

## THE NEW ZEALAND WEATHER IN JULY 1983

*General*—July was a cool month with below average rainfall over the North Island and more rain than usual over the South Island.

South-easterly winds were much more frequent than usual over New Zealand, resulting in an unusual rainfall and sunshine distribution.

A warm and very moist northerly airstream which covered New Zealand between the 8th and the 10th brought rain to much of the country with widespread and heavy falls over northern parts of the South Island on the 9th. Major flooding occurred in Marlborough and Golden Bay, resulting in heavy stock and property losses.

Several communities were isolated as a result of roads and bridges being washed out, and some 500 people had to evacuate their homes. At the same time north-easterlies were gusting to around 60 knots at Auckland, resulting in several boats breaking their moorings. An Auckland man was drowned while trying to secure a yacht during the storm.

Farmers in most North Island areas reported dry and frosty conditions with little pasture growth. However South Island farms had reasonable growth, in spite of a high frequency of frosts.

*Rainfall*—North Island rainfalls were generally below normal, with many areas receiving very little rain. Less than 50 percent of the normal July rainfall was recorded over most of the island, while parts of the Waikato and Bay of Plenty received less than 30 percent of their usual July totals.

Hamilton and Whakatane, with 31 mm and 27 mm respectively, had record low rainfalls for the month. Tauranga recorded its lowest July total (22 mm) since 1902. The far north, and eastern areas from Gisborne to Cook Strait recorded rainfalls close to or slightly above normal, while Wellington received 124 percent of its usual July total.

Over much of the South Island rainfalls were above normal, although parts of Southland, and some northern areas, despite the flood period, received considerably less rain for the month than usual. Lake Rototiti recorded 45 mm, only 29 percent of its usual July total. On the other hand Mount John recorded a record 91 mm, almost twice its normal rainfall for the month.

Heavy snow fell over Otago on the 1st and over Canterbury on the 2nd. Some 40 000 sheep were rescued from the snow in the upper Clutha and Waitaki Valleys and drifts of snow on Banks Peninsula were up to 3 metres deep. Snow and ice during this period closed several roads in Otago, and the road and railway across Arthurs Pass.

*Temperature*—Average temperatures were close to normal over central and eastern areas of New Zealand during July, while much of the country experienced temperatures between 0.5°C and 1°C colder than usual. A few areas, notably coastal parts of Southland and Otago, recorded temperatures up to 1°C warmer than normal.

The first 6 days of the month were cold with minimum temperatures around 6°C below average being recorded in many places. Ice formed on Lyttleton Harbour on the morning of the 6th; the last time ice had been seen on the outer Harbour was in 1947. The following 5 days were much warmer, with several areas recording mean temperatures around 6°C above average.

Between the 12th and the 19th temperatures were close to normal, but fell again after this and remained low until the 29th. Frosts were widespread during this period. Sea ice was again reported, this time on the 27th when 4 mm of ice formed on the Aotea Lagoon at Porirua. This is an unprecedented event in the 23 years since the formation of the lagoon.

*Sunshine*—Sunshine totals for the month reflect the unusually high frequency of south-easterly winds. Eastern areas from East Cape southwards recorded less sunshine than normal, while western and northern areas had high sunshine totals. Auckland, Ruakura and Rotorua all recorded record high totals for the month, with 42, 49, and 36 hours respectively above normal. Gisborne on the other hand recorded 97 hours, its lowest July total since 1963.

## THE WEATHER SEQUENCE JULY 1983

## 1–7 July

A complex trough moved off to the east of New Zealand on the 1st, allowing a cold south-westerly flow to spread over the country, with showers in western areas of both islands. The flow turned southerly during the 2nd and showers spread to eastern areas, with some heavy snowfalls over the South Island.

Apart from a few showers near Gisborne, the weather became fine and cold as a high spread over New Zealand from the Mid Tasman Sea during the 4th and 5th. The high moved across the North Island during the 6th and 7th, while a moist north to north-west flow spread over the South Island, bringing showers to Fiordland on the 6th, and rain to western areas from Taranaki southwards on the 7th.

## 8–14 July

On the 8th a complex low moved into the mid Tasman Sea, maintaining a warm and moist northerly flow over New Zealand with rain in western areas of both islands. The low moved across the South Island during the 9th and 10th, bringing rain to most of the country, with widespread and heavy falls causing serious flooding in northern South Island areas on the 9th.

A southerly flow spread onto the South Island during the 10th and onto the North Island during the 11th, bringing showers to eastern areas and snow to the South Island high country. A ridge spread onto the South Island on the 11th, and onto the North Island during the 12th, 13th, and 14th, bringing generally fine cool weather, although a few showers persisted on the east coast of the North Island and about Wellington. The low had by this stage become slow moving to the east of New Zealand.

## 15–21 July

During the 15th the ridge weakened and showery southerlies freshened as a cold front moved across New Zealand. The southerly continued to bring showers to eastern areas on the 16th and 17th. A ridge spread onto the South Island on the 18th, bringing mainly fine weather, although the southerlies continued to give a few showers to eastern and southern North Island areas on the 19th.

The high spread onto the North Island during the 20th and showers became confined to the Gisborne area. On the 21st a cold front moved onto the South Island, bringing scattered rain to Fiordland while the weather remained fine and cool over the remainder of the country.

## 22–30 July

A low which had developed in the Coral Sea moved south-east towards the North Island on the 22nd, bringing showers to Northland, while a cold front approaching the South Island, brought rain to Westland and Fiordland. Over the rest of the country the ridge continued to give fine weather. The front moved north-east across New Zealand during the 23rd, forming a complex trough as it merged with the low near Northland.

A strong, cold and showery southerly spread over the South Island behind the front. Strong south-easterlies spread over the North Island during the 24th, bringing showers to eastern areas, while a ridge spread over the South Island, with clearing weather.

The ridge spread over the remainder of the country on the 25th, with fine cool weather in most places, although a few showers persisted near Gisborne and on the south coast of the South Island. Similar conditions were experienced on the 26th, 27th, 28th, and 29th, although the showers near Gisborne cleared and a moist north-westerly flow brought showers to Fiordland.

By the 30th the anticyclone lay over Northland and strong north-westerlies had spread over the South Island, ahead of a cold front in the Tasman Sea. As the front approached New Zealand rain became widespread in Western South Island areas.

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