

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for March 1978—continued
LATE RETURNS AND CORRECTIONS—continued

Station	Height of Station Above M.S.L.	Air Temperatures in Degrees Celsius								Rainfall in Millimetres				Bright Sunshine	
		Means of		Mean of A and B	Difference From Normal	Absolute Maximum and Minimum				Total Fall	No. of Rain Days	Difference From Normal	Maximum Fall		
		A Max.	B Min.			Maximum	Date	Minimum	Date				Amount		Date
Campbell Island, January 1978	Metres 15	°C 12.5	°C 7.4	°C 10.0	°C +0.7	°C 17.7	24	°C 3.2	16	mm 109	24	mm -15	mm 25	16	Hrs 111
Nandi Airport, Fiji, January 1978	15	32.1	23.2	27.7	+0.6	35.6	2	20.5	24	220	21	..	45	4	221
Nandi Airport, Fiji, February 1978	15	31.7	22.1	26.9	-0.3	34.0	5	19.7	27	107	11	..	39	7	214
Totokoitu, Rarotonga, February 1978	9	29.0	24.1	26.6	..	30.6	7	21.1	9	183	20	..	32	22	..

The "normal" refers to the present site of the instruments. Standard period for normals is 1941-1970. No normals are available for station⁹ 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 MARCH 1978

General—March was the third consecutive month with pressures above normal over the whole of New Zealand. Winds were predominantly westerly over the whole country, stronger over the South Island than to the north of New Zealand. The month was sunny, warm, and dry in most areas apart from the West Coast and parts of Southland. Rain at the beginning and towards the end of the month brought some relief to areas that had been experiencing drought conditions since the beginning of the year. Throughout the country, overall hydro storage had risen to about 48 percent of capacity by the end of the month. Lake levels in Canterbury and Otago rose markedly during the last week. Most farmers reported some grass growth during the month, but many were feeding hay to keep stock in condition. Lack of substantial rainfall during the month could have a serious effect on the growth of winter feed in many areas.

Rainfall—The only areas with above normal rainfall were the West Coast and parts of Southland and inland Otago. Some areas of Northland had less than 10 percent of their normal month's rain, and many districts of both the North and South Islands had only 25 to 50 percent of their normal rainfall.

On the 3rd a severe thunderstorm in the Bay of Plenty brought heavy rain to the Tauranga area. Nearly 41 mm was recorded in 30 minutes during the evening, and in the 24-hour period up to 9 a.m. on the 4th 133 mm was recorded.

A state of emergency was declared in the Haast area when rivers swollen by flood waters broke their banks on the 27th. Many families were evacuated and trampers were trapped in huts. The area was isolated by land slips and surface flooding on roads into the area. People were stranded in huts on the Milford Track, unable to leave the area because bridges had been washed away or damaged. More than 370 mm was recorded at McPherson Camp (Haast) in 24 hours during the 26/27th, the heaviest falls occurring between 7 p.m. on the 26th and 2 p.m. on the 27th. A total 477 mm fell in 48 hours from the 26th to 28th. At Milford Sound the heaviest falls were recorded between 4 p.m. on the 26th and 9 a.m. on the 27th, a total of more than 395 mm in this period. A 2-hour fall of 90 mm was measured during the period of heaviest rain. A further 138 mm fell between 8 p.m. on the 27th and 6 a.m. on the 28th.

Temperatures—Temperatures were above normal over the whole of New Zealand with the exception of some districts on the West Coast. Most areas had temperatures of nearly 1°C above normal, in Wairarapa they were above by nearly 2°C, and in Canterbury by more than 2½°C in some areas. The coldest days were the 19th and 25th. This was the third consecutive month with temperatures appreciably above normal.

Sunshine—Most areas of New Zealand had more sunshine than normal, apart from some areas in Auckland, Bay of Plenty, Nelson, and the West Coast which were slightly below. At Oamaru the total for the month was more than 60 hours above normal and many districts in Canterbury and parts of Hawke's Bay were above by more than 50 hours. The total sunshine for the first 3 months of this year, of 746 hours recorded at Kelburn (Wellington), is the highest since records began in 1907.

WEATHER SEQUENCE MARCH 1978

The depression and associated cold front that had been moving towards New Zealand from the Tasman Sea at the end of February, crossed onto the South Island late on the 1st. Heavy rain was recorded in Westland and parts of Fiordland, and lighter falls in areas west of the main ranges in both islands. On the 3rd unusually heavy rain was recorded in the Bay of Plenty area in the late evening, as this cold front crossed the North Island. Temperatures were very warm on the east coast of the country. Early on the 4th the front had moved east away from New Zealand, and a ridge of high

pressure extended onto the country from an anticyclone centred near Tasmania. A small depression of tropical origin, that had been moving south-east towards the North Island, continued to move in this direction and by the 5th was lying to the east of the country.

By the 6th the ridge of high pressure had weakened, and a trough of low pressure had moved onto the South Island bringing isolated showers to many areas. Temperatures were cooler than normal over most of New Zealand especially on the West Coast and in Southland. The anticyclone had moved into the north Tasman Sea, and a westerly airflow covered the country until the 8th. A weak trough of low pressure crossed the country on the 9th, the only areas having substantial falls of rain being Fiordland and parts of Westland. Elsewhere conditions were showery.

On the 10th an anticyclone had become established over New Zealand which brought fine weather to most of the country, apart from the Fiordland and Southland areas which reported isolated rain, as small disturbances in a westerly airflow crossed the South Island. The anticyclone became stationary over the country until the 17th when it started to move slowly eastwards. The only areas that had any significant falls of rain during this period were Fiordland and Southland. Temperatures were above normal during this period, the warmest days being the 12th to the 16th.

A cold front associated with a depression passing to the south of New Zealand, moved onto the South Island late on the 17th. During the passage of this front heavy rain was recorded in the West Coast, with moderate falls throughout most of the South Island and the southern half of the North Island. These falls had little effect on the drought conditions in the North Island and parts of the South Island. Temperatures became considerably cooler on the 19th.

Early on the 20th a ridge of high pressure extended onto the country from the Tasman Sea, and by the 21st an anticyclone had moved onto New Zealand bringing fine weather. This situation persisted until the morning of the 23rd when the anticyclone weakened and moved east. Pressures became low in the Tasman Sea and also to the south of the country. Later on the 23rd another low pressure area had developed to the west of Fiordland and a cold front joining this centre and the one in the north Tasman Sea moved onto New Zealand. Heavy rain was reported on the West Coast, with isolated rain over most of the South Island and showers in some parts of the North Island. On the 24th most of the North Island recorded some rain, and also parts of the South Island.

On the 25th an anticyclone had moved onto the country from the Tasman Sea bringing fine, dry weather, but by the 26th had begun to move east away from New Zealand. A complex situation developed in the Tasman Sea on the 26th as small wave depressions formed on two cold fronts. This whole system moved onto the South Island, with the main low centre moving south of the country. Exceptionally heavy rain was recorded on the West Coast, which caused major flooding and disruption to transport and communication services. Nearly 400 mm was recorded in the 24-hour period up to 9 a.m. on the 27th at Milford Sound, and many areas in Westland had in excess of 150 mm during the same period. Up to 9 a.m. on the 28th more than 200 mm was recorded in 24 hours at some stations on the West Coast. There were some moderate rainfalls reported in some areas of the North Island during this period.

By the morning of the 29th an anticyclone had moved east from the Tasman Sea and onto New Zealand. Fine weather persisted over most of the country with only a few isolated showers being reported. Temperatures were cooler than normal over the whole of the country on the 29th. The anticyclone began to move eastwards away from New Zealand on the 31st, and a wave depression formed on a cold front lying in the mid-Tasman Sea. The cold front moved east towards the South Island, and late on the 31st was lying across Fiordland and Southland, bringing rain to these areas.

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