

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for January 1971—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.	°F.	°F.	In.		In.		Hrs.		
Dunedin Airport ..	4	70.5	49.3	59.9	+1.2	88.3	18	35.0	12	1.92	8	-0.6	0.83	26	173
Musselburgh, Dunedin ..	5	67.8	53.5	60.6	+1.8	87.0	29	42.5	12	1.39	11	-1.4	0.37	10	165
Oamaru ..	99	69.9	53.3	61.6	+1.8	91.0	26	44.2	14	1.38	14	-0.4	0.43	10	157
West Arm, Lake Manapouri	590	72.3	54.0	63.2	+6.1	82.0	15	44.0	5	7.43	11	-6.6	2.01	29	..
Borland Saddle ..	3,250	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Queenstown ..	1,080	77.1	54.1	65.6	+5.6	87.3	9	44.8	5	0.94	5	-2.3	0.73	29	204
Queenstown Aerodrome ..	1,154	75.6	53.1	64.2	..	85.6	28	44.6	5	0.98	5	..	0.72	29	..
Mid Dome ..	1,268	73.3	50.0	61.6	+3.8	86.9	28	38.5	12	1.98	9	-1.8	1.01	29	..
Cromwell ..	698	79.8	56.5	68.2	+5.0	92.6	25	43.6	5	0.60	9	-1.3	0.30	29	..
Ophir ..	1,000	76.0	50.7	63.4	+3.4	90.0	25	37.8	5	1.44	8	-0.6	0.44	29	..
Moa Creek ..	1,400	75.4	47.9	61.6	+4.2	88.9	25	27.0	16	1.20	9	-0.5	0.54	29	..
Earnscleugh ..	500	76.8	52.4	64.6	+4.3	92.1	28	39.5	6	0.70	6	-1.0	0.41	29	..
Alexandra ..	461	77.4	53.8	65.6	+3.2	90.5	28	42.8	5	0.85	7	-0.9	0.33	29	209
Roxburgh (Power Stn.) ..	360	77.4	52.0	64.7	+4.0	91.0	29	39.0	6	1.47	7	-0.7	0.71	30	..
Moa Flat, West Otago ..	1,345	70.4	48.6	59.5	+4.7	84.6	28	36.0	5	1.37	11	-1.6	0.84	29	..
Mahinerangi Dam ..	1,300	67.6	48.2	57.9	..	83.8	29	39.0	5	1.73	9	-2.0	0.53	29	..
Tapanui ..	740	72.9	50.0	61.4	+3.9	85.0	28	39.0	6	1.27	5	-2.1	0.59	30	..
Rankleburn Forest ..	835	69.2	47.7	58.4	+1.7	84.0	28	36.0	6	2.06	10	-0.7	0.87	29	..
Taiari Mouth ..	50	65.6	50.0	57.8	..	78.0	26	38.9	12	1.10	8	..	0.49	29	..
Otautau ..	180	68.8	48.5	58.6	+1.6	81.5	17	35.0	31	2.18	8	-1.4	0.64	27	175
Winton ..	145	71.5	50.8	61.2	+2.2	83.0	17	35.1	6	2.81	8	..	1.25	27	189
Gore ..	235	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hokonui Forest ..	150	72.3	51.1	61.7	+3.6	82.7	28	37.0	6	2.45	8	-0.8	0.71	26	..
Invercargill Airport ..	1	68.4	50.0	59.2	+3.1	81.7	17	36.1	31	2.80	12	-0.8	1.22	26	204
Tiwai Point, Bluff ..	15	64.9	52.2	58.6	..	76.1	17	43.0	5	1.48	9	..	0.48	19	..
Milton ..	60	70.7	49.2	60.0	+2.0	86.8	18	35.4	12	1.22	9	-1.3	0.41	29	..
Finegand, Balclutha ..	20	69.2	50.1	59.6	+2.2	86.8	18	42.8	16	1.05	10	..	0.39	29	174
Rarotonga, Cook Islands ..	15	83.5	73.2	78.3	+0.1	88.9	13	69.1	1	10.17	22	-0.2	2.28	20	186
Raoul Island ..	126	76.5	68.0	72.0	+1.2	79.4	9	64.0	21	5.50	20	+1.8	2.12	5	166
Chatham Islands ..	157	61.5	50.2	55.8	-1.8	68.9	29	41.0	6	0.39	8	-2.4	0.20	27	102
Campbell Island ..	49	54.0	44.2	49.1	+0.4	67.8	17	36.7	27	2.37	22	..	0.72	25	86
Scott Base, Antarctica ..	58	..	..	29.7	+7.2	40.1	3	14.9	27	..	..	..	..	..	..
Lake Vanda, Antarctica ..	510	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nugget Point ..	430	64.2	50.7	58.0	..	79.9	18	46.4	12	1.25	10	..	0.57	29	..
LATE RETURNS															
Mangatu Forest, Dec. 1970	570	75.4	52.3	63.8	..	89.0	6	40.5	10	3.36	10	..	0.90	27	..
Flock House, Bulls, Dec. 1970	30	69.3	51.2	60.2	+0.1	75.0	29	36.0	10	2.39	6	-0.4	1.16	14	..
Hokio Beach School, Dec. 1970	20	68.8	53.2	61.0	+2.2	73.2	29	37.8	10	1.19	8	..	0.49	13	..
Bromley Christchurch, Dec. 1970	31	69.0	54.2	61.6	..	84.4	5	45.0	10	1.52	4	..	1.18	13	..

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 JANUARY 1971

**General**—Barometric pressures were high to the south of New Zealand in January, and easterly to north-easterly winds were unusually frequent, bringing excessive cloud to eastern districts, with very warm conditions in western districts. From the 3rd to the 8th, cyclone Rosie brought several inches of rain to the greater part of the country and this relieved the prevailing very dry conditions. For the remainder of the month there were only light falls of rain, and conditions became dry again. They were worst in areas least affected by cyclone Rosie, especially parts of Northland, Southland, and Otago.

**Rainfall**—Rainfall was above normal over the greater part of the North Island and in Marlborough with most of Nelson and North Canterbury. It was more than double the normal value in parts of Manawatu, Wairarapa, and Marlborough.

Rainfall was less than half the normal value over the Canterbury high country and the Alps, South Westland, and parts of Fiordland and Central Otago. The total of 2.35 in. at the Hermitage was the lowest January rainfall there in 50 years of observations.

An exceptional downpour of 7 in. in 7 hours at Tariki, north of Stratford, on the 5th resulted in local flooding.

**Temperatures**—Temperatures were 5-6°F. (3°C.) above normal in western districts but only about normal in eastern districts. Western districts were in fact warmer than eastern districts in the same latitude, which is quite unusual in summer.

**Sunshine**—Sunshine was below normal except in northern districts of the North Island and in Southland and Otago, where it was close to normal. Greatest departures of 60-90 hours were

recorded in eastern districts of both Islands and also in Taupo. The totals of 159 hours at Napier, 165 hours at Blenheim, and 138 hours at Hanmer were the lowest in January for at least 45 years.

**Weather Sequence**—On the first 2 days of January an extensive anticyclone was centred first to the south of New Zealand and later to the east. Pressures were low over the Tasman Sea and cyclone Rosie was moving southward from Noumea. The weather was mainly settled but rain was reported in the Bay of Plenty and Hawke's Bay, on the Kaikoura coast, and in parts of Canterbury and Otago.

The period from the 3rd to the 8th was the main one of unsettled weather during the month, with considerable rain from cyclone Rosie over the North Island and the northern half of the South Island. At first the cyclone reached a position just west of Auckland. Afterwards it slowly lost intensity and winds turned to south-easterlies. A shallow depression still persisted on the 6th and later moved over the North Island.

On the 9th pressures were relatively high over the North Island but the weather was affected by a trough to the north-east, and rain was still reported in Bay of Plenty and Taupo. During the 2 following days a trough of low pressure crossed the country accompanied by varying amounts of rain, except in northern districts of the North Island. Temperatures became cooler in the southerlies.

From the 12th to the 15th an anticyclone was centred to the south-east of the South Island, while pressures were low to the north of the country. The weather was mainly fine, but easterlies over the North Island brought light rain to Gisborne and Hawke's Bay, and at times also to Northland, Auckland, Waikato, Bay of