

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for October 1969—continued

Station	Height of Station Above M.S.L.	Air Temperatures in Degrees (Fahrenheit)								Rainfall in Inches				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
	Ft.	°F.	°F.	°F.		°F.		°F.		In.			In.		Hrs.
Invercargill Airport ..	1	55.5	39.5	47.5	-2.2	65.9	15	31.9	6	5.40	23	+2.0	0.79	15	140
Milton ..	60	59.0	39.7	49.4	..	73.0	26	28.7	4	2.23	14	-0.1	0.41	23	..
Balclutha ..	20	58.7	40.7	49.7	..	72.0	14	30.4	6	1.95	18	..	0.52	15	190
Rarotonga ..	15	78.3	67.7	72.9	-0.5	84.1	23	60.6	14	2.63	16	-2.5	0.90	22	168
Raoul Island ..	126	67.2	55.8	61.5	-2.1	71.4	24	51.8	7	0.60	9	-2.9	0.27	28	240
Chatham Islands ..	157	54.1	43.8	49.0	-1.2	59.3	23	35.6	3	3.01	30	+1.1	0.40	29	165
Campbell Island ..	49	46.1	35.2	41.6	..	49.9	12	23.2	19	4.23	29	..	0.43	7,25	63
Scott Base, Antarctica ..	45	..	..	-5.8	..	24.1	28	-34.2	23	..	..	..	..	..	..
Lake Vanda ..	51	9.3	-11.7	-1.3	..	33.3	29	-27.8	20	..	..	..	..	..	..

## LATE RETURNS

Station	Ft.	°F.	°F.	°F.		°F.		°F.		In.		In.		Hrs.	
Whangapoua Forest, Sept. 1969 ..	12	63.8	..	..	..	76.0	8	..	..	7.44	17	+2.1	1.67	24	..
Whatawhata, Sept. 1969 ..	340	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pureora Forest, Sept. 1969 ..	1,800	56.5	41.8	49.2	+2.9	61.7	28	30.5	20	8.38	18	+2.2	2.16	10	..
Taurewa Forest, Sept. 1969 ..	2,545	..	35.5	..	..	..	..	29.2	20	8.60	17	..	2.40	25	..
Makahu Spur, Sept. 1969 ..	4,850	44.6	33.7	39.2	..	55.5	9	24.7	20	..	..	..	..	..	..
Palmerston North (D.S.I.R.) Sept. 1969 ..	110	61.5	46.4	54.0	+3.0	67.8	9	37.3	15	1.29	11	-1.6	0.53	13	126
Mid Dome, Sept. 1969 ..	1,268	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gore, Sept. 1969 ..	235	59.1	41.6	50.4	+2.7	68.8	26	31.5	5	3.01	16	-0.5	0.76	7	128
Errata															
Aupouri Forest, Sept. 1969 ..	225	..	..	..	..	..	..	..	..	3.69	..	..	..	..	..
Kaikoura, Sept. 1969 ..	326	..	..	..	..	..	..	..	..	..	..	..	..	..	165
Ophir, Sept. 1969 ..	1,000	..	..	..	..	..	..	..	..	1.67	..	..	..	..	..
Owairaka, Aug. 1969 ..	133	..	..	..	..	..	..	..	..	..	..	+1.1	..	..	..

The "normal" refers to the present site of the instruments. The standard periods for normals are: for temperature 1931-60, for rainfall 1921-50, and for sunshine 1935-60. No normals are available for stations with only short records.

\*The sunshine recorder is not located at the station but is in the near vicinity.

## NOTES ON THE WEATHER FOR OCTOBER 1969

**General**—This was the driest October since 1963, besides being sunny and cool. Over the greater part of the country 1969 has been a dry year so far, and this was particularly noticeable in March, July, and August, in addition to October. For most farmers the dry frosty weather has resulted in rather poor growth, and good rain would now be appreciated in all farming districts except Southland. Parts of South Canterbury and North Otago are still suffering most from the persistently low rainfall.

Strong gales buffeted Otago and Canterbury besides Cook Strait on the 26th, causing some damage.

**Rainfall**—Rainfall was below average, except in Southland and in a small area of northern Hawke's Bay and Gisborne. It was less than half the average value in northern and central districts of the North Island, in Nelson and Marlborough, and in parts of inland Canterbury. In eastern Northland, Coromandel, and parts of Bay of Plenty and Taupo it was less than a quarter.

The only area with rainfall more than 50 percent above average was around Foveaux Strait.

**Temperatures**—Mean temperatures were 1-2 degrees below average. The 10th was an unusually cold day in eastern districts and about Cook Strait, with snow showers to low levels.

**Sunshine**—The greater part of the country was favoured with 30-80 hours more sunshine than average. Largest surpluses were recorded in Taupo and Hawke's Bay about Cook Strait, and at Waimate and Oamaru. Blenheim received 300 hours, the highest ever recorded in any part of New Zealand in October.

In eastern Northland and northern Waikato and on the Southland coast sunshine was 20-40 hours below average.

**Weather Sequence**—On 1 October an anticyclone was centred near Tasmania, with a ridge of high pressure extending eastward over the country, and the weather was mainly fine. During the next 2 days temperatures became temporarily colder, with a cold front bringing scattered showers east of the ranges of both Islands and also in Nelson. On the 4th an anticyclone covered most of the country and the weather was fine, apart from some rain in the easterlies in Northland and in the westerlies on the West Coast.

During the 5th and 6th rain affected many parts of the country as a trough of low pressure moved over the South Island and a shallow depression remained close to Northland. The next 2 days were marked by westerly weather as a deep depression far to the south-west moved eastward and two troughs of low pressure crossed the country. At first, rain affected western and northern districts of the South Island besides areas west of the main ranges in the North Island. Later, the rain was restricted to the West Coast and western Southland. During the 9th and 10th a cold front crossed the country bringing unusually cold conditions with general rain, and also snow to low levels in many places.

From the 11th to the 14th an anticyclone moved from the mid-Tasman Sea on to the North Island, with fine weather over the whole country.

From the 15th to the 17th a trough of low pressure moved slowly across the country, accompanied by a period of rain. There was little rain in Northland or Auckland or east of the ranges.

The weather was generally fine on the 18th and 19th, with an anticyclone over the Tasman Sea extending on to New Zealand. However, some showers were reported on the Southland coast in the south-westerlies. From the 20th to the 25th a deep depression far to the south moved eastward while pressures remained high over the North Tasman Sea. This was a period of westerly conditions. A number of troughs of low pressure crossed the country, causing rain on the West Coast and, at times, in parts of Southland and some western districts of the North Island. Strong winds were reported in many areas. During the next 2 days a cold front crossed New Zealand accompanied by southerlies and general rain. Some very strong gales were reported on the 16th, especially in Otago and Canterbury besides Cook Strait.

On the 28th and 29th an anticyclone over the Tasman Sea moved eastward towards the North Island and the weather was mainly fine. During the last 2 days of the month pressure increased rapidly in the south and an anticyclone developed over Southland. As a result, southerlies brought showery conditions to some eastern districts, especially in the North Island, and also the Cook Strait area.

J. F. GABITES, Director.

(N.Z. Met. S. Misc. Pub. 107)