

WEATHER NOTES FOR DECEMBER 1980

General—Pressures during December were below average over northern districts, but elsewhere were above with large anomalies being recorded in the area south of the country. Winds from the westerly quarter predominated over New Zealand except in the far north.

Many farmers reported reasonable grass growth, but exceptional growth was obtained on the east coast of the North Island due to mild wet conditions. In many areas of the country, haymaking was behind schedule.

Rainfall—The only areas to have above normal rainfall were Gisborne, Hawkes Bay, Wairarapa, parts of Northland, and the Bay of Plenty. Areas of Gisborne and Hawkes Bay had more than 250 percent of normal while many South Island regions had less than 40 percent of the average rainfall.

Rain began to fall on the 22nd in Gisborne and Hawkes Bay and the heavy rain which followed during the next 7 days resulted in flooding in both Gisborne and Hawkes Bay. In the Gisborne region heavy rain in the ranges from the 23rd to 26th caused the Waipaoa River to rise on the 27th to about 9 m above the normal level, threatening to isolate the township of Te Karaka. The 48 hour rainfalls from 9 a.m. on the 25th to 9 a.m. on the 27th were at Otoko (257 mm), Te Karaka (109 mm), Gisborne (57 mm), Makaretu North (near the headwaters of the Waipaoa River) (148 mm), Kairoa (189 mm), and East Cape (111 mm).

In Hawkes Bay the Heretaunga Plains were flooded on the 28th when the Ngaruroro River burst its stopbanks at Twyford. An estimated 800 to 1000 hectares of orchard and market garden land were inundated with flood waters causing crops to be destroyed. At the height of the flood there was an estimated discharge of 2500 cusecs of water in the river at the Fernhill gauging station. The 7 day rainfall totals from 22nd to 28th are the highest ever recorded at many Hawkes Bay stations. These include Brentford (449 mm), Smedley (364 mm), Te Hau (380 mm), Tutira (281 mm) Blackburn (282 mm), Gwavas (277 mm), Springhill (255 mm), and Mount Vernon (218 mm).

It was also the wettest December since records started for many stations. Those with long records include, Otoko (1913), Rissington (1907), Te Mata (1889), Mokopeka (1891), Blackburn (1920), Hapua (1930), and Mount Vernon (1890). At Gwavas it was the wettest December since 1893, records began there in 1889.

On the other hand, along the east coast of the South Island, Timaru recorded its driest December since 1916. It was also the driest December since records were taken from 1965 at Woodend, and from 1964 at Coldstream.

Temperature—Over the North Island mean temperatures were generally below the December normal, while in the South Island they were above. In some east coast districts of the South Island they were warmer by more than 1°C.

During a warm spell in the middle of the month many east coast districts recorded maximum temperatures 30°C and above. These include Gisborne (33.6°C on the 15th), Mangatu Forest (31.6°C on the 15th), Mohaka Forest (32.0°C on the 15th), Hastings (31.3°C on the 15th), Kaweka (31.7°C on the 15th), Winchmore (30.0°C on the 20th), Waipara (30.6°C on the 14th), and Timaru (31.8°C on the 15th).

Warm temperatures were also recorded along the West Coast at the end of the month. At Franz Josef, 28.5°C was measured on the 25th, this being the highest December maximum since records began in 1953.

Sunshine—There was less sunshine than usual over the North Island and the north of the South Island. Elsewhere over the South

Island it was above average. Stations with below normal sunshine include Gisborne (58 hours), Blenheim (55 hours), Kelburn (49 hours), New Plymouth (48 hours), and Tauranga (38 hours). On the other hand stations to receive more than normal sunshine include Timaru (52 hours), Hokitika (34 hours), Westport (23 hours), and Dunedin (10 hours).

At Blenheim the 190 hours recorded was the lowest December total since records began in 1930. There have also been only two other occasions, 1966 and 1968, when 200 hours or less sunshine were measured. It was the dullest month at Gisborne since 1968, there being only one other time (in 1951) when the sunshine total was less. Sunshine records were taken at Gisborne from 1937.

It was the sunniest month at Westport and Hokitika since 1974 and 1968 respectively.

DAILY WEATHER SEQUENCE FOR DECEMBER 1980

The trough of low pressure which originated near Lord Howe Island lay east of Cook Strait on the 1st and a south to south-west air flow spread over the country.

An anticyclone in the mid Tasman Sea on the 2nd extended a ridge of high pressure over southern New Zealand on the 3rd with fine though cool weather. The anticyclone and ridge moved east-north-east to lie north of the country by the 5th as a cold front with rain over the Tasman Sea approached the south-west. The front moved over New Zealand on the 5th and 6th bringing rain to most western and southern areas.

On the 8th a complex trough of low pressure lay over New Zealand accompanied by rain. During the 9th a depression formed within the trough east of Wairarapa and moved northwards along the east coast of the North Island during the 10th and lay well east of the country on the 11th. At the same time a ridge of high pressure south of the depression moved eastwards over the South Island. Fine weather occurred with the high pressure area but moderate falls of rain were reported with the low along the east coast during the 9th.

An anticyclone near Lord Howe Island on the 11th extended a ridge of high pressure over southern New Zealand. The high pressure area remained slow moving, and by the 15th the ridge lay just east of New Zealand. Apart from light showers in Fiordland dry weather occurred over the country.

A complex trough of low pressure on the 15th near Tasmania drifted slowly eastwards to lie south of the South Island on the 21st. A series of cold fronts crossed New Zealand during this time bringing rain mainly to the west and south of the country, but became widespread during the 17th and 18th.

A small depression formed off the West Coast during the afternoon of the 21st and moved north-eastwards to lie near Northland by the 23rd. A ridge of high pressure lay from Lord Howe Island, over the South Island to the area east of the North Island on the 23rd. Consequently the depression became almost stationary and persisted until the 29th. Heavy rain associated with the depression fell in parts of Auckland and the Bay of Plenty during the 22nd, in Gisborne on the 25th, 26th, and 28th, and in northern and central Hawkes Bay on the 26th, 27th, and 28th. Flooding occurred as a result of the rain in areas of Gisborne and Hawkes Bay.

A large anticyclone over the south Tasman Sea on the 28th lay over New Zealand on the 30th. Apart from scattered showers over Northland, and areas of morning drizzle over the South Island, there was dry weather.

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