woman was rescued from a flooded Hawke's Bay river when she tried to cross a ford in her car. Some roads were closed in Hawke's Bay due to flooding and tree fall.

On 12 July, SH 56 at Opiki, near Palmerston North, was closed due to flooding. Part of Wellington's train line between Petone and the central city was closed for repairs to the seawall, which was damaged earlier in the week by large swells. Rising Manawatu River levels caused a school to close for the day.

On 12 July, the Manawatu River flooded nearby roads, causing the floodgates to be opened at Moutoa Bridge.

On 15 July, a 30-metre slip undermined a section of railway near Dannevirke after four days of rain, holding up freight services for a number of days.

On 21 July, the community of Tora in the Wairarapa was cut off by a slip for a short time.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Kerikeri	92	3rd	1981	Highest
Waione	60	11th	1991	3rd-highest
Ohakune	136	10th	1961	Highest

South West Cape	26	4th	1991	4th-highest

Wind

The highest wind gust was 170 km/hr, at both Brothers Island on 14 July and Upper Rakaia on 7 July.

On 2 and 3 July, severe wind warnings were in place for parts of inland Canterbury and Otago.

On 2 July, gusts knocked down power lines around Fairlie and cut power to around 900 homes.

On 3 July, strong winds caused a tree to fall on a car on SH 8 between Timaru and Fairlie. SH 8 between Fairlie and Pleasant Point was closed due to fallen trees on the road. More than 1000 homes were out of power again in the Mackenzie, Albury, and Fairlie areas as wind brought down powerlines, and power was also cut to about 6000 Ashburton homes and businesses. In Wellington, strong gusts blew down a billboard and lifted a roof. The wind was also a likely cause of two crashes in Canterbury, a caravan which rolled off the road near Castle Hill, and a truck and trailer unit which rolled near Lake Pearson. Mt Hutt and Mt Lyford ski fields were closed for a couple of days due to high winds.

On 5 July, severe gales cut power to about 10,000 Christchurch homes, and downed powerlines sparked scrub fires in inland Canterbury, causing two houses to be evacuated and destroying a farm shed. A truck and trailer unit was blown over on SH 1 north of Kaikoura, and trees and powerlines were blown down throughout the Marlborough and Canterbury regions.

On 6 July, strong winds lifted a roof off a house in Kaikoura.

On 7 July, a small tornado touched down at Himatangi Beach near Palmerston North, ripping out a fence, and sending a barn roof flying into power lines before cutting off electricity to the area.

On 14-15 July, strong winds affected much of the North Island and northern South Island, bringing down trees and power lines. Some flights in and out of Wellington and interisland ferry sailings were cancelled on 14 July due to high winds and 7 m swells in Cook Strait. New Plymouth airport was closed for a time due to high winds. Strong winds caused considerable damage to property in New Plymouth, ripping off roofs, damaging barns, smashing windows, and toppling chimneys. The Interislander ferry Arahura was forced to take an alternative route through Queen Charlotte Sound to Picton on the 15th, instead of the usual Tory Channel route. About 1700 homes in Lower Hutt and 8000 homes in Taranaki lost power due to the wind. The Trans-Future 7, a high-sided car carrier, broke free of its moorings in the wind and drifted away from the dock in Wellington Harbour. Two tug boats pulled the ship to safety. SH 73 between Renwick and St Arnaud was closed due to fallen trees and debris blocking the road.

On 31 July, caution was advised for high-sided vehicles travelling on SH 7 at Lewis Pass, due to high winds in the area.

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

Location	Extreme wind gust (km/hr)	Date of extreme gust	Year records began	Comments

Turangi	98	14th	1973	Highest
New Plymouth	128	14th	1972	2nd-highest
Castlepoint	143	6th	1972	Equal 3rd-highest
Baring Head	150	14th	1991	Highest
Mahia	96	14th	1991	Equal 4th-highest
Hawera	104	14th	1986	2nd-highest
Wanganui	107	14th	1977	Highest
Puysegur Point	150	2nd	1986	3rd-highest
Cape Campbell	124	14th	1963	Highest
Ashburton	98	6th	1970	Equal 2nd-highest
Tara Hills	83	2nd	1985	3rd-highest
Wanaka	74	5th	1992	Equal 3rd-highest
Oamaru	76	3rd	1984	Equal 3rd-highest
Manapouri	76	1st	1991	3rd-highest
Lauder	96	2nd	1981	4th-highest
Gore	109	2nd	1987	2nd-highest
South West Cape	167	1st	1991	Highest

Temperatures

The highest temperature was 21.5 °C, recorded at Wairoa on 5 July. High average temperatures for July were experienced in the South Island and parts of the North Island due to persistent high pressures over the country, causing settled weather.

The lowest temperature was -8.4 °C, observed at Arthur's Pass on 11 July.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Leigh	20.2	20th	1966	Highest
Te Puke	18.6	4th	1973	Equal 4th-highest
Motu	17.7	23rd	1990	Highest
Hamilton	19.8	4th	1906	Highest
Masterton	19.1	21st	1992	3rd-highest
Takapau Plains	18.2	6th	1962	2nd-highest
Hicks Bay	18.9	6th	1969	3rd-highest
Wairoa	21.5	5th	1964	2nd-highest
Mahia	18.8	6th	1990	2nd-highest
Takaka	19.2	18th	1978	3rd-highest
Reefton	16.6	19th	1960	4th-highest
Motueka	19.5	3rd	1956	2nd-highest
Blenheim	19.0	2nd	1941	4th-highest
Waiau	19.5	22nd	1974	3rd-highest
Cheviot	19.4	22nd	1982	4th-highest

Winchmore	20.8	3rd	1928	Equal 4th-highest
Lake Tekapo	15.7	5th	1925	3rd-highest
Timaru	20.4	2nd	1885	4th-highest
Tara Hills	16.8	17th	1949	Highest
Ranfurly	15.7	22nd	1975	Equal 3rd-highest
Alexandra	17.8	22nd	1983	Equal 4th-highest
Gore	16.8	17th	1971	4th-highest
Tiwai Point	16.8	21st	1970	Highest
South West Cape	15.0	22nd	1991	2nd-highest
Low records or near-records				
Tauranga Aero	8.3	16th	1941	Lowest
Greymouth	7.0	9th	1972	2nd-lowest
Cheviot	5.2	14th	1982	Equal 4th-lowest
Campbell Island	-1.0	25th	1991	Lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
Low records or near-records				
Hokitika	-4.0	12th	1866	2nd-lowest
HIgh records or near-records				
Martinborough	12.6	3rd	1986	4th-highest
Hicks Bay	15.1	6th	1972	2nd-highest
Hokitika	11.9	3rd	1866	Equal highest
Greymouth	11.5	3rd	1972	3rd-highest
Haast	12.5	3rd	1949	Highest
Milford Sound	10.2	2nd	1935	2nd-highest
Secretary Island	11.6	22nd	1988	2nd-highest
Puysegur Point	13.0	22nd	1978	Highest
Hanmer Forest	10.6	3rd	1972	Highest
Culverden	11.8	3rd	1930	Highest
Waiau	9.5	26th	1974	4th-highest
Cheviot	11.6	2nd	1982	Highest
Waipara West	13.7	3rd	1973	Highest
Orari Estate	7.2	19th	1972	3rd-highest
Tara Hills	7.0	3rd	1949	2nd-highest
Wanaka	9.2	22nd	1972	Highest
Ranfurly	7.3	3rd	1975	2nd-highest
Oamaru	11.0	2nd	1908	Highest
Dunedin	9.9	3rd	1947	3rd-highest
Queenstown	7.7	3rd	1871	Equal 4th-highest
Lumsden	10.3	2nd	1982	2nd-highest
Cromwell	9.6	3rd	1949	2nd-highest
Alexandra	10.8	3rd	1983	Highest
Nugget Point	9.6	29th	1972	2nd-highest

South West Cape	11.6	21st	1991	Highest

Snow and ice

On 7-9 July, SH 94 between Te Anau and Milford Sound was closed due to snow.

On 9 July, SH 73 at Arthurs Pass was closed to towing vehicles, and chains were essential for all other vehicles.

On 10 July, SH 1 at the Desert Road was closed due to snow. SH 94 between Te Anau and Milford Sound was closed to towing vehicles, and all other vehicles had to carry chains. Caution was advised on SH 83 at Kurow, SH 8 between Twizel and Fairlie, and SH 1 between Palmerston and Gore due to black ice. Numerous cars slipped off the road in Otago and Southland due to ice. Vehicles SH 73 between Springfield and Otira (Arthurs Pass) required chains due to snow, and the road was closed to towing vehicles. Three vehicles were involved in a crash on the Napier-Taihape road, due to the snowy and icy conditions.

On 11 July, SH 1 at the Desert Road remained closed due to snow. Caution was advised on SH 2 between Gisborne and Opotiki due to snow. SH 94 from Te Anau to Milford Sound was closed to towing vehicles, and all other vehicles had to carry chains. Caution was advised on SH 8 between Twizel and Fairlie due to ice.

On 12 July, the Desert Road was still closed due to snow.

On 14-15 July, snow fell to low levels in Canterbury, Otago, and the Kaikoura ranges, as well as on the hills around Wellington, Hawke's Bay, inland from Gisborne, and the across the Central Plateau. Roads closed to snow included: SH 2 at Rimutaka Hill, Akatarawa Road (which joins the Kapiti Coast to Upper Hutt), SH 1 at the Desert Road, and the Napier-Taihape road. Caution was advised on SH 2 between Opotiki and Wairoa due to snow, and SH 73 between Springfield and Otira (Arthur's Pass) was closed to towing vehicles, while all other vehicles were required to use chains. A warning was issued in Southland and Otago for black ice on roads, which contributed to a number of car crashes in the area. A buildup of snow and ice snapped powerlines in Rangitikei district, causing power to be cut to some rural areas.

On 23 July, five people were injured when their car slid off the road in icy conditions near Hastings.

On 25 July, caution was advised on SH 94 between Te Anau and Milford Sound due to snow. The road was closed to towing vehicles and chains had to be carried for all other vehicles.

On 29 July, one person died when their car slid on black ice and crashed, near Gisborne. Three other people were taken to hospital, one of which was a three-year-old girl in a critical condition.

Lightning and hail

On 8 July, silent 'heat' lightning occurred off the Wairarapa coast and was seen across Kapiti, Wellington, and as far north as Masterton. This was due to a trough of cold air moving over the relatively warm waters off the Wairarapa coast.

On 14 July, lightning strikes cut power to a few hundred homes in the Leeston area in Canterbury for a time.

Cloud and fog

On 22 July, heavy fog persisted for much of the day in Auckland, and caused the cancellation of dozens of domestic flights at Auckland airport. Fog also cancelled some flights at Hamilton airport.

On 30 July, fog caused the cancellation and delays of numerous regional flights in and out of Auckland airport. Some flights were delayed at Hamilton airport due to fog.

On 31 July, flights were delayed at Christchurch airport due to fog.

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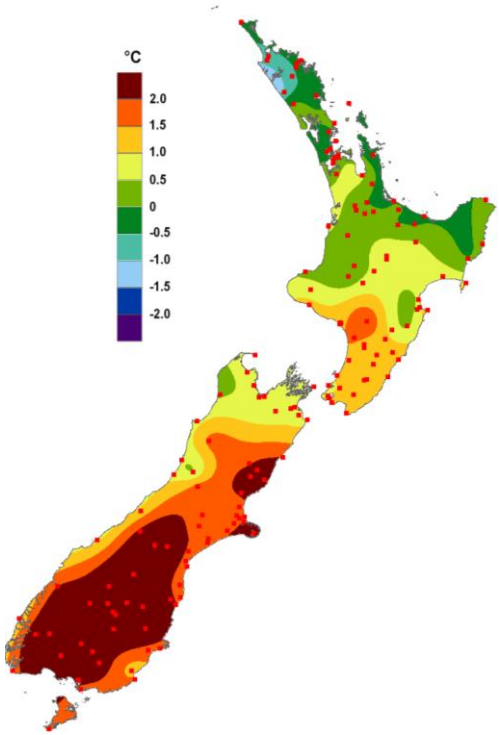

July 2013 average temperatures, expressed as a difference from average (°C)

Dark red colour indicates that mean temperatures were more than 2.0°C above July average in much of the South Island, especially in coastal Canterbury, Otago, and Southland. It was the warmest July on record in parts of these regions. Orange colour indicates that mean temperatures were more than 1.5°C above July average, seen in much of the remainder of the South Island and Wanganui area. Yellow colour in the northern South Island and central North Island indicates mean temperatures between 0.5°C and 1.0°C above July average in these areas, and green colours indicate near average July temperatures (within 0.5°C of July average). The Far North experienced below average temperatures (blue).