NIWA National Climate Centre

Seasonal Climate Summary

NIWA Taihoro Nukurangi

New Zealand Climate Summary: **Summer 2015-16** Issued: 3 March 2016

A warm summer with numerous rain events

Temperature	Summer temperatures were above (+0.51°C to +1.20°C) or well above average (> +1.20°C above average) for most of New Zealand. Near average (-0.50°C to +0.50°C) temperatures were recorded in parts of coastal Canterbury. No locations recorded below average temperatures (-0.51°C to -1.20°C).
Rainfall	Rainfall was near normal (80-119%) for the upper half of the North Island, Gisborne, Hawke's Bay, and most of the South Island. Above normal rainfall (120-149%) was observed for parts of Northland, Coromandel, West Coast, Tasman, and Christchurch. Below normal rainfall (50-79%) was experienced in most of the lower half of the North Island, Marlborough, Queenstown-Lakes, and Central Otago.
Soil moisture	As of 1 March 2016, soil moisture levels were above normal for the time of year for eastern Northland and Auckland, Coromandel, the Bay of Plenty, northern Tasman, Nelson and parts of eastern Waikato and Southland. Drier than normal soils were evident in the remainder of the North Island as well as eastern parts of Canterbury and Otago.
Sunshine	Summer sunshine was relatively evenly distributed between above normal (110-125%) and near normal (90-109%) for different sites around the country (no distinct pattern). The exception was the Bay of Plenty where below normal sunshine (75-89%) was observed.

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Overview

The 2015-2016 summer was characterised by a strong El Niño event. For the season as a whole, mean sea level pressure anomalies were near normal over New Zealand, with slightly lower than normal pressures present to the north and south of the country. However, this average pattern obscures the variation of pressure and airflow that existed throughout summer. During December, more frequent south-westerly winds than usual were observed over the country (a typical El Niño signature). In contrast, in January and February there was a stronger influence by air masses from the tropics, and as such more northerly-quarter airflows than usual dominated, especially over the North Island.

The warm air from the tropics contributed to the 2015-2016 summer being warmer than average for most of New Zealand. Across most of the country, above average (+0.51°C to +1.20°C of the summer average) or well above average (> +1.20°C of the summer average) temperatures were experienced. The North Island was particularly warm. The only locations in New Zealand where near average (-0.51°C to +0.50°C of the summer average) temperatures were recorded were in parts of coastal Canterbury. In particular, February was a notably warm month, with the second-highest national mean monthly temperature on record using NIWA's seven-station temperature series. For the season as a whole, the nation-wide average temperature in summer 2015-16 was 17.5°C (0.9°C above the 1981-2010 summer average, using NIWA's seven-station temperature series which begins in 1909).

The moist, humid tropical air masses affecting the country (including the remnants of four tropical cyclones) also caused numerous rain events throughout the summer. With its predominant south-westerly flow and high pressure over the country, December was a very dry month for many parts of New Zealand. But with the change to more northerly-quarter winds than usual for January and February which brought more rain, fears of El Niño-associated drought were alleviated in many parts of the country. For summer as a whole, near normal rainfall (80-119% of the summer normal) was observed for most of the upper half of the North Island, as well as Gisborne and northern Hawke's Bay. Above normal rainfall (120-149% of the summer normal) was also recorded at certain sites in Northland and Coromandel. However, it was still a dry summer for some, with below normal rainfall (50-79% of the summer normal) for most of the lower half of the North Island. For the South Island, near normal rainfall was experienced in most places with pockets of above normal rainfall in West Coast, Tasman and Christchurch, and pockets of below normal rainfall (50-79% of the summer normal) in Marlborough, Queenstown-Lakes, and Central Otago.

Due to the heavy rainfall events that occurred in January and February, the patterns of soil moisture changed drastically throughout summer. At the end of December, soil moisture levels were below normal for the time of year for almost the entire country. However this changed overnight with heavy rain and flooding on New Year's Day in northern parts of the country. As such, by the end of January soil moisture levels had increased somewhat over most of the country, particularly in areas such as Northland and Coromandel which were affected by rainfall over the New Year period. As of 1 March 2016, soil moisture levels were above normal for the time of year for eastern Northland and Auckland, Coromandel, the Bay of Plenty, northern Tasman, Nelson and parts of eastern Waikato and Southland. Drier than normal soils were evident in the remainder of the North Island as well as eastern parts of Canterbury and Otago.

Summer sunshine was relatively evenly distributed between above normal (110-125% of the summer normal) and near normal (90-109% of the summer normal) for different sites around the country (no distinct patterns observed), except for the Bay of Plenty which had below normal sunshine (75-89%). In fact, Tauranga had its cloudiest summer on record, with 77% of normal summer sunshine. The only location with well above normal sunshine (>125% of the summer normal) was Dunedin.

Further Highlights:

- The highest temperature was 36.4°C, observed at Leeston on 21 December.
- The lowest temperature was -1.2°C, observed at Manapouri on 4 January.
- The highest 1-day rainfall was 331 mm, recorded at North Egmont 17 February.
- The highest wind gust was 183km/hr, observed at Cape Turnagain on 10 January.
- Of the six main centres in summer 2015-16, Auckland was the warmest, Dunedin was the coolest, Wellington was the driest and sunniest, and Tauranga was the wettest and cloudiest.

For further information, please contact:
Mr Chris Brandolino
NIWA Forecaster – NIWA National Climate Centre
Tel. (09) 375 6335, Mobile (027) 866 0014

Temperature: A warmer-than-usual summer for most of New Zealand

Summer 2015-16 temperatures were warmer than usual for most of the country, with above average (+0.51°C to +1.20°C) or well above average (> +1.20°C) temperatures recorded in most locations. The North Island was particularly warm. Five locations experienced their warmest summer on record, and many other sites observed a near-record-warm summer (see table below). The only locations where near average (-0.51°C to +0.50°C) temperatures were recorded were in parts of coastal Canterbury. The nation-wide average temperature in summer 2015-16 was 17.5°C (0.9°C above the 1981-2010 summer average, using NIWA's seven-station temperature series which begins in 1909).

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Kerikeri	20.1	1.2	1981	Highest
Whatawhata	20.0	2.1	1952	Highest
Masterton	19.3	2.3	1992	Highest
Hawera	17.5	1.3	1977	Highest
Motueka	18.7	1.5	1956	Highest
Kaikohe	20.3	2.0	1973	2nd-highest
Auckland (Whenuapai)	19.8	1.2	1945	2nd-highest
Whitianga	19.6	1.0	1962	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.

Tauranga	20.2	1.1	1913	2nd-highest
Auckland (Mangere)	20.7	1.5	1959	2nd-highest
Farewell Spit	18.6	1.2	1971	2nd-highest
Nelson	18.8	1.4	1943	2nd-highest
Christchurch (Riccarton)	18.4	1.7	1863	2nd-highest
Kaitaia	20.3	1.2	1948	3rd-highest
Whangaparaoa	20.3	1.0	1982	3rd-highest
Ngawi	19.0	0.8	1972	3rd-highest
Gisborne	20.1	1.5	1905	3rd-highest
Levin	18.2	1.1	1895	3rd-highest
Whanganui	19.3	1.4	1937	3rd-highest
Cheviot	16.9	0.9	1982	3rd-highest
Tara Hills	16.9	1.3	1949	3rd-highest
Ranfurly	15.4	1.1	1975	3rd-highest
Whangarei	20.7	1.1	1967	4th-highest
Auckland (Henderson)	20.3	1.3	1948	4th-highest
Auckland (Airport)	20.4	1.0	1959	4th-highest
Hamilton (Ruakura)	19.5	1.5	1906	4th-highest
New Plymouth	18.5	1.2	1944	4th-highest
Takaka	17.8	1.0	1978	4th-highest
Low records or near-records				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Ngawi	23.0	1.0	1972	Highest
Christchurch (Riccarton)	24.1	2.6	1863	Highest
Whatawhata	25.0	2.3	1952	2nd-highest
Masterton	26.2	2.8	1992	2nd-highest
Motueka	24.7	1.9	1956	2nd-highest
Kaitaia	24.6	1.0	1985	3rd-highest
Kaikohe	24.3	1.9	1973	3rd-highest
Gisborne	25.7	1.7	1905	3rd-highest
Hastings	25.2	2.4	1965	3rd-highest
Cromwell	25.9	2.2	1949	3rd-highest
Tiwai Point	18.9	1.4	1970	3rd-highest
Kerikeri	24.7	0.8	1981	4th-highest
Hawera	21.7	1.5	1977	4th-highest
Whanganui	23.7	1.9	1937	4th-highest
Takaka	23.6	1.1	1978	4th-highest
Nelson	23.3	1.4	1943	4th-highest
Appleby	23.6	1.7	1932	4th-highest
Cheviot	22.9	0.9	1982	4th-highest

Lumsden	20.9	1.0	1982	4th-highest
Low records or near-records				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Auckland (Lincoln Rd)	16.4	2.3	1948	Highest
Whatawhata	15.0	2.0	1952	Highest
Hawera	13.3	1.1	1977	Highest
Farewell Spit	15.1	1.5	1971	Highest
Nelson	14.5	1.1	1943	Highest
Kaikohe	16.2	2.2	1973	2nd-highest
Dargaville	15.8	1.0	1943	2nd-highest
Auckland (Whenuapai)	15.4	1.4	1945	2nd-highest
Whitianga	15.4	1.6	1962	2nd-highest
Paeroa	15.2	1.3	1947	2nd-highest
Taupo	12.7	1.6	1949	2nd-highest
Levin	14.0	1.1	1895	2nd-highest
Kaitaia	16.2	1.3	1948	3rd-highest
Kerikeri	15.6	1.7	1981	3rd-highest
Whangarei	16.6	1.3	1967	3rd-highest
Tauranga	16.3	1.5	1913	3rd-highest
Whakatane	15.3	1.8	1974	3rd-highest
Auckland (Mangere)	17.1	1.4	1959	3rd-highest
Auckland (Airport)	16.8	1.0	1959	3rd-highest
Hamilton (Ruakura)	14.5	1.7	1906	3rd-highest
Masterton	12.3	1.9	1992	3rd-highest
Paraparaumu	14.0	0.9	1953	3rd-highest
Whanganui	15.0	1.4	1937	3rd-highest
Cheviot	10.9	0.8	1982	3rd-highest
Tara Hills	9.7	1.2	1949	3rd-highest
Cape Reinga	16.6	0.9	1951	4th-highest
Auckland (North Shore)	17.5	1.5	1994	4th-highest
Te Puke	14.4	1.5	1973	4th-highest
Pukekohe	14.9	1.1	1969	4th-highest
Ohakune	10.3	0.9	1962	4th-highest
Secretary Island	11.9	0.8	1985	4th-highest
Motueka	12.6	1.0	1956	4th-highest
Low records or near-records				
None observed				

Rainfall: A dry start to summer but numerous rain events later on

Summer 2015-16 started off dry in December, with low rainfall throughout most of the country. Conversely, January and February were much wetter, due to the change in airflow patterns from south-westerly to northerly-quarter. The tropical low pressure systems brought down to New Zealand in January and February, along with four ex-tropical cyclones, caused significant rain in numerous areas, particularly in the north. However, for the season as a whole, no high rainfall records or near-records were observed. A small number of sites had near-record low rainfall totals for summer.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
None recorded				
Low records or near-records				
Toenepi	77	33	1951	2nd-lowest
New Plymouth	161	52	1944	3rd-lowest
Martinborough	59	39	1924	3rd-lowest
Hawera	133	55	1977	4th-lowest
Alexandra	80	57	1983	4th-lowest

Sunshine: Cloudiest summer on record for Tauranga

Summer sunshine was relatively evenly distributed between above normal (110-125%) and near normal (90-109%) for different sites around the country, with no discernible patterns nationwide, except for the Bay of Plenty which recorded below normal sunshine (75-89%). In fact, Tauranga experienced its cloudiest summer on record, where records go back to 1932. The only location with well above normal sunshine (>125%) was Dunedin, which recorded its third-sunniest summer. Stratford experienced its sunniest summer on record.

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

Location	Sunshine hours	Percentage of normal	Year records began	Comments
High records or near-records				
Stratford	748	120	1963	Highest
Takaka	772	114	1985	2nd-highest
Martinborough	724	117	1986	3rd-highest
Dunedin (Musselburgh)	642	127	1980	3rd-highest
New Plymouth	839	123	1972	4th-highest
Ashburton	663	120	1930	4th-highest
Low records or near-records				
Tauranga	546	77	1932	Lowest

Summer climate in the six main centres

Temperatures were well above average for Auckland and Hamilton, and above average for all other main centres in summer 2015-16. Auckland and Tauranga experienced their second-warmest summer on record. Hamilton, Wellington, and Dunedin experienced below normal rainfall whereas Christchurch recorded above normal rainfall for summer. In terms of sunshine, Dunedin recorded its third-sunniest summer on record, but Tauranga's sunshine was the lowest on record for summer. Of the six main centres in summer 2015-16, Auckland was the warmest, Dunedin was the coolest, Wellington was the driest, and Tauranga was the wettest and cloudiest.

Summer 2015-16 main centre climate statistics:

Temperature			
Location	**Mean temp. (°C)**	**Departure from normal (°C)**	**Comments**
Auckland[a]	20.7	+1.5	Well above average (2nd highest)
Tauranga[b]	20.2	+1.1	Above average (2nd highest)
Hamilton[c]	19.2	+1.2	Well above average
Wellington[d]	17.4	+0.9	Above average
Christchurch[e]	17.1	+0.5	Above average
Dunedin[f]	15.6	+0.9	Above average
Rainfall			
Location	**Rainfall (mm)**	**% of normal**	**Comments**
Auckland[a]	235	107%	Near normal
Tauranga[b]	267	103%	Near normal
Hamilton[c]	186	71%	Below normal
Wellington[d]	139	61%	Below normal
Christchurch[e]	162	129%	Above normal
Dunedin[f]	141	64%	Below normal
Sunshine			
Location	**Sunshine (hours)**	**% of normal**	**Comments**
Auckland[a]	606	97%	Near normal
Tauranga[b]	546	77%	Below normal (lowest on record)
Hamilton[g]	580	92%	Near normal
Wellington[d]	693	102%	Near normal
Christchurch[e]	636	97%	Near normal
Dunedin[f]	642	127%	Well above normal (3rd highest)

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

Highlights and extreme events

This section contains information pertaining to some of the more significant highlights and extreme events that occurred during summer 2015-16. Note that a more detailed list of significant weather events for summer 2015-16 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 at the following website: http://www.niwa.co.nz/climate/summaries/monthly

Temperatures

On 21 December north-easterly winds combined with the foehn effect brought high temperatures to eastern areas of the South Island. Near-record high summer temperatures were experienced in north Canterbury, coastal Otago and Dunedin. The warm spell was short-lived with a southerly change (front) following through in the evening and overnight.

In late January, much of New Zealand sweltered under high temperatures and high humidity, as a result of tropically-derived air masses travelling over New Zealand, some of these from ex-Tropical Cyclone Victor. Daytime temperatures in Auckland reached almost 30°C for about a week.

Of note during late January to early February, as well as late February, were high minimum temperatures (i.e. warm night-time temperatures). Many records were set and near-records were experienced throughout the country during this time.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Masterton	34.2	Feb-26th	1992	Highest
Paraparaumu	30.0	Feb-6th	1953	Highest
Puysegur Point	26.0	Feb-3rd	1978	Highest
Cheviot	36.1	Dec-21st	1982	2nd-highest
Gore	32.2	Feb-3rd	1971	2nd-highest
South West Cape	25.9	Feb-3rd	1991	Equal 2nd-highest
Auckland (Henderson)	31.4	Jan-24th	1948	3rd-highest
Lumsden	30.6	Feb-3rd	1982	3rd-highest
Tiwai Point	29.8	Feb-3rd	1970	3rd-highest
Whangaparaoa	27.9	Feb-10th	1982	Equal 3rd-highest
Whatawhata	30.8	Jan-26th	1952	Equal 3rd-highest
Hawera	27.7	Feb-16th	1977	Equal 3rd-highest
Dunedin (Musselburgh)	34.5	Dec-21st	1947	Equal 3rd-highest
Castlepoint	31.1	Jan-24th	1972	4th-highest
Levin	30.5	Feb-3rd	1895	4th-highest
Nugget Point	30.7	Dec-21st	1970	4th-highest
Auckland (Mangere)	29.3	Jan-24th	1959	Equal 4th-highest
Stephens Island	25.2	Jan-1st	1973	Equal 4th-highest
Alexandra	35.2	Dec-27th	1992	Equal 4th-highest

Low records or near-records				
Auckland (North Shore)	18.1	Dec-24th	1995	2nd-lowest
Port Taharoa	16.6	Dec-17th	1974	Equal 3rd-lowest
Whangaparaoa	16.9	Dec-24th	1982	4th-lowest
Whitianga	16.8	Dec-24th	1971	4th-lowest

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Kaitaia	21.7	Feb-28th	1985	Highest
Kaikohe	21.8	Feb-28th	1973	Highest
Whangaparaoa	20.9	Feb-29th	1982	Highest
Whitianga	22.5	Feb-29th	1971	Highest
Waikeria	21.0	Jan-27th	1977	Highest
Mahia	20.3	Feb-29th	1990	Highest
Milford Sound	18.2	Feb-4th	1935	Highest
Secretary Island	18.1	Feb-4th	1988	Highest
Puysegur Point	19.5	Feb-4th	1978	Highest
South West Cape	16.7	Feb-4th	1991	Highest
Cape Reinga	20.7	Feb-28th	1971	2nd-highest
Kerikeri	22.0	Feb-28th	1981	2nd-highest
Ngawi	23.4	Jan-24th	1972	2nd-highest
Farewell Spit	19.7	Feb-3rd	1972	2nd-highest
Okarito	17.6	Jan-25th	1983	2nd-highest
Cheviot	21.5	Feb-27th	1982	2nd-highest
Waipara West	22.4	Jan-25th	1973	2nd-highest
Le Bons Bay	19.5	Jan-24th	1984	2nd-highest
Wanaka	20.0	Feb-4th	1972	2nd-highest
Masterton	20.4	Feb-29th	1992	Equal 2nd-highest
Westport	19.5	Jan-26th	1966	Equal 2nd-highest
Whakatane	21.7	Jan-27th	1975	3rd-highest
Motu	18.2	Jan-27th	1990	3rd-highest
Hicks Bay	20.5	Feb-19th	1972	3rd-highest
Waiau School	20.6	Feb-26th	1974	3rd-highest
Christchurch (Riccarton)	21.3	Feb-17th	1863	3rd-highest
Naseby	15.5	Jan-25th	1984	3rd-highest
Whangarei	21.9	Feb-29th	1967	Equal 3rd-highest
Auckland (Whenuapai)	21.2	Feb-29th	1951	Equal 3rd-highest
Wairoa	23.0	Feb-29th	1972	Equal 3rd-highest
Motueka	19.8	Jan-27th	1972	Equal 3rd-highest
Tara Hills	19.5	Feb-26th	1949	Equal 3rd-highest
Whangarei	21.9	Feb-29th	1967	Equal 3rd-highest
Auckland (North Shore)	21.7	Feb-29th	1994	4th-highest
Hamilton (Airport)	21.1	Jan-27th	1946	4th-highest

Balclutha	17.0	Jan-23rd	1972	4th-highest
Thames	21.0	Jan-27th	1957	Equal 4th-highest
Blenheim	20.4	Jan-25th	1972	Equal 4th-highest
Orari Estate	18.9	Dec-3rd	1972	Equal 4th-highest
Low records or near-records				
None observed				

Rain and slips

On 1-2 January, a subtropical low pressure system brought heavy rain to Northland, Auckland and Coromandel. Campsites in these regions were flooded and many holiday campers decided to head home early.

On 19 January, heavy rain fell in south Canterbury, including the towns of Timaru, Geraldine and Temuka, blocking stormwater drains and causing surface flooding. A number of roads were closed for a time by the flooding.

On 17 February, heavy rain affected much of the country, with Nelson-Tasman taking a big hit. Localised flooding was reported in parts of Nelson City, the Waimea Plains and in Golden Bay. Three adults and a nine-month-old baby stranded in a 4WD were rescued from the Waimea River, 20 km from Nelson. Two men were stranded on a remote island in Golden Bay after being trapped by the incoming tide. They were winched to safety in bad weather by a Defence Force helicopter. Surface flooding also occurred in Hokitika, and a slip blocked one lane in the Fox Hills area. 15 car crashes were attributed to bad weather in the Waikato region.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Motu	127	Feb-18th	1990	Highest
Appleby	126	Feb-17th	1932	Highest
Ngapuke	71	Jan-27th	1989	2nd-highest
Hokitika	186	Feb-16th	1866	2nd-highest
Mangakowhai	83	Jan-18th	1995	3rd-highest
Secretary Island	168	Jan-23rd	1985	3rd-highest
Lake Tekapo	70	Dec-16th	1925	3rd-highest
Taihape	48	Jan-3rd	1970	Equal 3rd-highest
Whangaparaoa	104	Feb-18th	1946	4th-highest
Wairoa	101	Jan-28th	1967	4th-highest
Tapawera	62	Jan-18th	1992	4th-highest
Timaru	81	Jan-19th	1881	4th-highest

Wind

On 10 December a forest fire ignited in Marlborough and continued to burn for several days. Warm and dry north-westerly winds as well as prolonged dry conditions contributed to the spread of the fire which was the largest in the region in 15 years.

On 13 December several tornadoes were seen on the Canterbury Plains. One tornado lifted a silage wagon off the ground and threw it onto a nearby tractor in Carew.

On 1-2 January, a subtropical low pressure system brought strong easterly quarter (northeast to southeast) winds to eastern parts of the northern North Island. A launch near Kawau Island broke free from its mooring and washed up ashore. Campers' belongings were blown around campsites, and tents were flattened by the wind. Short power cuts occurred in isolated areas of Northland, Auckland, and Coromandel due to trees falling on power lines.

On 8 January, strong winds were experienced across both Islands. Auckland and Wellington commuter ferries were cancelled and flights in and out of Wellington were delayed and cancelled as the stormy weather whipped up fierce winds. Wellington was affected by gale force winds up to 140 km/h, and an open-air concert in the Botanic Gardens was cancelled. One lane of SH 1 from Kilbirnie to Wellington Airport was closed, due to strong winds and the Zephyrometer wind needle sculpture making the lane too hazardous to open. A tree blown over by strong winds blocked SH 32 between Kinloch and Mangakino. High winds in Picton flattened tents at a campsite.

On 15 January, strong winds affected Canterbury. Flights were cancelled in Christchurch, power was cut to some residents, and trees and power lines were felled by the wind. One fallen tree closed Armagh Street in central Christchurch. Organisers of the World Buskers' Festival were forced to cancel all performances in Hagley Park during the day due to safety concerns. The wind fanned a bush fire near Kaikoura, which forced the closure of the highway and the train line.

On 26 February hot and dry north-westerlies turned a burn-off of "tree slash" into an out-of-control blaze in North Otago. Helicopters with monsoon buckets were able to bring the fire under control after several hours.

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

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
South West Cape	176	Dec-21st	1991	2nd-highest
Motu	95	Jan-8th	1991	3rd-highest
Nelson	95	Feb-17th	1972	Equal 3rd-highest
Tara Hills	91	Feb-26th	1985	Equal 3rd-highest
Cape Reinga	122	Jan-2nd	1974	4th-highest
Hawera	91	Feb-17th	1986	4th-highest

Lightning and hail

On 13 December cool upper level temperatures combined with daytime heating led to the development of thunderstorms over Canterbury and North Otago. Hail was widely reported throughout the regions and lightning strikes caused a couple of fires.

On 16 December a hailstorm impacted the Motueka district, the Waimea Plains and its foothills. The hail caused significant damage to New Zealand's largest boysenberry grower. There was also damage to orchards, vines, glasshouses and vehicles reported around the region.

Cloud and fog

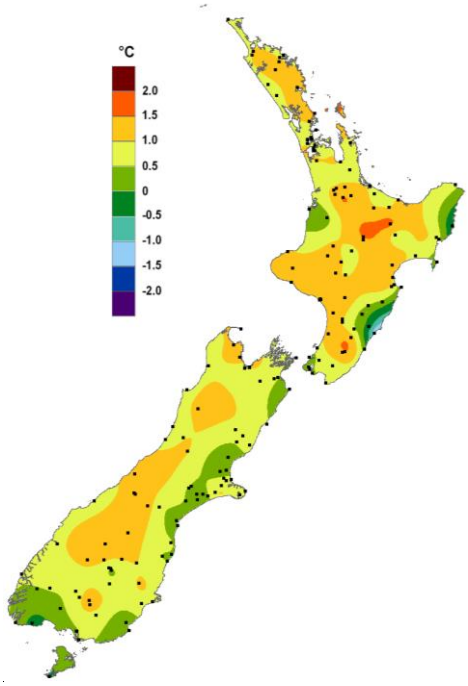
On 17 January, sea fog cancelled or delayed at least 40 flights in Wellington.

For further information, please contact:

Mr Chris Brandolino
NIWA Forecaster – NIWA National Climate Centre
Tel. 09 375 6335, Mobile 027 866 0014

For climate data enquiries, please contact:

Mrs Petra Pearce
Climate Scientist, NIWA Auckland
Tel. 09 375 2052



Summer 2015-16 average temperature, expressed as a departure from the 1981-2010 average (°C).

Most areas of New Zealand observed above average (+0.50°C to +1.20°C) and well above temperatures (>1.20°C) as indicated by the light green, orange and red shades.