

THE NEW ZEALAND WEATHER IN MARCH 1981

Warm, cloudy weather was experienced in most parts of New Zealand in March. Rainfall was highly variable in different parts of the country, some of which had drought and others floods.

Some stock problems were reported by farmers in central and northern areas, with facial eczema causing most concern. Grain yields were high in the South Island although sprouting was a problem in some of the wetter areas. There were also losses of late stone fruits due to splitting in wet weather and early frosts.

North-easterly winds continued to be more frequent than usual in the north of the country again this month. The south also experienced more north-easterlies than usual, and winds were generally much lighter than expected at this time of the year.

Rainfall

March was a dry month over the North Island, particularly in Auckland, East Cape - Bay of Plenty and the Wairarapa, these areas recording less than 50 percent of their normal rainfall. Local areas of severe drought occurred in parts of South Auckland where 30 percent of normal rainfall occurred. Although isolated heavy falls in Kaitiaki, Kerikeri, and Matamata caused monthly totals to be well above normal, these areas were otherwise dry this month as well.

The north-east coast, Southland, and Fiordland had below or close to normal rainfall this month, but the rest of the South Island was much wetter than usual. Areas of Nelson, Golden Bay, Westland, the Mount Cook region, and Central Otago had more than twice their normal rainfalls.

Severe localised flooding occurred in Kerikeri after torrential rain associated with a thunderstorm during the night of the 19th-20th. Kerikeri Aerodrome reported 265 mm of rain in the 24 hours to 9 a.m. on the 20th, an event that could be expected less frequently than once in 200 years; 130 mm of this rain were reported as having fallen between 8 p.m. and 9.30 p.m., a record intensity that again would be expected less often than once in 200 years. One person drowned in the flash floods that followed and damage to property was estimated at \$2 million. At Waitangi, south of Kerikeri, 257 mm were recorded in the 24-hour period, most of this falling between 10 p.m. and 2.30 a.m.

Heavy rain also fell in Matamata on the afternoon of the 26th. A total of 112 mm fell in the 24 hours to 9 a.m. on the 27th, 100 mm of this falling between 4 p.m. and 5.30 p.m. Shops in the township and houses in low-lying areas were flooded to a depth of 75 cm.

Temperatures

In March, mean temperatures were above normal by an average of 1°C in the South Island and 2°C in the North.

Some very high March temperatures were recorded during a warm spell between the 8th and 10th, particularly in the Manawatu district. These included 27.6°C at New Plymouth on the 8th, the highest for March since the station opened in 1944; 30.1°C at Ohakea on the 9th and 31.2°C at Palmerston North the same day, both records since 1964. To the east of the ranges, Napier Airport recorded 31°C on the 9th, a record for March since the station opened in 1973, and 32°C in Waingawa, Masterton, a record for this month since 1956.

Temperatures over the whole country became much cooler towards the end of the month. Mean temperatures were as much as 5.5°C lower than average on the 29th and 5° lower on the 30th, with -1°C recorded in Dunedin Airport.

Sunshine

Although March was a warm month it was also cloudy. All areas of New Zealand recorded less sunshine than normal although coastal areas south-east of Christchurch received close to normal sunshine.

Stations recording large deficits this month were: Rotorua Aerodrome (-71 hours), Taupo (-63 hours), Auckland City (-46 hours), Tauranga Aerodrome (-39 hours), Hokitika Aerodrome (-59 hours), Nelson Aerodrome (-51 hours), and Westport Aerodrome (-48 hours).

The total for Taupo was the second lowest for March since 1950, and the lowest at Rotorua since records began in 1974.

In the South Island, Nelson has had only two less sunny Marches since 1930, Hokitika one since 1964, and Westport three since 1937.

WEATHER SEQUENCE FOR MARCH 1981

An anticyclone lay to the south-east of New Zealand on the 1st of March, bringing fine weather and mild temperatures to most of the country. A small depression to the north-east and a north-east flow onto northern North Island brought rain to Northland and the east coast of the North Island. The rain spread further south on the 2nd, but temperatures continued warm. Scattered areas of rain persisted in Marlborough, Nelson, and the east coast of the North Island on the 3rd.

A cold front developed in the Tasman Sea on the 3rd and by the 4th was bringing rain to Westland, Fiordland, and Southland. This front moved onto the South Island on the 5th, increasing the intensity of rainfall in Fiordland and Westland. The rest of the country had fine warm weather under the influence of an anticyclone to the south-east of the South Island. This situation persisted until the 7th when the cold front moved north to lie across the north of the South Island, bringing a clearance to the far south, but continuing rain on the West Coast and much of the South Island. The front remained stationary during the 8th and 9th producing rain in all New Zealand regions except the East Coast.

On the 7th a tropical cyclone centred over northern New Caledonia began to intensify and move south towards Norfolk Island. By the 9th it had filled and become an extratropical depression centred between Norfolk Island and Cape Reinga. Only scattered local falls were experienced as it passed to the south of the country on the 10th, most areas having fine, mild weather.

A cold front associated with a trough in the Tasman Sea brought rain to Westland, Fiordland, Southland, and south-western districts of the North Island on the 11th and 12th. By the 13th it had moved eastward and a ridge over the country brought fine weather on the 13th and 14th. Fine conditions continued in the North Island and eastern parts of the South Island on the 15th while a complex frontal system in the Tasman Sea brought rain to the south-west of the South Island. As the front crossed the country on the 16th and 17th there were falls of rain in most districts in the South Island and southern North Island. Although the front had weakened by the 18th there were some heavy falls in central North Island districts and Northland. The anticyclone which lay north of New Zealand on the 14th moved to the south-east and became stationary during this period. A trough began to develop between this and a second anticyclone lying in the western Tasman on the 18th. A cold front within this trough brought rain as it crossed the country on the 18th and 19th, with some record falls in the Kerikeri district on the 19th. The anticyclone moved onto the country behind the front bringing fine settled weather to the south and southern North Island on the 19th and the whole country on the 20th.

A complex trough lay south of Tasmania on the 20th and this system moved east to lie in the western Tasman on the 21st. An associated complex frontal system brought heavy rain to Westland on the 21st and lighter falls to western and north-eastern districts as it crossed the country on the 22nd. A front associated with a small depression east of Lord Howe Island brought some warm showery weather to Northland and Bay of Plenty on the 22nd.

A second complex frontal system developed in the Tasman Sea and on the 23rd this lay south-west of the country. Heavy rain fell in Westland on the 23rd and in Westland and Northland on the 24th. By the 25th rain was general over the whole country, and continued until the 29th as a series of fronts crossed the country. Further local heavy falls occurred in this period, notably at Matamata on the night of the 26th.

An anticyclone to the south extended a ridge onto the country during the 29th bringing clearing weather to most districts. As the anticyclone spread northwards it brought fine but cool weather to all districts on the 30th and 31st.

(N.Z. Met. S. PUB. 107)

J. S. HICKMAN, DIRECTOR.