

## A warm, sunny and very dry month for most of the country.

<b>Rainfall</b>	Rainfall was well below normal (< 50%) or below normal (50-79%) for most parts of the country. The exception was parts of Waikato, Gisborne, coastal Canterbury, the Southern Lakes and Fiordland where rainfall was near normal (80-119%). It was extraordinarily dry in parts of Northland, Auckland, Taranaki, Manawatu-Whanganui, Kapiti Coast, Wellington, Marlborough, north Canterbury and Central Otago where rainfall totals for the month were less than 10% of their respective January normal.
<b>Soil Moisture</b>	As of 1 February 2015, soil moisture levels were below normal for the time of year for extensive areas of New Zealand, but especially for northern, western and southern parts of the North Island, and north-western, southern and inland parts of the South Island.
<b>Temperature</b>	January temperatures were above average (+0.51°C to +1.20°C) or well above average (> +1.20°C) for most parts of the country. It was a particularly warm month for parts of Bay of Plenty, Taranaki, West Coast, Canterbury and Central Otago where temperatures at least 2.0°C above the January average were recorded.
<b>Sunshine</b>	It was a very sunny month for the country, with most areas recording above normal (110-125%) or well above normal (> 125%) January sunshine.

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### Overview

January 2015 was characterised by air pressures which were higher than normal over and southeast of New Zealand, with an anomalous north-easterly airflow over the country. This pressure pattern resulted in an abundance of dry, warm and sunny weather during the month for most areas of the country. The predominance of anticyclones (highs) was reflected in rainfalls for the month as a whole, which were well below normal (< 50% of the January normal) or below normal (50-79% of the January normal) for most areas of the country. It was exceptionally dry in parts of Northland, Auckland, Taranaki, Manawatu-Whanganui, Kapiti Coast, Wellington, Marlborough, north Canterbury and Central Otago where rainfall totals for the month were less than 10% of their respective January normal. The lack of rainfall contributed to soil moisture levels that were much lower than normal for the time of year in many areas. Specifically, as of 1 February 2015 soils were notably drier than normal for much of the North Island, and north-western, inland and southern parts of the South Island. Soil moisture

levels were nearer to normal for the time of year in Gisborne and Fiordland, reflecting the near normal rainfall (80-119% of the January normal) that was typically observed in these parts.

January was a warm month overall, with at least above average temperatures (0.51-1.20°C above the January average) for the majority of the country. Temperatures were well above average (> 1.20°C above the January average) in parts of Northland, Auckland, Waikato, Bay of Plenty, Taranaki, Manawatu-Whanganui, Kapiti Coast, Wellington, West Coast, Nelson, inland Canterbury, Central Otago and Southland. It was an exceptionally warm month in Te Puke, Stratford, Reefton, Arthur's Pass, Rangiora, Ranfurly, Lauder and Middlemarch where mean temperatures were greater than 2.0°C above the respective January average. January temperatures were near average (between -0.50 to +0.50 of the January average) in some eastern-most parts of Gisborne, Hawke's Bay and Marlborough, which may reflect the exposure of these areas to the north-easterly airflow anomaly mentioned earlier. The nation-wide average temperature in January 2015 was 18.2°C (1.1°C above the 1981-2010 January average from NIWA's seven station temperature series which begins in 1909)<sup>1</sup>.

It was a very sunny month for the majority of the country, with persistent anticyclones (highs) giving rise to clear skies and numerous sunny days. Most of the country received above normal (110-125% of the January normal) or well above normal (> 125% of the January normal) sunshine hours for January. The exception was eastern parts of the South Island from Cape Campbell to Banks Peninsula where January sunshine was near normal (90-109% of the January normal).

#### **Further Highlights:**

- The highest temperature was 36.4°C, observed at Timaru on 16 January.
- The lowest temperature was 0.4°C, observed at Lumsden on 21 January.
- The highest 1-day rainfall was 146 mm, recorded at Milford Sound on 11 January.
- The highest wind gust was 148 km/hr, observed at South West Cape on 4 January.
- Of the six main centres in January 2015, Tauranga was the warmest and sunniest, Dunedin was the coolest, Wellington was the driest, Hamilton was the wettest and Christchurch was the cloudiest.
- Of the available, regularly reporting sunshine observation sites, the sunniest four centres so far in 2015 (1 January to 31 January) are: New Plymouth (356 hours), Paraparaumu (333 hours), Appleby (332 hours) and Tauranga (328 hours).

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<sup>1</sup> Interim value

## Rainfall: A dry or very dry month for most

January 2015 was a record or near-record dry month in 43 locations across New Zealand. The lack of rain was notable due to its widespread nature. A total of 19 recording stations received less than 10% of normal January rainfall respectively, and record or near-record low January rainfall totals were observed as far north as Kerikeri (Northland) and as far south as South West Cape (Stewart Island). In contrast, Gisborne (143% of the January normal) and Queenstown (170% of the January normal) received considerable rainfall totals (occurring mostly on one or two days) for the month.

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
<b>Low records or near-records</b>				
Kerikeri	4	4	1981	Lowest
Motu	38	29	1990	Lowest
Whatawhata	13	14	1952	Lowest
Dannevirke	4	5	1951	Lowest
Waione	20	27	1991	Lowest
Paraparaumu	4	8	1945	Lowest
Wellington (Airport)	2	4	1958	Lowest
Hawera	4	5	1977	Lowest
Reefton	34	23	1960	Lowest
Hanmer Forest	3	5	1905	Lowest
Waipara West	1	2	1973	Lowest
Ranfurly	7	14	1943	Lowest
Lauder	2	4	1924	Lowest
Warkworth	11	12	1966	2nd-lowest
Auckland (Mangere)	6	9	1959	2nd-lowest
Mahia	25	44	1990	2nd-lowest
Ohakune	11	11	1961	2nd-lowest
Whanganui	2	3	1890	2nd-lowest
Westport	56	36	1944	2nd-lowest
Motueka	6	8	1943	2nd-lowest
Cape Campbell	2	4	1873	2nd-lowest
Lincoln	7	17	1881	2nd-lowest
Dunedin (Airport)	22	32	1962	2nd-lowest
South West Cape	56	52	1991	2nd-lowest
Masterton	19	32	1992	3rd-lowest
Palmerston North	11	21	1928	3rd-lowest
Levin	10	14	1895	3rd-lowest
Wallaceville (Upper Hutt)	16	20	1924	3rd-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.

Stratford	35	29	1960	3rd-lowest
Takaka	20	15	1976	3rd-lowest
Nelson	10	13	1941	3rd-lowest
Lumsden	53	55	1982	3rd-lowest
Alexandra	13	25	1983	3rd-lowest
Te Puke	13	12	1973	4th-lowest
Te Kuiti	13	13	1950	4th-lowest
Martinborough	9	20	1924	4th-lowest
Wairoa	22	27	1964	4th-lowest
Farewell Spit	4	4	1874	4th-lowest
Appleby	12	16	1932	4th-lowest
Tara Hills	13	27	1949	4th-lowest
Invercargill	37	32	1900	4th-lowest
Tauranga	8	11	1898	Equal 4th-lowest
<b>High records or near-records</b>				
None observed				

## Temperature: Above average temperatures throughout the country

January was a warm month throughout New Zealand. Many more locations observed record or near-record high mean maximum air temperatures compared to the number of locations that observed record or near-record high mean minimum air temperatures. This may be attributed to the predominance of anticyclones (highs) during the month. Clear skies and sunny weather associated with these weather systems contributed to the high day-time temperatures observed. However, the lack of cloud cover enabled night-time temperatures to fall lower than if clouds had been present, due to enhanced radiative cooling. Notably, those locations that did observe record or near-record high mean minimum air temperatures were typically located near the coast, where the sea has a moderating influence on night-time minimum temperatures. The nation-wide average temperature in January 2015 was 18.2°C (1.1°C above the 1981-2010 January average from NIWA's seven station temperature series which begins in 1909).

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

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
<b>High records or near-records</b>				
Mokohinau	21.1	1.3	1994	Highest
Whangaparaoa	21.2	1.6	1982	Highest
Te Puke	21.0	2.7	1973	Highest
Motu	17.5	2.0	1990	Highest
Kaikohe	20.0	1.4	1973	2nd-highest
Tauranga	21.2	1.7	1913	2nd-highest
Masterton	19.7	2.3	1992	2nd-highest
Stratford	18.0	2.1	1960	2nd-highest
Reefton	19.4	2.5	1960	2nd-highest
Ranfurly	17.8	2.7	1975	2nd-highest

Lauder	19.1	2.9	1924	2nd-highest
Puysegur Point	15.1	1.3	1978	Equal 2nd-highest
Whakatane	20.5	1.6	1974	3rd-highest
Rotorua	19.4	1.7	1964	3rd-highest
Ngawi	19.9	1.2	1972	3rd-highest
Farewell Spit	19.3	1.5	1971	3rd-highest
Motueka	19.0	1.3	1956	3rd-highest
Cheviot	18.1	1.4	1982	3rd-highest
Christchurch (Riccarton)	19.1	1.8	1863	3rd-highest
Kaitaia	20.5	1.1	1985	4th-highest
Kerikeri	20.0	0.8	1981	4th-highest
Whangarei	20.9	0.9	1967	4th-highest
North Shore (Auckland)	21.0	1.0	1994	4th-highest
Taupo	18.9	1.8	1949	4th-highest
Waione	19.5	1.2	1991	4th-highest
Nelson	19.2	1.4	1943	4th-highest
South West Cape	13.9	0.8	1991	4th-highest
<b>Low records or near-records</b>				
None observed				

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

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
<b>High records or near-records</b>				
Kaitaia	25.7	1.7	1985	Highest
Kaikohe	25.2	2.3	1973	Highest
Mokohinau	23.7	1.5	1994	Highest
Whangaparaoa	25.6	2.3	1982	Highest
Auckland (Whenuapai)	25.6	2.0	1945	Highest
Te Puke	26.1	2.5	1973	Highest
Motu	23.4	2.9	1990	Highest
Masterton	27.5	3.5	1992	Highest
Dannevirke	25.2	2.7	1951	Highest
Stratford	23.6	2.8	1960	Highest
Ohakune	24.1	2.9	1962	Highest
Takaka	25.3	2.3	1978	Highest
Reefton	26.4	3.5	1960	Highest
Motueka	25.6	2.3	1956	Highest
Ranfurly	25.7	3.7	1975	Highest
Lauder	27.1	4.0	1924	Highest
Rotorua	25.0	2.2	1964	2nd-highest
Taumarunui	27.2	3.1	1947	2nd-highest
Takapau Plains	24.1	1.2	1962	2nd-highest
Waione	26.7	2.5	1991	2nd-highest
Ngawi	24.4	1.8	1972	2nd-highest
Palmerston North	25.9	3.0	1928	2nd-highest
Wallaceville (Upper Hutt)	24.3	2.3	1939	2nd-highest

Nelson	24.1	1.7	1943	2nd-highest
Mt Cook Village	23.5	3.1	1929	2nd-highest
Tiwai Point	19.7	1.8	1970	2nd-highest
Cape Reinga	23.2	1.1	1951	3rd-highest
Kerikeri	25.5	1.2	1981	3rd-highest
Whakatane	25.3	1.3	1974	3rd-highest
Taupo	25.5	2.8	1949	3rd-highest
Auckland (Airport)	25.4	1.8	1959	3rd-highest
Turangi	25.4	2.3	1968	3rd-highest
Whanganui	25.1	2.6	1937	3rd-highest
Farewell Spit	23.4	1.7	1971	3rd-highest
Hanmer Forest	26.2	2.8	1906	3rd-highest
Waiau	26.3	2.1	1974	3rd-highest
Cheviot	24.8	1.7	1982	3rd-highest
North Shore (Auckland)	24.8	1.2	1994	4th-highest
Auckland (Mangere)	25.4	2.0	1959	4th-highest
Hamilton	26.3	2.0	1946	4th-highest
New Plymouth	23.8	2.3	1944	4th-highest
Paraparaumu	23.3	2.1	1953	4th-highest
Levin	24.3	2.3	1895	4th-highest
Puysegur Point	17.8	1.3	1978	4th-highest
Arthurs Pass	21.2	2.9	1973	4th-highest
Tara Hills	26.3	2.9	1949	4th-highest
Dunedin (Airport)	23.0	2.0	1962	4th-highest
Low records or near-records				
None observed				

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

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Te Puke	15.9	2.8	1973	Highest
Puysegur Point	12.3	1.1	1978	2nd-highest
Ranfurlly	9.9	1.8	1975	2nd-highest
South West Cape	11.1	1.1	1991	2nd-highest
Mokohinau	18.5	1.2	1994	3rd-highest
Tauranga	17.0	1.9	1913	3rd-highest
Whakatane	15.8	2.0	1974	3rd-highest
Orari Estate	12.1	1.7	1972	3rd-highest
North Shore (Auckland)	17.3	1.0	1994	4th-highest
Motu	11.7	1.3	1990	4th-highest
Ngawi	15.5	0.7	1972	4th-highest
Reefton	12.4	1.5	1960	4th-highest
Secretary Island	12.4	0.9	1985	4th-highest
Cheviot	11.4	1.0	1982	4th-highest
Dargaville	15.6	0.6	1943	Equal 4th-highest
Low records or near-records				

None observed				
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## Sunshine: A very sunny month

January was a sunny month throughout New Zealand, which may be attributed to the clear skies associated with the prevailing high pressure weather systems (anticyclones). New Plymouth (356 hours) observed its highest total sunshine hours for January on record, and this is additionally the highest total sunshine hours for any month on record in New Zealand. Nelson held the previous record of 336 hours, which was recorded in December 1934. Of the available, regularly reporting sunshine observation sites, the sunniest four centres so far in 2015 (1 January to 31 January) are: New Plymouth (356 hours), Paraparaumu (333 hours), Appleby (332 hours) and Tauranga (328 hours).

### Record or near-record January sunshine hours were recorded at:

Location	Sunshine hours	Percentage of normal	Year records began	Comments
High records or near-records				
Kaitaia	289	126	1985	Highest
Auckland (Mangere)	308	133	1963	Highest
Te Kuiti	278	135	1962	Highest
Turangi	303	134	1976	Highest
New Plymouth	356	144	1972	Highest
Dannevirke	284	128	1963	Highest
Paraparaumu	333	140	1953	Highest
Wallaceville (Upper Hutt)	284	121	1939	Highest
Hokitika	289	132	1912	Highest
Greymouth	286	142	1947	Highest
Tauranga	328	125	1932	2nd-highest
Palmerston North	288	137	1930	2nd-highest
Takaka	307	123	1985	2nd-highest
Lake Tekapo	316	121	1928	2nd-highest
Dunedin (Musselburgh)	246	136	1980	2nd-highest
Dargaville	273	121	1943	4th-highest
Taumarunui	281	138	1947	4th-highest
Gisborne	304	122	1905	4th-highest
Nelson	318	119	1948	4th-highest
Balclutha	249	145	1964	4th-highest
Low records or near-records				
None observed				

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## January climate in the six main centres

It was a dry, warm and sunny month for most of New Zealand, and the main centres were no exception. Tauranga observed its second-warmest, second-sunniest and equal fourth-driest January on record, and Auckland recorded both its sunniest and second-driest January on record. Although Wellington (Kelburn) received just 5 mm of rainfall, it wasn't a record or near-record low January rainfall total for that location. Of the six main centres in January 2015, Tauranga was the warmest and sunniest, Dunedin was the coolest, Wellington was the driest, Hamilton was the wettest and Christchurch was the cloudiest.

### January 2015 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland <sup>a</sup>	21.1	+1.5	Well above average
Tauranga <sup>b</sup>	21.2	+1.7	2nd-highest on record
Hamilton <sup>c</sup>	19.5	+1.2	Above average
Wellington <sup>d</sup>	18.2	+1.3	Well above average
Christchurch <sup>e</sup>	18.1	+0.9	Above average
Dunedin <sup>f</sup>	16.2	+0.9	Above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland <sup>a</sup>	6	9%	2nd-lowest on record
Tauranga <sup>b</sup>	8	11%	Equal 4th-lowest on record
Hamilton <sup>c</sup>	25	31%	Well below normal
Wellington <sup>d</sup>	5	7%	Well below normal
Christchurch <sup>e</sup>	18	50%	Below normal
Dunedin <sup>f</sup>	23	31%	Well below normal
Sunshine			
Location	Sunshine (hours)	% of normal	Comments
Auckland <sup>a</sup>	308	133%	Highest on record
Tauranga <sup>b</sup>	328	125%	2nd-highest on record
Hamilton <sup>g</sup>	290	126%	Well above normal
Wellington <sup>d</sup>	279	113%	Above normal
Christchurch <sup>e</sup>	201 <sup>3</sup>	85%	Below normal
Dunedin <sup>f</sup>	246	136%	2nd-highest on record

<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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<sup>3</sup> Missing two days of data.



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## Highlights and extreme events

### Temperatures

Dry conditions and high temperatures combined to elevate fire danger levels throughout much of New Zealand during January. On 19 January, several small fires were reported in the upper South Island, including one near Seddon which forced the temporary closure of SH 1 and disrupted train services on the main trunk line. On 26 January a large fire started near Arthur's Pass, and it required considerable resources to bring under control. The area of land affected was estimated at nearly 500 ha, and SH 73 was forced to close temporarily. High temperatures on subsequent days in the Arthur's Pass area resulted in a number of hot-spots flaring up.

From 25-28 January, Wellington (Kelburn) recorded a four-day "warm spell" (consecutive days with a daily maximum temperature greater than 25.0°C). This is the equal second-longest warm spell for Wellington (Kelburn) in records which began in 1927 (longest warm spell on record is five days, beginning 24 December 1934).

The highest daily maximum temperature for the country was 36.4°C, observed at Timaru on 16 January. This was followed by 36.2°C at Leeston and 35.7°C at Pukaki Aerodrome observed on 4 January respectively.

The lowest daily minimum temperature for the country was 0.4°C, observed at Lumsden on 22 January. This was followed by 0.6°C at Pukaki Aerodrome and 0.7°C at Dunedin Airport, with both temperatures also observed on 22 January respectively.

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

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Cheviot	33.6	4th	1982	2nd-highest
Campbell Island	18.1	26th	1991	2nd-highest
Reefton	33.2	25th	1960	3rd-highest
Orari Estate	34.8	16th	1972	3rd-highest
Timaru	36.4	16th	1885	3rd-highest
Ranfurlly	32.3	4th	1975	3rd-highest
Taumarunui	32.1	25th	1947	Equal 3rd-highest
Whangaparaoa	27.7	18th	1982	4th-highest
Levin	29.7	31st	1895	4th-highest
Ohakune	29.1	25th	1962	4th-highest
Whanganui	30.8	28th	1937	4th-highest
Waiau School	35.6	4th	1974	4th-highest
Lake Tekapo	32.4	4th	1925	4th-highest
Dunedin (Airport)	32.9	26th	1962	4th-highest
Tiwai Point	27.8	9th	1970	4th-highest

South West Cape	24.6	25th	1991	4th-highest
Palmerston North	30.5	25th	1918	Equal 4th-highest
Waipara West	35.2	26th	1973	Equal 4th-highest
<b>Low records or near-records</b>				
None observed				

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

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
<b>High records or near-records</b>				
Secretary Island	17.7	26th	1988	Highest
Ranfurly	18.3	5th	1975	Highest
Campbell Island	11.9	26th	1991	2nd-highest
Farewell Spit	19.3	29th	1972	Equal 2nd-highest
Mokohinau	20.4	31st	1994	Equal 3rd-highest
Whangaparaoa	20.0	30th	1982	Equal 3rd-highest
Alexandra	18.5	11th	1983	4th-highest
<b>Low records or near-records</b>				
Lumsden	0.4	22nd	1982	2nd-lowest
Waione	2.6	9th	1991	3rd-lowest
Balclutha	1.4	22nd	1964	Equal 3rd-lowest
Tiwai Point	4.6	22nd	1970	Equal 4th-lowest

### Rain and slips

The highest 1-day rainfall was 146 mm, recorded at Milford Sound on 11 January.

**Record or near-record January 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

The highest wind gust was 148 km/hr, observed at South West Cape on 4 January.

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

Location	Extreme wind gust (km/hr)	Date of extreme gust	Year records began	Comments
None observed				

## Lightning and Hail

On 19 January lightning strikes and hail were reported near the east coast of North Otago.

On 21 January thundery showers brought hail to isolated parts of Hawke's Bay including Hastings and Havelock North. Masterton was also struck by a sudden downpour which caused minor surface flooding on some streets.

A thunderstorm struck Queenstown in the evening of 30 January, with lightning strikes reported near the airport. The town received 55.4 mm of rainfall on this day, which is 87% of the normal *total* January rainfall there.

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### For further information, please contact:

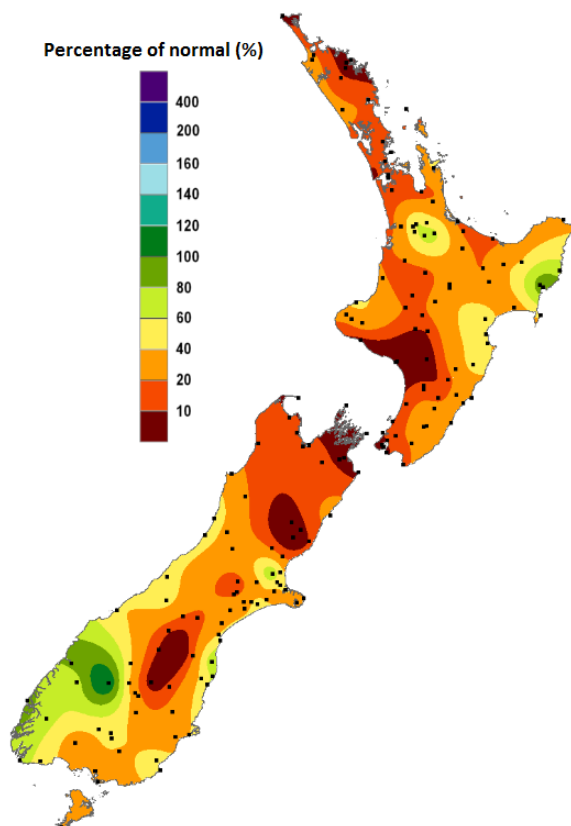
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*January 2015 total rainfall, expressed as a percentage of the 1981-2010 normal (%).*

*Rainfall was below normal (50-79% of the January normal) or well below normal (< 50% of the January normal) in many areas of New Zealand, as indicated by the light green, yellow, orange and dark red shades. The lack of rainfall contributed to soil moisture levels that were considerably lower than normal for the time of year in many parts of the country.*