

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for December 1967—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.
Oamaru Aerodrome	99	65.0	48.9	57.0	..	79.3	12	37.0	11	0.55	6	..	0.28	24	..
Tara Hills, Omarama	1,600	68.1	45.7	56.9	-0.5	80.1	30	34.9	6	4.05	9	+1.9	0.99	23	244
Lake Hawea	1,147	67.4	49.5	58.4	-1.4	77.6	30	37.9	6	3.51	12	+1.0	0.80	13	..
Naseby Forest	2,000	67.2	40.9	54.0	-0.2	80.4	30	28.8	6	2.24	8	-0.4	0.84	23	..
Herbert Forest	200	66.7	45.6	56.2	..	78.0	12	36.5	8	1.57	11	..	0.34	24	..
Cherry Farm, Waikouaiti	21	65.0	46.6	55.8	+0.6	79.0	31	33.5	8	1.11	11	-1.5	0.18	24	..
Taieri	80	66.9	46.8	56.8	+0.5	78.2	31	34.2	6, 26	1.14	11	-1.8	0.21	12, 23	..
Berwick Forest	60	67.3	45.8	56.6	+0.3	84.1	19	33.8	6	1.97	13	-1.2	0.40	23	..
Dunedin Airport	4	66.7	45.8	56.2	-0.1	83.8	19	32.1	26	1.55	11	-1.0	0.32	24	191
Oamaru	99	66.5	49.2	57.8	..	81.0	12	39.3	9	0.70	6	..	0.19	24	192
Musselburgh, Dunedin	5	62.6	50.2	56.4	-0.6	72.0	4, 12	40.2	10	1.35	11	-1.5	0.32	12	194
West Arm, Lake Manapouri	590	60.4	46.5	53.4	-2.2	79.7	30	35.0	10	18.70	19	+6.1	5.23	12	..
Queenstown	1,080	67.9	47.2	57.6	-0.7	79.5	30	37.5	6	4.74	13	+2.3	2.05	12	227
Mid Dome	1,252	65.0	45.1	55.4	-0.6	81.5	30	31.0	6	3.44	14	+0.1	1.05	12	..
Cromwell	698	71.7	48.0	59.8	-1.5	85.0	30	35.5	6	2.04	9	+0.6	0.52	13	..
Ophir	1,000	69.5	45.8	57.6	-0.6	80.8	20	31.0	8	3.20	7	+1.5	0.80	22	..
Moa Creek	1,400	68.3	42.2	55.2	-0.9	79.4	30	25.6	8	2.08	7	+0.4	0.83	22	..
Earnsclough	500	72.4	45.6	59.0	0.0	86.5	30	31.0	8	1.25	8	0.0	0.42	13	..
Alexandra	461	71.5	49.2	60.4	+0.3	85.5	30	37.1	8	1.53	11	+0.2	0.59	23	241
Roxburgh Hydro	350	71.1	48.2	59.6	+0.4	85.0	30	35.0	6	2.02	10	+0.1	0.62	23	..
Moa Flat, West Otago	1,345	64.3	44.2	54.2	+0.6	79.0	30	33.1	10	1.98	12	-1.0	0.43	12	..
Lake Mahinerangi	1,300	62.6	44.1	53.4	..	76.6	30	32.0	8	2.18	10	-1.7	0.50	24	..
Tapanui	740	76.5	60.0	56.4	+0.2	86.1	30	34.0	8	2.42	11	-0.7	0.91	12	..
Rankleburn Forest	835	64.6	44.9	54.8	-0.6	80.6	30	33.2	10	4.23	12	..	1.00	23	..
Taieri Mouth	50	62.0	46.2	54.1	..	75.0	4	35.9	6	2.17	15	..	0.50	9	..
Otautau	180	63.5	45.7	54.6	-1.1	81.0	30	33.0	6	3.67	9	+0.1	1.78	13	170
Gore	235	66.6	47.1	56.8	-0.4	85.5	30	34.7	6	3.46	12	+0.4	1.32	13	208
Winton	145	65.0	46.6	55.8	..	84.2	30	35.9	8	2.93	9	..	1.62	13	191
Pebbly Hills	150	66.0	45.8	55.9	-0.5	85.0	30	36.0	6	3.80	10	+0.3	1.80	13	..
Invercargill Airport	1	62.0	46.0	54.0	-0.9	79.3	30	33.2	6	4.48	13	+0.9	1.56	13	176
Milton	60	66.7	45.9	56.3	..	81.5	31	31.1	5	2.23	12	-0.6	0.69	12	..
Balclutha	20	65.1	47.5	56.3	..	81.9	31	36.5	6	2.54	10	..	1.28	13	187
Rarotonga	15	80.3	68.9	74.6	-2.2	82.8	31	61.2	23	12.24	16	+2.8	6.78	17	212
Raoul Island	126	74.9	65.9	70.4	+1.4	78.9	28	59.5	13	4.13	14	+0.3	2.64	25	208
Chatham Islands	157	61.1	51.9	56.5	+1.1	67.0	17	40.4	4	2.68	17	+0.4	0.86	25	159
Campbell Island	49	52.3	42.1	47.2	..	60.7	19	32.6	9	3.23	22	..	0.47	1	109
Scott Base, Antarctica	45	..	..	22.6	..	38.5	..	3.2	..	..	..	..	..	..	..

LATE RETURNS

Waitangi Forest, Nov. 1967	180	70.8	55.2	63.2	..	80.2	24	44.4	2	6.12	16	+3.1	2.54	17	..
Whatawhata, Nov. 1967	340	66.3	51.9	55.9	-2.4	75.7	28	36.1	5	13.09	18	+8.1	2.74	17	160
Havelock North, Nov. 1967	30	70.4	48.5	59.4	+1.8	85.3	15	30.3	5	1.71	12	-0.3	0.69	17	..
Kaitoke Farm, Nov. 1967	625	61.2	47.2	54.2	..	76.9	29	29.8	2	8.65	18	..	1.68	6	160
Greymouth, Nov. 1967	14	59.7	48.3	54.0	-1.8	66.2	29	40.9	1, 5	16.65	25	+8.3	2.78	27	95
Cromwell, Nov. 1967	698	62.1	42.2	52.2	-4.8	70.9	29	32.7	15	2.52	16	+1.3	0.78	17	..
Otematata, Nov. 1967	920	58.4	41.1	49.8	-6.9	68.2	3	32.5	17	4.69	16	+3.4	1.24	27	..

Errata—

Umawera, Nov. 1967	380	..	..	..	..	..	..	..	..	11.62	..	..	..	..	..
Te Aroha, Sept. 1967	40	61.6	44.6	53.1	-0.5	67.5	29	31.0	6	4.65	15	+0.1	1.05	18	..

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.

*Sunshine recorder is not located at the station but is in the near vicinity.

NOTES ON THE WEATHER FOR DECEMBER 1967

General—December was a wet month in many districts and also comparatively warm. In the North Island pasture growth was particularly good, but the weather was rather too unsettled for haymaking and shearing. In Marlborough, Canterbury and parts of Otago more rain would have been appreciated; but fortunately these areas had had a wet November leaving a good reserve of moisture in the soil, and stock were not yet affected.

Rainfall—Rainfall was above average over almost all of the North Island and also west of a line from Hokitika to Balclutha. The surplus was mainly 50 percent; but in parts of central and southern Hawke's Bay, in some central districts of the North Island, and in the southern lakes district rainfall was more than double the average value.

In eastern and northern districts of the South Island rainfall was mainly below average by 25 percent. In central Marlborough and on the Canterbury plains and coast from Christchurch to Timaru it was less than half the average value.

Thunderstorms were unusually frequent over the North Island. Many stations heard thunder on the 28th, with heavy downpours, especially in the Taihape district and in Hawke's Bay and Wairarapa, causing serious disruption of road transport in some places. On the same day New Plymouth reported a hailstorm with stones an inch in diameter.

Temperatures—In the North Island mean temperatures were mainly 1-3 degrees above average, highest departures being in Waitomo and North Taranaki. In the South Island they were mainly close to average.

Sunshine—Sunshine was below average by 30 to 60 hours in an area extending from Waitomo and Bay of Plenty through central districts of the North Island to Hawke's Bay and Wairarapa, and

also on the Kaikoura coast. On the other hand most of Westland, South Canterbury, and Otago were favoured with 20-40 hours above average.

Weather Sequence—At the beginning of the month a depression to the east of the North Island was moving away and an anticyclone covered the Tasman Sea. At first rain affected the greater part of the North Island, but on the 2nd the weather cleared, except in Bay of Plenty. During the next two days a very deep depression passed far to the south and the associated trough of low pressure crossed the South Island. In the strong westerlies considerable rain was reported on the Alps and the West Coast, with lighter falls in Southland, Marlborough, Nelson, and the Taranaki-Wanganui-Manawatu area.

The trough of low pressure became almost stationary just north of Cook Strait, and a depression formed on it during the 5th and 6th. Rain spread over almost the whole of the North Island, but the weather cleared in the south. As this depression departed slowly to the southeast, another trough of low pressure moved over the South Island. There was further rain over the North Island, clearing on the 8th, except in the west. In the South Island western and southern districts and some northern districts reported rain. Snow fell to low levels in Fiordland. A cold front brought a change to south-westerlies on the 9th, with a clearance in many North Island districts but with further rain in parts of the South Island, now including mid-Canterbury. Fair weather prevailed generally during the 10th and most of the 11th with the passage of an anticyclone from mid-Tasman across the North Island.

By the evening of the 11th another trough of low pressure associated with a depression to the south was approaching Southland, and very heavy rain set in on parts of the West Coast. The trough soon became slow-moving with the formation of a wave depression over Otago. The heavy rain spread to the whole of the