

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for August 1970—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.	
Queenstown ..	1,080	52.2	36.6	44.4	+2.6	65.2	29	28.1	25	4.65	17	+2.2	1.31	27	96
Queenstown Aerodrome ..	1,154	51.9	34.1	43.0	..	61.2	29	24.0	25	3.73	13	..	1.26	27	..
Mid Dome ..	1,268	53.2	34.2	43.7	+2.5	66.4	29	22.4	24	3.15	14	+1.0	0.92	31	..
Cromwell ..	698	54.5	35.3	44.9	+3.8	66.3	29	22.0	26	2.78	12	+2.0	0.88	30	..
Ophir ..	1,000	53.9	30.7	42.3	+3.1	66.0	29	18.7	25	1.81	7	+1.0	0.54	30	..
Moa Creek ..	1,400	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Earnsclough ..	500	56.2	31.6	43.9	+3.2	69.8	29	20.7	26	2.19	10	+1.6	0.84	31	..
Alexandra ..	461	55.6	33.6	44.6	+3.1	68.6	29	22.9	26	2.08	12	+1.5	0.78	31	138
Roxburgh (Power Stn.) ..	360	55.1	34.6	44.8	+0.8	67.0	29	25.0	9	2.09	11	+1.1	0.45	27	..
Moa Flat, West Otago ..	1,345	50.8	35.4	43.1	+2.1	62.2	29	26.0	24	1.18	12	-0.6	0.49	31	..
Mahinerangi Dam ..	1,300	51.0	33.9	42.4	..	65.8	29	23.5	25	1.20	9	..	0.48	31	..
Tapanui ..	740	53.8	37.8	45.8	+2.8	67.0	29	28.0	24	1.13	15	-1.2	0.39	31	..
Rankleburn Forest ..	835	52.0	37.2	44.6	+2.8	66.2	29	27.2	25	1.66	15	-0.5	0.76	31	..
Taieri Mouth ..	50	53.8	38.4	46.1	..	66.6	27	27.5	25	0.99	9	..	0.44	31	..
Otautau ..	180	54.0	34.4	44.2	+1.4	..	..	24.0	25	2.01	10	-1.0	0.36	31	145
Winton ..	145	53.6	36.2	44.9	+1.3	64.0	29	24.0	6	1.12	10	..	0.24	15,31	148
Gore ..	235	55.3	36.6	46.0	+2.7	68.0	29	27.2	25	1.12	13	-1.0	0.37	31	145
Hokanui Forest ..	150	55.4	36.5	46.0	+3.0	65.1	29	24.0	25	1.53	12	-1.2	0.26	15	..
Invercargill Airport ..	1	54.0	35.4	44.7	+1.7	65.0	29	24.5	25	1.86	14	-1.1	0.40	14	147
Tiwai Point, Bluff ..	15	53.4	39.5	46.4	..	64.5	29	31.6	25	2.25	15	..	0.49	14	..
Milton ..	60	54.6	36.0	45.3	+2.8	68.2	29	22.8	25	1.32	9	..	0.75	31	..
Finegand, Balclutha ..	20	54.7	35.5	45.1	+2.6	66.9	27	26.3	25	1.10	10	..	0.44	31	129
Rarotonga, Cook Islands ..	15	76.9	66.3	71.6	+0.9	82.1	5	58.1	26	18.72	16	+14.8	9.17	31	106
Raoul Island ..	126	65.2	57.2	61.2	+0.3	68.9	7	52.1	25	3.36	17	-2.3	0.74	20	76
Chatham Islands ..	157	50.5	44.1	48.3	+1.9	56.1	30	36.0	24	4.80	19	+1.6	1.29	22	86
Campbell Island ..	49	46.7	38.4	42.6	..	54.0	27	26.3	1	3.24	27	..	0.75	21	23
Scott Base, Antarctica ..	58	..	..	-27.6	-3.8	6.4	21	-63.8	3	..	..	..	..	..	..
Lake Vanda, Antarctica ..	510	-15.9	-39.1	-27.6	..	26.2	5	-67.4	2,3	..	..	..	..	..	..

LATE RETURNS

Otutira, July 1970 ..	1,900	49.6	39.2	44.4	..	55.4	9	30.4	17	5.03	20	..	1.30	20	..
Berwick Forest, July 1970 ..	60	53.8	34.1	44.0	+3.8	64.1	19	23.2	17	2.59	12	+0.6	0.96	15	..
The Jordan, Awatere Valley, July 1970 ..	1,000	57.1	36.2	46.6	+4.6	67.6	26	27.1	29	4.24	10	+1.6	2.14	3	..

ERRATUM—

Paraparaumu, June 1970 ..	..	..	..	..	..	..	..	29.4	11	..	..	..	..	..	..
Portland Island, July 1970 ..	..	..	49.0	52.6	..	..	..	..	..	..	..	..	..	..	..
Puketurua, Northland, July 1970 ..	330	..	..	..	..	..	..	..	..	3.29	..	..	..	..	..

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 AUGUST 1970

General—August was marked by an unusually high frequency of northerly to easterly winds. It was cloudy, mild, and wet with some major floods. The mild weather brought good growth in most districts.

Rainfall—Rainfall was more than double the normal value in Auckland City and Coromandel; in Bay of Plenty and Taupo; about and east of Nelson City; and in the Alps and the Canterbury high country together with Central Otago. Most of the remainder of the country also received rainfall somewhat above normal. However, rainfall was 25 percent below normal in most eastern districts from Rangiora to Balclutha.

Widespread flooding of the Rangitaiki Plains and other parts of eastern Bay of Plenty occurred following heavy rain there on the 13th as a depression developed in a trough during the passage over the area. Many daily rainfalls were reported of 5-10 in.

A trough of low pressure became stationary over Nelson on the 29th, and heavy rain caused slips and serious flooding in the city, resulting in two deaths. The daily fall of 5.41 in. was the highest recorded there in over 80 years of observation, and of this 4 in. was recorded in 6 hours between 6 p.m. and midnight. On the following day the same trough caused daily falls of up to 12 in. in the Alps, with major floods in the Buller and Grey Rivers.

Temperatures—Temperatures were above normal, mainly by 1-3 degrees over the North Island, by 2-4 degrees over the South Island; and by 2 degrees over the country as a whole. The Hermitage, Mount Cook, had its warmest August in over 40 years of observations.

This winter (June, July, and August) has been persistently mild. In parts of the South Island it has been the mildest winter in many years of record. Thus Naseby and the Hermitage have had their highest winter mean temperature in over 40 years of record; while Christchurch has had its highest winter mean temperature in over 60 years of record, equal with 1916 and 1962.

The main period of cold southerlies was from the 22nd to the 24th, when a few stations in the South Island high country reported light snow falls.

Sunshine—Sunshine was below normal over nearly the whole country. In Bay of Plenty and eastern and southern districts of the North Island the deficiency mounted to 40-60 hours.

Weather Sequence—At the beginning of the month an anticyclone was centred over the North Island while pressures were low near Macquarie Island and a trough of low pressure moved on to the South Island. In the northerlies rain set in on the West Coast. During the 2nd and 3rd another trough of low pressure moved on to the South Island and rain spread over the whole country except near the east coasts. The trough became stationary through Auckland with the formation of a small depression. During the next 2 days the rain spread to all districts of the North Island and to eastern districts of the South Island, but there was a clearance over the remainder of the South Island. Some heavy falls were reported about the Gisborne ranges. The depression moved to the south-east of Gisborne and another depression became active over the North Tasman Sea, while pressures were high to the south. On the 6th rain persisted in most eastern districts, especially Gisborne and northern Hawke's Bay, and also over most remaining districts of the North Island. On the following day the second depression crossed Northland with rain there and in Gisborne and Hawke's Bay. Some flooding was reported in Northland.

From the 8th to the 11th an anticyclone moved from off the New South Wales coast across the Tasman Sea and the North Island, and to the east. This was a period of mainly fair weather. However, rain was reported at times on the West Coast, with light falls occasionally also around Invercargill, and from Manawatu to Taranaki.

With an anticyclone far to the east of the North Island, on the 12th pressures were again very low near Macquarie Island. A small depression moved across the Tasman Sea and the associated trough of low pressure moved on to both Islands at once, lying NNE-SSW. During the 13th and 14th a depression formed on the trough just east of Auckland and moved slowly north-eastward. Rain became general but falls were only light east of the ranges in the South Island. Some heavy daily falls were reported in