

THE WEATHER IN NEW ZEALAND IN JANUARY 1983

General—January was cool and dry in the North Island and the north and east of the South Island and cold and wet in the south and west of the South Island.

South-westerly winds were unusually frequent in the north this month. Eighty-three percent of all winds at Auckland were from this quarter, a total that was the highest on record for January and one that has been equalled only once in any month since recordings began in 1956. In contrast north-westerly winds were most frequent in the South, with the highest frequency of north-westerlies since 1964 recorded at Invercargill.

A tornado on the 19th caused damage estimated at between \$2 million and \$3 million to houses in the Christchurch suburb of Halswell. The tornado formed on the leading edge of a frontal squall and damage, although severe, was limited to an area approximately 400 metres by 100 metres. A hailstorm accompanying the squall produced hailstones of up to 4cm in diameter and caused damage estimated at close to \$10 million to crops, market gardens, glasshouses and vehicles in the Christchurch area.

Low rainfall, gusty winds and warm afternoon temperatures led to several large bush fires on the Coromandel Peninsula. A major forest fire risk developed in the north of the North Island and logging was curtailed in many State forests.

Rainfall—January was drier than usual over the whole of the North Island except parts of Taranaki and some central areas, where rainfalls were normal or slightly above normal. Gisborne and Wellington were very dry, receiving less than 20 percent of their normal rainfall, while most of Hawke's Bay and Wairarapa had between 20 percent and 30 percent of normal rainfall. Northern and eastern areas of the South Island had normal or less than normal rainfall, while western and southern areas were very wet. South Westland, Fiordland, and Southland had between 200 percent and 300 percent of normal rainfall. Milford Sound recorded 1588mm of rain, the highest for January since records began in 1930, and established a new record 72hr fall of 741mm between the 9th and 12th.

The heavy rain in south-western areas between the 9th and 15th led to flooding in Queenstown and Te Anau when lake levels became extremely high. Lake Wakatipu was reported to have reached its highest level since 1878 and business premises in low-lying areas were flooded. Further problems were caused by erosion of the shoreline, disruption to transport and water supplies and damage to market gardens and orchards. In Te Anau the lake reached its highest level since 1957 and the wharf, coffee bar, and tourist centre were flooded. In the week from the 9th to the 15th 330mm of rain fell at Manapouri and 1000mm at Milford Sound, and it is almost certain that falls were higher in the mountains forming the catchment areas for the lakes.

Temperatures—Temperatures were below normal over the whole country except Marlborough and Blenheim, where it was slightly warmer than usual. In the North Island, temperatures were between 0.5°C and 1.0°C below normal in northern and eastern areas and between 1.0°C and 2.0°C below normal in central and western areas.

Taumarunui had its lowest mean temperature for January since recordings began in 1947 and Ohakea the second lowest mean temperature since records began in 1940. In the South Island areas in the south and west were between 1.5°C and 3.0°C cooler than usual while most other areas were between normal and 1°C below normal. On the 10th and 11th temperatures in eastern districts of both Islands exceeded 30°C. Temperatures were particularly high in the Bay of Plenty region on the 11th. Tauranga Airport reached 33.7°C and Kawerau 37.0°C, both record maximum temperatures since these stations opened in 1913 and 1955 respectively.

Sunshine—January was sunny in the North Island and the north and east of the South Island. Some high sunshine totals were

recorded in eastern areas this month, and among those stations with very high departures were Kaikoura (+70 hours), Tauranga (+64 hours), Wairoa (+59 hours), Christchurch (+58 hours), and Gisborne (+53 hours). Apart from western areas, the rest of the North Island and north and east of the South Island had between 20 and 50 hours more sunshine than usual. Western and southern areas of the South Island were cloudy; Greymouth had 65 hours less sunshine than normal and Invercargill 53 hours less than normal.

THE WEATHER SEQUENCE, JANUARY 1983

1-7 January

An extensive anticyclone covered New Zealand on the 1st. The weather was fine and cool in all districts between the 1st and 3rd, with the exception of Fiordland on the 3rd when a front within a trough crossing the Tasman Sea brought some rain to south-western areas. Rain became widespread over most of the South Island and the south and west of the North Island on the 4th as this front moved onto the country. There were further falls of rain in these areas between the 5th and 7th as a disturbed westerly flow developed across New Zealand and several fronts within this flow crossed the country.

8-14 January

There were further showers in isolated areas on the 8th but by the 9th a ridge from an anticyclone centred near Norfolk Island extended southwards onto the country. Fine conditions prevailed except in south Westland, Fiordland, and Southland. These areas continued to have rain under the influence of a strong, moist north-westerly airstream and similar conditions continued during the 10th and 11th. By the 12th a complex trough had begun to move onto western areas and this brought rain to all districts except those on the east of the North Island; some very heavy falls occurred in the west and south of the South Island. There were further widespread but lighter falls on the 13th and 14th as the trough crossed New Zealand and moved away to the south-east.

15-21 January

A disturbed westerly airstream developed behind the trough and this continued to affect most of the country except the north of the North Island until the 18th. During this time cool, showery conditions were experienced over much of the country apart from the north of the North Island and districts to the east of both Islands, which tended to be cool but dry. A trough developed over New Zealand on the 19th and a front within this brought further rain to all areas except the south and east of the North Island and the north-east of the South Island on the 19th and light rain to most districts on the 20th. The trough had moved away by the 21st and a strong south-westerly flow, preceding an anticyclone in the Tasman Sea, developed over New Zealand. There were heavy showers in southern and western areas of the South Island, but fine, slightly cool weather elsewhere.

22-31 January

The anticyclone remained in the Tasman Sea during the 22nd to 24th and a strong south-westerly flow developed over the country. Light rain fell in western areas of both Islands on the 22nd, with fine weather in most areas on the 23rd and heavier falls of rain in western areas on the 24th as a trough approached the South Island. This trough, with its associated depression and cold front crossed New Zealand during the 25th and 26th with widespread light rain and cool temperatures. There was a clearance in the weather during the 27th as an anticyclone moved onto the country. This became slow moving and eventually developed into a belt of high pressure over the north of New Zealand. The weather remained fine, apart from isolated showers in the west and south of the South Island, until the end of the month.

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