

## WEATHER NOTES FOR OCTOBER 1980

*General*—Over most of New Zealand, October was a windy, sunny, and mild month with below average rainfall. There was a high frequency of north-west winds although in the north, north-east winds predominated.

Good pasture growth and high dairy production were reported by many farmers despite the below average rainfall. In the east of the South Island spring crops had not been striking well because of depleted soil moisture. During October areas of Canterbury had a calculated soil water deficiency on at least 10 days.

The Milford Sound - Te Anau road was reopened to tourist traffic by the middle of the month, after having been closed by avalanches since mid-August.

Early in the month gale force winds fanned fires in Otago and Canterbury. These caused the loss of about 8000 hectares of tussock land in Otago and more than 1300 hectares of beech forest at Mount Thomas Forest.

*Rainfall*—Rainfall was above average in Fiordland, the north of the South Island about Manawatu, and in the far north of the North Island. Elsewhere it was below average, and in some eastern districts was less than 50 percent of normal.

During the 9th, localised heavy showers in the Dunedin area made roads slippery and accidents were reported. Musselburgh reported 28 mm during the day, 9 mm falling between 2 p.m. and 4 p.m. Portobello Road measured 26 mm, 11 of which fell between 2 p.m. and 5 p.m.

Heavy rain during the 17th to 19th in the Manawatu area caused some lowland areas to flood on the 18th and 19th. Rainfall totals for the 17th to 19th included Fielding (57 mm), Bunnythorpe (47 mm), Palmerston North (71 mm), Komako (74 mm), Haydon Street, Palmerston North (75 mm), and Waipuna (79 mm).

Christchurch with only 12 mm of rain had its driest October since 1961. The total September-October rainfall of 13 mm was the lowest recorded for these months at the airport since records began there in 1943. The combined September-October rainfall at Timaru (23 mm) is the lowest total measured since 1954, and the third lowest total since 1897.

At Papanui (Canterbury) 6 mm of rain was measured, this being the lowest October total since 1954, and Otoko (Gisborne) with 24 mm, had the driest October since 1961.

The highest October rainfall at lowland stations in New Zealand occurred at Milford Sound where 635 mm fell. Such a value occurs at Milford Sound in at least two Octobers every three years.

*Temperatures*—October's mean temperatures were above average over most of the country. Many eastern districts were over 1.5°C warmer than usual and both the mean maximum and minimum temperatures were above average.

At Christchurch the mean maximum temperature of 20.0°C was the highest since 1961, and this value has been exceeded on only one other occasion (20.7°C) since records began in 1953. The extreme maximum of 30.1°C occurring on the 27th was the highest (13.5°C above the mean daily October maximum) October temperature ever recorded at the airport.

At Onepoto (Lake Waikaremoana) the mean maximum temperature of 16.7°C was the highest since 1963; on only 2 other occasions since 1935 has this value been exceeded.

*Sunshine*—In northern districts, the Bay of Plenty, and in the west and south of the South Island sunshine hours were below average. Elsewhere they were above average, and areas of North Canterbury had an excess of over 40 hours.

The largest surpluses were noted at Hamner (48 hours), Christchurch (44 hours), Kelburn (31 hours), and New Plymouth (25 hours). Largest deficits were at Kaitaia (26 hours) and Dunedin (28 hours). Hamner had its sunniest October since 1961, the monthly value of 232 hours being exceeded only twice.

## DAILY WEATHER SEQUENCE FOR OCTOBER 1980

Embedded in a westerly airflow over New Zealand, a cold front passed over the South Island during the 1st and 2nd bringing rain to the west of the South Island, but mostly dry conditions persisted elsewhere. Another cold front over the Tasman Sea moved on to New Zealand on the 3rd. This front brought outbreaks of heavy rain to Westland, Buller, inland Kaikoura, and southern North Island districts. It became slow moving over northern districts on the 5th as a depression formed in the north Tasman Sea, with heavy falls of rain being recorded in Northland.

An intensifying anticyclone moved across the south Tasman Sea on the 4th to reach southern New Zealand by the 5th. The anticyclone lay east of the South Island on the 6th. Both the depression and anticyclone moved slowly east. Apart from showers in Fiordland and in the east of the North Island from East Cape to Cape Reinga dry weather prevailed during the 6th and 7th.

A trough of low pressure accompanied by rain moved across the Tasman Sea on the 8th reaching Fiordland on the 9th with heavy rain being reported there. The trough lay over New Zealand on the 10th and 11th and during this time light rain fell in most other districts.

An anticyclone over the Tasman Sea on the 11th extended a ridge into the South Tasman Sea and a south-west airflow covered New Zealand on the 12th bringing light showers to many areas. The anticyclone and ridge moved eastwards as a depression moved on to the Tasman Sea. The depression crossed the South Island during the 15th, and its associated north-south front brought rain to the country. A ridge of high pressure behind the depression, moved on to the South Island on the 16th, and lay to the east by the 17th. Meanwhile, a depression moved north-east from south of Tasmania, and deepened to lie over central New Zealand on the 18th, and near Chatham Island by the 19th. This system brought rain to New Zealand and localized flooding was reported in parts of Manawatu during the 18th.

A large anticyclone centred in the south Tasman Sea covered New Zealand on the 20th, and lay to the east of the North Island on the 21st. Dry weather covered the country except for a few showers in Northland. A trough of low pressure formed near Norfolk Island on the 21st and then moved east bringing rain to Northland.

A cold front over the Tasman Sea on the 21st moved over New Zealand on the 22nd. Apart from local heavy falls of rain in Fiordland, mostly light falls were recorded. An anticyclone in the central Tasman Sea moved onto central New Zealand on the 24th. The north-westerlies on the southern side of the high brought some heavy falls of rain to Fiordland, but elsewhere dry weather persisted. Another cold front with rain affected the south-west of New Zealand on the 25th, but dry conditions prevailed as the front moved north-east over the South Island and weakened. The front was followed by an anticyclone, and by the 27th the main anticyclonic centre lay east of Gisborne with a ridge of high pressure over New Zealand and the Tasman Sea.

During the 28th and 29th a strong north-west airflow became established over the country as the ridge of high pressure weakened, and on the 29th a cold front spread onto New Zealand bringing rain to most areas. Heavy falls of rain occurred again on the West Coast during the 28th and 29th, some southern areas receiving more than 100 mm. As the front moved away to the east on the 30th, a disturbed westerly airflow became established.

A trough of low pressure on this flow on the 31st brought frequent showers and thunderstorms to the west and south of the South Island, and scattered light showers to the west of the North Island.

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J. S. HICKMAN, Director.