

The "normal" refers to the present site of the instruments. Standard period for normals is 1941-1970. No normals are available for stations with only short records.

*Indicates that the sunshine recorder is not located at the station but is in the near vicinity.

A rain day is a day with rainfall equal to or greater than 0.1 mm.

Where the extremes of temperature and rainfall have occurred more than once during the month, the date of the first occurrence is given.

NOTES ON THE WEATHER FOR MAY 1977

General—Pressures were lower than normal over the whole country, with an unusually high frequency of winds from a southerly quarter, especially about central New Zealand. The colder southerly winds were reflected in the temperatures which were below normal over the whole country. Although some areas did have the occasional warm spell during the month, most of the country experienced a number of very cold days. Farmers in Southland and Otago suffered extensive damage when a small depression passed over the area on the 2nd and 3rd. Heavy rain and gale-force winds caused flooding and damage to private property in many areas. Stock losses were high with estimates of more than 3,000 sheep and 130 cattle lost during this storm. Potato, wheat, and other crops were destroyed. On the 17th and 18th gale force winds, snow, and cold temperatures affected most areas of New Zealand. Communications, road, and electricity services were disrupted in many areas from Southland to Auckland. Heavy snowfalls closed roads as far north as Hawke's Bay on the east coast, and further to the north in central New Zealand. The first fall of snow in many years in the hill suburbs of Wanganui occurred during this period. Stock in most areas was reported to be in good condition, except in the hill country where it was affected by cold wet conditions. Some farmers were concerned at lack of grass growth which would cause a shortage of green feed through the winter.

Rainfall—Rainfall was below normal by as much as 60 percent in parts of Hawke's Bay and Poverty Bay, with some areas of Northland, Nelson, West Coast, and Canterbury below normal by up to 50 percent. Parts of Auckland, Waikato, Taranaki, Manawatu, and Wellington were above normal by 30 to 60 percent. Certain areas of Otago and Southland were above normal by as much as 120 percent. Stations at Invermay and Musselburgh (Dunedin) recorded their wettest May since 1957; more than half the monthly total for these stations falling in the first six days of the month. A severe thunderstorm in the Wellington region, early on the 2nd, brought heavy rain and flooding to areas in the Hutt Valley, nearly 40 mm being recorded in 24 hours at Stokes Valley.

Temperatures—Temperatures were below normal over the whole country during May. In the central North Island many areas were more than 2°C below the average, and many areas in both the North and South Islands had departures of greater than 1°C below average. Nelson recorded 26 ground frosts in the month, the highest number ever recorded in May since the station opened in 1943. The coldest spell was the 17th-19th when temperatures fell well below normal.

Sunshine—Sunshine was above normal by more than 20-30 hours in Auckland, Waikato, Bay of Plenty, Taranaki, Buller, Nelson, and Marlborough. In Wairarapa, Otago, and Southland it was below normal by 20-40 hours. The rest of New Zealand had near normal sunshine for the month.

Weather sequence—The depression which had been moving towards the South Island at the end of April had become complex, with one low pressure centre near Fiordland and another to the west of Buller. On the 1st and 2nd the former of these two centres, with associated cold front, passed eastwards across Southland and Otago. Heavy rain in Fiordland, Southland, Otago, and Westland, and gale-force winds caused major damage in many areas. Heavy rain and gales were also reported in the Wellington region on the 2nd. Pressures remained low over the country until the 3rd, when a ridge of high pressure extended from Australia into the south Tasman Sea. On the 4th and 5th an anticyclone became established in the Tasman, and a cold southerly airstream covered New Zealand bringing showers to many parts of both islands.

On the 6th a complex depression to the east of New Zealand deepened, and a cold front associated with this depression moved northwards across the North Island. The cold southerly flow persisted as the anticyclone in the Tasman moved onto the country on the 7th. Rain was reported in most areas and temperatures were cold, east of the ranges in both the North and South Islands, during this period. The low to the east of the country moved slowly eastwards on the 8th with pressures remaining high over New Zealand. A small depression which had formed in the north Tasman Sea moved southwards but filled rapidly.

The anticyclone began to move slowly north-east on the 12th, and a depression near Tasmania moved south-east. A cold front passed quickly across the South Island on the 13th as the depression moved to the south of the country. Showers were reported in many areas of the South Island, heavy at times in Fiordland. Pressures remained high over the North Island on the 14th and 15th with lower pressures to the south of the country. Early on the 15th a cold front moved northwards over the South Island and brought rain to the West Coast and parts of central New Zealand. Temperatures were warm in most areas of the South Island.

By the 16th a ridge of high pressure extended into the Tasman Sea, with a depression south-east of the country deepening. The pressure gradient between these two systems increased and by the 17th there was a strong southerly airstream covering the whole of the country. This gradient did not decrease appreciably until the afternoon of the 18th. Gale-force winds were reported during this period in most parts of New Zealand. Heavy falls of snow were reported in Otago, Southland, Canterbury, and Nelson, and lighter falls in Wellington, Manawatu, Wanganui, Wairarapa, and Hawke's Bay. Temperatures were well below normal throughout the whole of New Zealand on the 18th and 19th.

The anticyclone had moved onto the country late on the 19th, and a depression, which had formed off the Queensland coast, started to move southwards. Pressures remained high over New Zealand until the 21st. The depression in the north Tasman Sea moved south-east and another near Tasmania also moved in the same direction. Early on the 22nd the situation had become complex, with a depression to the north of the country and a trough of low pressure in the Tasman Sea. A cold front passed onto the South Island and a warm front crossed over the North Island bringing heavy rain to Westland and most of the North Island.

By the 24th a depression in the south Tasman Sea had moved across Southland. Rain was reported in most areas west of the ranges. Temperatures were warmer than normal in Canterbury. Another depression had formed near Tasmania and had begun to move towards New Zealand, with higher pressures to the north of the country. The depression and associated cold front passed across central New Zealand on the 25th and 26th. Heavy rain was reported in Wellington, Taranaki, and Waikato with lighter falls over most of the country. A ridge of high pressure had moved onto the South Island by the afternoon of the 26th and the depression continued to move east away from the North Island. An anticyclone was situated over the country on the 27th and 28th, but this weakened and moved north-east to be replaced by a trough of low pressure which had moved onto the South Island by the 29th. A wave depression formed on the cold front in this trough and moved eastwards to pass over the country on the 30th. The only area which did not receive rain as this depression crossed the country was Central Otago.

On the 31st the depression had moved to near the Chatham Islands, and was replaced by a weak ridge of high pressure, with a depression moving eastwards south of Tasmania. Temperatures were cold in the east coasts of both the North and South Islands.

J. S. HICKMAN, Director.

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