NATIONAL CLIMATE CENTRE Thursday 3 March 2011

National Climate Summary – Summer 2010/2011: Heat waves and deluges

- **Temperatures: Record or near-record high summer temperatures recorded at many locations in the North Island, as well as the north of the South Island. Above average temperatures elsewhere. Multiple heat waves during the summer.**
- **Rainfall: Several deluge rainfall events during the summer, often associated with ex-tropical cyclones. Record or near-record high summer rainfall in parts of: Northland, Auckland, Coromandel, Bay of Plenty and Otago. A wet summer for many other regions.**
- **Soil moisture deficits: Summer started with drought in Northland, Waikato and Ruapehu, but wet conditions in the northern North Island eased the situation. At the end of summer, significant deficits remain in southern Taranaki, Manawatu, Kapiti coast, Wellington, Wairarapa, Nelson, Marlborough and north Canterbury.**

In Summer 2010/2011, there were more northeasterly winds over the North Island, and more northwest winds over the South Island, than is typical for the season overall. These northerly quarter winds ensured a very warm summer for all regions of the country, and several heat wave events. The summer was characterised by deluge rainfalls, often associated with ex-tropical cyclones or subtropical lows.

A severe storm passed over the country on December 27/28, resulting in significant rainfalls, flooding and gale force winds for many areas. During January, three lows of tropical origin brought torrential rain and gales; former tropical cyclones Vania and Zelia produced heavy rain on the 18th on the West Coast, resulting in the Fox River bursting its banks. A low of tropical origin (which formed near New Caledonia) moved towards New Zealand on January 22/23, producing extremely heavy rainfall, flooding, slips and road closures over much of the North Island, north of about Wanganui. Ex-tropical Cyclone Wilma moved rapidly across the northeastern North Island on January 28/29, causing widespread deluge rainfalls, severe flooding and slips in these regions. And lastly, record-breaking rainfall occurred in Otago on 6 February.

Summer mean temperatures were well above average (at least 1.2°C above average) for all of the North Island and in Nelson, Marlborough, north Canterbury and Buller, with records set at numerous locations. Elsewhere, seasonal temperatures were between 0.5°C and 1.2°C above average. Several heat wave events occurred during summer, namely 18 – 22 December, 27/28 December, 18/19 January and 2 – 7 February. The New Zealand national average temperature was 17.5°C (0.9°C above the 1971–2000 summer average).

It was an extremely wet summer for many regions of the country, with summer rainfall totals exceeding 120 percent of normal. Record or near-record high summer rainfalls were observed in parts of Northland, Auckland, Coromandel, Bay of Plenty and Otago. In contrast, Manawatu, Wellington, Wairarapa, Canterbury and Buller recorded closer to normal summer rainfall totals.

Further Highlights:

- The highest temperature recorded was 41.3°C recorded at Timaru (Gardens) on 6 February (a new all-time record at this site).
- The lowest temperature was -2.3 °C, recorded at Tara Hills (South Canterbury) on 8 December (the 2nd lowest summer temperature on record there).
- The highest 1-day rainfall was 313 mm recorded at Mount Cook on 27 December.
- The highest wind gust was 172 km/hr, recorded at Mount Kaukau (Wellington) on 28 December.
- Of the six main centres, Tauranga and Auckland were equal-warmest, Tauranga was the wettest but also the sunniest, Christchurch was the driest, and Dunedin was the coolest and cloudiest.

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TEMPERATURES: RECORD OR NEAR-RECORD HIGH SUMMER TEMPERATURES RECORDED AT MANY LOCATIONS IN THE NORTH ISLAND, AS WELL AS THE NORTH OF THE SOUTH ISLAND. ABOVE AVERAGE TEMPERATURES ELSEWHERE. MULTIPLE HEAT WAVES DURING THE SUMMER.

Summer mean temperatures were well above average (at least 1.2°C above average) for all of the North Island and in Nelson, Marlborough, north Canterbury and Buller, with records set at numerous locations in these regions. Sumer temperatures were record or near record high across the northeast of the North Island, as well as in the north and east of the South Island (Nelson, Marlborough, Canterbury).

Elsewhere in the South Island, seasonal temperatures were also above average (between 0.5°C and 1.2°C above average). Several heat wave events occurred during summer, namely 18 – 22 December, 27/28 December, 18/19 January and 2 – 7 February. The New Zealand national average temperature was 17.5°C (0.9°C above the 1971–2000 summer average)[1].

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

Location	Mean maximum air temperature (°C)	Departure from normal (°C)	Year records began	Comments
Kaitaia	24.6	0.6	1985	2nd-highest
Kerikeri	24.6	0.8	1981	3rd-highest
Whangarei	24.9	1.1	1967	3rd-highest
Leigh	24.3	2.2	1966	Highest
Warkworth	23.5	0.9	1966	2nd-highest
Whangaparaoa	24.0	2.2	1982	Highest
Te Puke	24.2	1.2	1973	2nd-highest
Whakatane	24.5	0.7	1974	3rd-highest
Rotorua	23.1	0.9	1964	3rd-highest
Auckland	24.1	1.1	1959	4th-highest
Hamilton	25.1	1.2	1946	4th-highest
Ngawi	22.9	1.5	1972	2nd-highest
Mahia	22.3	1.1	1990	3rd-highest
Ohakune	22.2	1.9	1962	3rd-highest
Waiouru	20.5	1.4	1962	3rd-highest
Wanganui	23.7	1.7	1937	Highest
Takaka	23.7	1.7	1978	2nd-highest
Lake Rotoiti	22.1	2.0	1965	Highest
Reefton	23.6	1.3	1960	4th-highest
Appleby	23.0	1.3	1943	3rd-highest
Nelson	23.3	1.7	1943	Highest
Hanmer Forest	23.9	1.7	1906	4th-highest
Kaikoura	21.2	1.4	1963	4th-highest
Le Bons Bay	19.8	1.2	1984	2nd-highest

[1] Interim seasonal value.

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

Location	Mean minimum air temperature (°C)	Departure from normal (°C)	Year records began	Comments
Kaitaia	16.4	1.9	1985	Highest
Kerikeri	15.5	1.7	1981	2nd-highest
Dargaville	15.9	2.0	1943	Highest
Whangarei	17.0	1.8	1967	2nd-highest
Whangaparaoa	16.9	1.1	1982	3rd-highest
Kumeu	13.6	0.2	1978	4th-highest
Whenuapai	15.8	2.4	1945	Highest
Whitianga	16.0	2.6	1962	Highest
Paeroa	15.5	1.9	1947	Highest
Tauranga	16.9	2.7	1913	2nd-highest
Te Puke	15.1	2.2	1973	Highest
Whakatane	15.5	2.0	1974	Highest
Rotorua	13.9	1.7	1964	2nd-highest
Taupo	13.3	2.3	1949	Highest
Auckland	17.3	1.7	1959	2nd-highest
Pukekohe	14.9	1.2	1969	Highest
Whatawhata	14.6	1.7	1952	Highest
Hamilton	14.9	2.5	1906	Highest
Hamilton	14.2	2.5	1946	2nd-highest
Port Taharoa	16.5	1.5	1973	2nd-highest
Te Kuiti	13.5	1.3	1959	4th-highest
Dannevirke	13.5	1.7	1951	Highest
Martinborough	13.3	1.5	1986	Highest
Ngawi	15.1	1.0	1972	4th-highest
Gisborne	15.0	1.6	1905	2nd-highest
Hastings	15.0	1.5	1965	Highest
Waipawa	12.6	1.1	1945	2nd-highest
Wairoa	14.6	1.3	1964	4th-highest
Paraparaumu	13.9	1.1	1953	3rd-highest
Palmerston North	14.2	1.9	1928	2nd-highest
Levin	13.8	1.1	1895	4th-highest
Stratford	12.0	1.4	1960	3rd-highest
Hawera	13.1	1.5	1977	Highest
Ohakune	11.0	1.9	1962	2nd-highest
Waiouru	9.7	1.6	1962	2nd-highest
Wanganui	15.0	1.5	1937	2nd-highest
Farewell Spit	14.9	1.9	1971	Highest
Lake Rotoiti	9.5	1.4	1965	3rd-highest
Reefton	11.9	1.5	1960	3rd-highest
Nelson	14.2	1.6	1943	Highest
Blenheim	13.0	0.9	1941	4th-highest
Waipara	11.9	0.8	1973	4th-highest
Alexandra	11.0	1.5	1983	4th-highest
Tiwai Point	11.4	0.9	1970	4th-highest

RAINFALL: SEVERAL DELUGE RAINFALL EVENTS DURING THE SUMMER, OFTEN ASSOCIATED WITH EX-TROPICAL CYCLONES. RECORD OR NEAR-RECORD HIGH SUMMER RAINFALL IN PARTS OF: NORTHLAND, AUCKLAND, COROMANDEL, BAY OF PLENTY AND OTAGO. A WET SUMMER FOR MANY OTHER REGIONS.

The summer was characterised by deluge rainfalls, often associated with ex-tropical cyclones or subtropical lows. A severe storm passed over the country on December 27/28, resulting in significant rainfalls, flooding and gale force winds for many areas. During January, three lows of tropical origin brought torrential rain and gales; former tropical cyclones Vania and Zelia produced heavy rain on the 18th on the West Coast, resulting in the Fox River bursting its banks. A low of tropical origin (which formed near New Caledonia) moved towards New Zealand on January 22/23, producing extremely heavy rainfall, flooding, slips and road closures over much of the North Island, north of about Wanganui. Ex-Tropical Cyclone Wilma moved rapidly across the northeastern North Island on January 28/29, causing widespread deluge rainfalls, severe flooding and slips in this part of the country. And lastly, record-breaking rainfall occurred in Otago on 6 February.

It was an extremely wet summer for many regions, with summer rainfall totals exceeding 120 percent of normal. Record or near-record high summer rainfalls were observed in parts of Northland, Auckland, Coromandel, Bay of Plenty and Otago (see table below). In contrast, Manawatu, Wellington, Wairarapa, Canterbury and Buller recorded closer to normal summer rainfall totals (between 80 and 120 percent of summer normal).

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

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
Kaitaia	401	156	1985	4th-highest
Kerikeri	601	192	1981	4th-highest
Dargaville	439	197	1943	2nd-highest
Leigh	542	268	1966	Highest
Warkworth	494	181	1966	4th-highest
Whangaparaoa	433	237	1946	3rd-highest
Whitianga	687	238	1961	Highest
Matamata	424	175	1951	Highest
Te Puke	700	210	1973	2nd-highest
Whakatane	533	211	1952	2nd-highest
Whatawhata	519	176	1952	2nd-highest
Takaka	625	163	1976	3rd-highest
Mt Cook	2208	194	1928	4th-highest
Tara Hills	251	189	1949	3rd-highest
Lumsden	311	115	1982	4th-highest
Alexandra	217	189	1983	Highest

SUNSHINE: CLOSE TO SUMMER NORMAL FOR MOST REGIONS.

Summer sunshine totals were close to normal in many regions of the country (between 90 and 110 percent of summer normal). The exceptions were Waikato, Coromandel, western Bay of Plenty, Gisborne, Wellington, Otago and the Lakes District, where below normal summer sunshine totals were experienced (between 75 and 90 percent of summer normal).

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

Location	Sunshine (hours)	Percentage Of normal	Year records began	Comments
Takaka	733	109	1985	4th-highest
Wallaceville	512	81	1939	4th-lowest
Blenheim	675	92	1947	4th-lowest
Lake Tekapo	637	88	1928	4th-lowest

SUMMER CLIMATE IN THE SIX MAIN CENTRES

Summer 2010/2011 was very warm, and rather cloudy, at the six main centres. Mean summer temperatures were the highest ever observed at Auckland Airport (since records began there in 1959), and were the 2nd-highest on record at Tauranga and Hamilton (where records began in 1913 and 1946, respectively). Of the six main centres, for the summer of 2010/2011 as a whole, Tauranga and Auckland were equal-warmest, Tauranga was the wettest but also the sunniest, Christchurch was the driest, and Dunedin was the coolest and cloudiest.

Summer 2011 main centre climate statistics:

Location	Mean temp. (°C)	Departure from normal (°C)		Rainfall (mm)	% of normal		Sunshine (hours)	% of normal	
Auckland[a]	20.7	+1.4	Highest since 1959	307	143%	Above normal	577	90%	Near normal
Tauranga[b]	20.7	+1.9	2nd highest since 1913	470	197%	Well above normal	638	92%	Near normal
Hamilton[c]	19.7	+1.9	2nd highest since 1946	380	144%	Above normal	569 [g]	87%	Below normal
Wellington[d]	17.0	+0.5	Above average	236	107%	Near normal	607	89%	Below normal
Christchurch[e]	17.4	+0.8	Above average	129	99%	Near normal	611	94%	Near normal
Dunedin[f]	15.2	+0.4	Near average	295	136%	Above normal	444	89%	Below normal

[a] *Auckland Aero except sunshine data from Mangere* [b] *Tauranga Airport* [c] *Hamilton Airport* [d] *Kelburn*
[e] *Christchurch Airport* [f] *Musselburgh* [g] *Ruakura*

HIGHLIGHTS AND EXTREME EVENTS

Rain and slips

The highest 1-day rainfall for summer 2010/2011 was 313 mm recorded at Mount Cook on 27 December.

On 18 December, heavy rain in the Eastern Bay of Plenty caused land slips, cut power, and blocked roads. Power was cut about 11 pm and restored mid-morning on 19 December. The forestry road, used as a detour for SH36, the main East Coast Rd, damaged by floods and landslides in winter and still under repair, was closed for a short time by surface flooding. The main road into the small town of Ruatoki was also blocked by slips.

On 21 December, SH94 between Te Anau and Milford Sound was closed by a slip. SH6 was affected by flooding between Harihari and Haast. SH3 from Renwick to Nelson was closed by slips and flooding, and several roads in the Marlborough Sounds were also closed. On 22 December, the Department of Conservation issued a high alert for the Young Valley-Gillespie Pass circuit track, after heavy rain increased the risk the dam would burst and flood the valley below.

Heavy rain hit Westland, the Southern Alps and parts of Otago on the 27th and much of the rest of the country on the 28th. Several South Island roads were closed by surface flooding, including SH60 at Takaka, cutting off much of Golden Bay, SH6 at Renwick and at Canvastown (between Blenheim and Nelson), SH6 at the Lower Buller Gorge, SH63 between Arthurs Pass and Otira, SH73 between Otira and Kumara, SH69 from Inangahua to Reefton, SH65 from Murchison to Springs Junction, SH67 from Westport to Mokihinui, and SH7 from Hanmer Springs to Springs Junction. The James Road bridge in Bainham (on the Aorere River, near Collingwood) was washed away. A bridge in the Glen Roy Valley, near Murchison, was also washed out. The road to Ferntown, between Collingwood and the start of the Heaphy Track, was impassable. A slip across about 300 m of Readers Road near Havelock took out power poles and cut power. At Pelorus Bridge, campers waded through waist-deep water in the dark in an emergency evacuation at 4am, as the Pelorus River overflowed. Near Omarama in the Waitaki basin, severe rain forced campers to flee a free camping site near the Ahuriri River.

Heavy rainfall was observed on January 18/19, associated with ex-tropical cyclones Vania and Zelia, which produced flooding on the West Coast and caused the Fox River to burst its banks, forcing some township residents to leave their property. SH6 was flooded north of Punakaiki, as well as between Greymouth and Runanga, and was closed by a mud slide near Reefton.

A low of tropical origin (which formed near New Caledonia) moved towards New Zealand on January 22/23, producing extremely heavy rainfall, flooding, slips and road closures over much of the North Island, north of about Wanganui. Many daily rainfall records were broken during this event between Taranaki and Wanganui. In Auckland, flooding and a King Tide resulted in the Northern and Northwestern motorways being partially closed, and homes and businesses in the central city and coastal suburbs being flooded. Several yachts were beached. A Taupo camping ground was evacuated, and the Desert Road was closed by a slip. On 24 January, the Waitomo Caves were closed to visitors because of rising river levels after heavy rain. Surface flooding covered the farm paddocks in the area.

Ex-Tropical Cyclone Wilma moved rapidly towards the northeastern North Island during January 28th, causing widespread deluge rainfalls and severe flooding in northeastern regions of the North Island. In Kerikeri, SH10 was closed by surface flooding after heavy rainfall associated with the cyclone. The waterfront at Paihia was flooded, and Paihia's water treatment plant was damaged. Residents were asked to conserve water, while power was lost in other areas of the Far North, and in Whangarei.

On 29 January, Wilma continued to affect the upper half of the North Island bringing torrential rain, although it was downgrading to an extra-tropical cyclone. SH25, the Thames coast road, was closed by a huge slip at Ruamahanga, with several other smaller slips also along the road. More than 500 visitors were stranded in Coromandel township, and Tapu camping ground also housed hundreds of campers. Flooding closed SH2 at Waimana Gorge, and also between Tauranga and Whakatane, with the access road to Tawharanui Beach near Matakana also cut off. Slips caused delays on SH25 near Whitianga, Kuaotunu and Whangamata, and on SH2 at Waioeka Gorge and Waiotahi Beach. Also in Whangamata, the heavy rain

forced raw sewage to flow over properties and into the harbour after the treatment station at Awarua Point failed. On Waiheke Island, an 80 year-old house plunged down a cliff after a retaining wall was washed away. People from Kaeo to Kawakawa were evacuated from their homes because of rising floodwaters. In Whangarei, the Kamo bypass and parts of SH1 were closed, with detours in place. SH1 was also closed at Springs Flat, Kaeo, and Puketona Junction, with more than a kilometre of road under water at Kaeo. SH11 was closed by floodwaters between Kawakawa and Paihia. At Waihi Beach, motel units had to be evacuated because of flooding. Nine patients were evacuated from Waipuna Hospice at Te Puna until flood waters surrounding the hospital receded. All tracks on and around Mount Maunganui were closed by slips and mud slides. Sections of SH2 in Tauranga were affected by surface flooding, but remained open.

On 30 January, farms in the low-lying Hikurangi swamp area of Northland remained submerged after flood waters breached stopbanks along the Mangakahia River. SH11 was closed between Opua and Paihia by flooding, and about 30 properties in Towai, Paroa Bay, Pokapu and Matawaia lost power. On 31 January, in Whakatane there was a potentially dangerous build-up of debris beneath the main bridge, and some roads were passable only by canoe.

Extreme rainfalls were experienced in Otago and Southland on 6 February. During this event, heavy rain caused flooding in West and South Otago, with some roads impassable, and surface flooding over large areas of farmland, especially around Kelso and low-lying parts of Balclutha. In Timaru, the heavy rain brought down a tree which hit the 11kV power line, cutting power to homes southwest of the city. On 8 February, the Land Transport Authority closed the twin bridges over the Waitaki River at Kurow, after high river flows damaged a bridge pier.

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

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Kaitaia	137	Jan-28th	1985	2nd-highest
Kerikeri	252	Jan-28th	1981	Highest
Kaikohe	210	Jan-28th	1956	Highest
Dargaville	109	Dec-17th	1943	Highest
Whangarei	211	Jan-28th	1943	Highest
Leigh	194	Jan-28th	1967	Highest
Warkworth	161	Jan-28th	1967	2nd-highest
Whangaparaoa	150	Jan-28th	1946	Highest
Whitianga	220	Jan-28th	1961	3rd-highest
Tauranga	174	Jan-28th	1910	Highest
Te Puke	175	Jan-28th	1973	Highest
Taupo	114	Jan-23rd	1949	2nd-highest
Taumarunui	120	Jan-23rd	1913	Highest
Turangi	124	Jan-23rd	1968	2nd-highest
Takapau Plains	84	Jan-23rd	1962	3rd-highest
Stratford	164	Jan-23rd	1960	2nd-highest
Hawera	118	Jan-23rd	1977	Highest
Ohakune	125	Jan-23rd	1961	Highest
Wanganui	125	Jan-23rd	1937	Highest
Takaka	171	Dec-27th	1976	2nd-highest
Cape Campbell	103	Jan-26th	1890	3rd-highest
Tara Hills	85	Dec-27th	1949	2nd-highest
Ranfurly	53	Feb-06th	1943	2nd-highest
Lumsden	57	Feb-06th	1982	2nd-highest
Cromwell	52	Feb-06th	1949	4th-highest
Alexandra	68	Feb-06th	1983	Highest
Gore	64	Feb-06th	1967	3rd-highest
Balclutha	73	Feb-06th	1964	4th-highest

- **Temperature**

The highest temperature recorded in summer 2010/2011 was 41.3°C recorded at Timaru (Gardens) on 6 February (a new all-time record at this site). The lowest temperature was -2.3 °C, recorded at Tara Hills (South Canterbury) on 8 December (the second-lowest summer temperature recorded there since records began in 1949).

During summer, an extremely cold spell occurred on December 8 – 9. In particular, minimum temperatures in Otago and Southland on December 9th were record or near-record low. In contrast, there were multiple heat waves during the summer. Notably, several North Island sites broke summer maximum temperature records on January 17 – 18, while numerous stations in both islands experienced extreme warmth between 2 and 7 February.

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

Location	Extreme maximum temperature (ºC)	Date of extreme temperature	Year Records Began	Comments
Whangarei	31.5	Dec-22nd	1967	Highest
Leigh	29.5	Feb-05th	1966	Highest
Whangaparaoa	27.9	Feb-05th	1982	Equal 2nd-highest
Paeroa	31.9	Jan-17th	1947	3rd-highest
Te Puke	31.2	Feb-05th	1973	Equal 4th-highest
Dannevirke	31.5	Jan-18th	1951	4th-highest
Hicks Bay	28.2	Feb-04th	1969	Equal 4th-highest
Mahia	31.5	Jan-19th	1990	3rd-highest
Palmerston North	31.2	Jan-18th	1918	4th-highest
Levin	31.4	Jan-18th	1895	Highest
Wellington (Airport)	29.4	Jan-18th	1962	2nd-highest
Hawera	30.7	Jan-18th	1977	Highest
Ohakune	29.5	Jan-17th	1962	3rd-highest
Wanganui	31.1	Jan-18th	1937	3rd-highest
Takaka	33.0	Feb-06th	1978	Highest
Nelson	31.0	Feb-02nd	1943	4th-highest
Kaikoura	34.3	Feb-02nd	1963	Highest
Christchurch	35.9	Feb-06th	1863	3rd-highest
Le Bons Bay	30.8	Feb-02nd	1984	2nd-highest
Lake Tekapo	32.7	Feb-06th	1925	4th-highest
Timaru (Gardens)	41.3	Feb-06th	1885	Highest
Dunedin	34.4	Feb-06th	1947	4th-highest
Lumsden	30.3	Feb-06th	1982	3rd-highest
Ngawi	12.8	Dec-08th	1972	Equal 3rd-lowest
Hicks Bay	15.2	Dec-08th	1972	2nd-lowest
Stratford	12.7	Jan-23rd	1972	Equal 4th-lowest
Takaka	14.5	Dec-08th	1978	4th-lowest
Balclutha	11.3	Dec-06th	1972	4th-lowest

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

Location	Extreme minimum temperature (ºC)	Date of extreme temperature	Year records began	Comments
Tara Hills	-2.3	Dec-09th	1949	2nd-lowest
Manapouri	-2.1	Dec-09th	1963	3rd-lowest

Queenstown	-0.4	Dec-09th	1871	Lowest
Lumsden	-2.0	Dec-09th	1982	2nd-lowest
Invercargill	-0.8	Dec-09th	1905	4th-lowest
Balclutha	0.8	Dec-09th	1964	Equal 2nd-lowest
Kaitaia	21.5	Jan-18th	1985	Highest
Whangaparaoa	20.2	Feb-05th	1982	Equal 4th-highest
Tauranga	21.5	Feb-04th	1941	4th-highest
Te Puke	20.8	Feb-04th	1973	3rd-highest
Rotorua	20.3	Feb-04th	1972	Highest
Taupo	19.7	Feb-05th	1950	4th-highest
Hamilton	21.8	Dec-22nd	1940	Highest
Port Taharoa	20.5	Feb-14th	1974	4th-highest
Masterton	20.8	Jan-07th	1943	2nd-highest
Takapau Plains	20.0	Feb-06th	1972	Equal 2nd-highest
Castlepoint	21.5	Feb-06th	1972	Equal 3rd-highest
Martinborough	22.1	Feb-06th	1986	Highest
Hicks Bay	20.4	Jan-19th	1972	Equal 3rd-highest
Gisborne	23.2	Jan-19th	1940	Highest
Hastings	22.9	Jan-19th	1972	2nd-highest
Wairoa	23.3	Jan-19th	1972	2nd-highest
Hawera	19.6	Feb-04th	1977	Equal 2nd-highest
Ohakune	17.8	Feb-05th	1972	Equal 4th-highest
Wanganui	20.4	Feb-05th	1972	4th-highest
Lake Rotoiti	16.9	Feb-07th	1972	3rd-highest
Reefton	20.4	Feb-07th	1972	Highest
Hanmer Forest	23.5	Feb-06th	1972	2nd-highest
Arthurs Pass	16.3	Feb-07th	1973	2nd-highest
Le Bons Bay	19.0	Jan-03rd	1984	Equal 3rd-highest
Lumsden	17.2	Jan-16th	1982	3rd-highest

- **Wind**

The highest wind gust was 172 km/hr, recorded at Mount Kaukau (Wellington) on 28 December.

On 21 December, high winds in central Christchurch downed a tree and crushed a parked vehicle. Spencer Beach Holiday Park in North Canterbury lost power after lines came down. Throughout Canterbury and North Otago, firefighters were called out to numerous vegetation fires started by the wind. In Timaru, gusts brought down power lines and power poles, cutting power to 3500 customers for about three hours. Trees were brought down across the Waitaki District, and wind-fanned fires closed SH82 near Waimate. High wind warnings were in force for high sided vehicles on SH77 from Darfield to Ashburton, SH75 from Halswell to Akaroa, SH7, the Lewis Pass, and SH73 from Springfield to Arthurs Pass. In Dunedin several flights were unable to land because of the strong northwesterly winds. Customers in the city and surrounding area lost power, roofs were lifted off homes, and firefighters tackled many fires triggered by the hot windy weather and arcing of downed power lines. In Marlborough, several large tree branches were brought down, blocking Kenepuru Road in the Marlborough Sounds. In the Rai Valley fierce winds blew a 10-m square shed from its foundation and threw it up to 40 m on to power lines in the Ronga Valley. The power lines were severed and arced cutting power to the area, and the shed was destroyed. In Wellington, wind blew over a tree which brought down trolley bus lines in Thorndon near the Botanic Gardens, blocking both lanes and causing traffic chaos, and in Mt Victoria, a toppled tree damaged a car. The Zephyrometer wind sculpture at the south end of Evans Bay was horizontal across the road at times in the northwesterly gales. One early-afternoon flight from Blenheim to Wellington was forced to turn back when strong winds at Wellington Airport prevented it from landing.

On 22 December, high winds, heat, and downed power lines, set off a spate of fires from Invercargill to North Canterbury. At Leithfield Beach near Amberley, a large fire forced the evacuation of two households,

and about 20 homes were evacuated near Rolleston until another fire was contained. The fires were extinguished by December 26th.

On 24 December, a landboarder died when high winds flung him into a tree near Nelson.

Several locations experienced very high winds on December 28th. Gales caused havoc for emergency services around the lower North Island, bringing down trees and power lines. Police in Wellington said they received a call every two minutes between 7am and midday from people seeking information as the strong winds caused havoc in the city. A large pine tree fell over SH1 south of Mangaweka, between Taihape and Hunterville, and the road was down to one lane. The Rimutaka Hill Road was closed by high winds.

On 15 January, a wind gust flipped one small plane on top of another at Queenstown Airport, causing extensive damage to both aircraft. Another plane had its tie-downs broken, but was not badly damaged.

On 31 January, wind gusts of more than 100 km/hr lifted roofing iron, uprooted trees, demolished farm sheds, tore apart tunnel houses and felled power lines between Collingwood and Puramahoi. At Waitapu Gardens, a mini-tornado tore a 48 m plastic tunnel house off the pepper crop, flattened the corn crop, destroyed the beans, and ripped the tomato tunnel house in half. The back wall of Golden Bay Air's nearly-completed hangar at Puramahoi Aerodrome was blown out, and Farewell Spit Tours cancelled trips to the spit.

On 2 February, record-breaking westerly winds occurred over the South Island and around central New Zealand. High winds and low cloud prevented the Canterbury Crusaders rugby team flying to Hokitika. The northwest winds also knocked down trees, damaging a 33 KV power line, cutting power to about 2500 homes near Leeston. In Fairlie, 15 power poles were snapped, cutting power to the town. SH80 between Lake Pukaki and Mt Cook, and SH8 between Fairlie and Twizel were closed to towing vehicles. Cautions were also in place for SH1 between Blenheim and Cheviot, and SH73 between Springfield and Arthurs Pass. In Te Anau, a mini-tornado ripped corrugated iron off classroom roofs at Fiordland College, flinging one sheet up to 150 m over trees and across a sports field.

Near-record high extreme wind gusts for summer 2010/2011 were recorded at:

Location	Extreme wind gust speed (km/hr)	Date of extreme gust	Year records began	Comments
New Plymouth	119	Jan-24th	1972	Highest
Castlepoint	154	Feb-02nd	1972	4th-highest
Hawera	93	Dec-28th	1986	2nd-highest
Farewell Spit	96	Jan-31st	1973	Equal 2nd-highest
Winchmore	100	Dec-21st	1970	3rd-highest
Tara Hills	87	Feb-02nd	1985	4th-highest
Dunedin	104	Dec-21st	1981	Equal 4th-highest

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