

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for July 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.	°F.	°F.	In.			In.		Hrs.	
Oamaru Aerodrome ..	100	49.7	30.8	40.2	..	67.5	31	24.0	16	0.09	1	..	0.09	2	..
Tara Hills, Omarama ..	1,600	44.3	26.4	35.4	+1.0	59.3	31	19.2	8, 16	2.01	4	+0.6	1.54	2	150
Lake Hawea ..	1,147	46.5	32.4	39.4	+1.0	59.3	2	23.5	2	2.35	5	+1.0	1.16	2	..
Naseby Forest ..	2,000	45.6	25.5	35.6	+0.8	60.5	2	13.8	24	0.37	3	-0.8	0.23	2	..
Herbert Forest ..	200	53.1	28.7	40.9	..	68.2	31	22.6	19	0.05	2	..	0.03	12	..
Cherry Farm, Waikouaiti ..	21	50.9	32.0	41.4	+1.3	68.0	31	25.0	24	0.35	8	-1.3	0.09	9	..
Taieri ..	80	50.0	31.0	40.5	-0.2	66.4	30	19.1	6	0.68	10	-1.2	0.26	2	..
Berwick Forest ..	60	60.1	31.2	40.6	+0.4	65.0	31	19.2	6	0.61	7	-1.4	0.24	2	..
Dunedin Airport ..	4	51.0	28.7	39.8	-0.5	64.3	31	17.7	7	0.53	6	-1.2	0.23	2	112
Musselburgh, Dunedin ..	5	50.0	36.7	43.4	+0.2	64.0	31	27.0	6	0.94	11	-1.6	0.26	2	108
Oamaru ..	47	51.8	33.8	42.8	..	67.0	31	28.0	16	0.11	2	..	0.08	2	150
West Arm, Lake Manapouri	590	43.4	33.7	38.6	+0.8	55.9	1	28.3	8	6.86	17	..	1.75	2	..
Queenstown ..	1,080	47.2	31.3	39.2	+0.9	60.5	31	24.8	7	1.42	7	-0.8	0.81	2	92
Cromwell ..	698	46.1	29.8	38.0	+1.3	63.7	31	20.4	24	0.50	8	-0.4	0.37	2	..
Ophir ..	1,000	45.1	26.8	36.0	+1.8	61.4	1	18.0	24	0.18	2	-0.6	0.15	2	..
Moa Creek ..	1,400	..	24.7	..	..	..	..	16.3	7	0.45	6	-0.2	0.30	2	..
Earnsclough ..	500	45.2	26.1	35.6	-0.4	65.0	31	17.0	1	0.40	5	-0.3	0.31	2	..
Alexandra ..	461	44.9	28.9	36.9	+0.6	64.9	31	21.5	1	0.40	5	-0.3	0.29	2	85
Roxburgh Hydro ..	350	46.1	32.7	39.4	-0.1	61.0	30	24.0	6	0.54	6	-0.6	0.33	2	..
Moa Flat, West Otago ..	1,345	44.9	31.6	38.2	+0.9	58.4	31	22.7	7	1.07	10	-0.8	0.37	2	..
Lake Mahinerangi ..	1,300	47.1	30.2	38.6	..	60.0	31	20.0	6	1.39	13	..	0.28	12	..
Tapanui ..	740	48.6	34.1	41.4	+1.2	59.0	31	24.0	6, 7	1.33	11	-1.3	0.41	2	..
Rankleburn Forest ..	835	47.7	32.5	40.1	+1.3	60.6	30	20.8	7	1.09	9	..	0.46	2	..
Taieri Mouth ..	50	49.6	34.3	42.0	..	64.1	31	25.9	6	0.69	9	..	0.21	2	..
Otautau ..	180	49.4	30.6	40.0	+0.2	62.0	30	18.0	7	1.90	7	-0.8	0.90	2	111
Gore ..	230	47.8	33.1	40.4	+0.4	58.8	31	25.2	6, 24	1.36	11	-0.7	0.58	2	100
Winton ..	150	48.9	33.2	41.0	..	60.3	1	21.1	6	1.89	11	..	0.88	2	116
Pebbly Hills ..	138	49.8	32.5	41.2	+1.1	60.0	25	23.0	6	1.74	12	-0.8	0.83	2	..
Invercargill Airport ..	1	49.2	32.6	40.9	+0.5	60.5	30	22.1	6	1.98	15	-0.8	0.80	2	89
Milton ..	60	48.8	31.0	39.9	..	61.8	31	20.2	6	0.76	9	-1.2	0.32	2	..
Balclutha ..	20	47.2	32.6	39.9	..	60.9	31	24.2	1	1.09	12	..	0.46	2	102
Rarotonga ..	15	75.4	64.8	70.1	-0.9	80.4	11	55.4	16	6.55	19	+2.2	1.71	9	145
Raoul Island ..	126	65.4	56.9	61.2	+0.3	70.1	8	48.9	12	5.82	18	-0.9	1.73	17	154
Chatham Islands ..	157	48.2	39.8	44.0	-1.6	56.2	3	33.7	6	1.29	16	-2.3	0.55	19	84
Campbell Island ..	49	43.9	36.5	40.6	..	49.1	30	26.7	4	3.94	30	..	0.62	30	8
Scott Base, Antarctica ..	45	..	..	-18.2	..	+14.0	1	-50.6	2	..	..	..	..	..	..
<b>LATE RETURNS</b>															
Franz Josef, Mar 1967 ..	420	65.3	50.7	58.0	+1.5	78.9	7	45.3	26	39.06	17	+22.0	7.86	10	..
Franz Josef, Apr 1967 ..	420	61.1	46.0	53.5	+0.4	68.8	11	37.4	27	35.18	16	+17.8	9.26	8	..

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 JULY 1967

**General:** As in June, barometers were unusually high over New Zealand in July. It was marked by a comparative absence of wind and was also the third successive month with rainfall well below average. Conditions were favourable for stock and for lambing. However, the ground was unusually dry for July. It was too dry for some farmers, especially in parts of the North Island, where there were complaints about both the frequent frosts and the shortage of feed. In Hawke's Bay and South Canterbury the very dry conditions were partly responsible for the increase in Porina and grass grub infestation, causing serious damage to some pastures.

**Rainfall:** In the North Island rainfall was mainly two-thirds of the average value. In eastern districts of the South Island from Central Marlborough to South Otago up to about 30 miles inland, rainfall was less than half the average; near the coast and on Banks Peninsula it was less than a quarter.

The last July as dry as this one in the North Island was in 1952, and in the South Island in 1958.

Rainfall was above average in only two areas. The first consisted of parts of Nelson and Marlborough Sounds. The second included Westland and Fiordland and extended over the Alps into parts of Central Otago and the Canterbury high country. In South Westland rainfall was mainly more than double the average, largely as a result of falls of 7-13 inches there on the 2nd.

**Temperatures:** Over the greater part of the South Island and in Northland temperatures were 1-3 degrees warmer than average. Elsewhere they were close to or a little colder than average.

In the South Island there was a noticeable lack of snow on the ranges.

**Sunshine:** Sunshine was mainly close to or somewhat above average. However, over most of Northland it was 30-50 hours below average.

**Weather Sequence:** At the beginning of the month an anticyclone was centred to the east of the North Island while a depression passed to the south. In the northerlies rain was restricted mainly to the West Coast. On the 2nd a trough of low pressure became slow-moving over the South Island while a new depression formed in mid-Tasman. Rain became very heavy in South Westland and spread over the whole country, except for Hawke's Bay. However, on the following day a southerly change followed by rising pressures brought improved weather over the South Island, though there was still light rain in many places. The depression in mid-Tasman was now becoming complex, and one centre soon crossed Northland. As a result, in the North Island the rain persisted from the 3rd to the 5th, with some considerable falls in Taranaki and Coromandel.

The first centre of the depression moved south-eastward, and the second centre moved from the north Tasman to a position just north of Northland, where it remained stationary from the 6th to the 8th. During these three days an anticyclone extended on to the South Island. In many districts the weather was settled. However, Northland and Gisborne received rain; and at first Wairarapa, Hawke's Bay, and parts of Auckland were also affected. The main centre of high pressure now moved further south, to the west of Southland, and winds changed to southerly. As the anticyclone moved slowly eastward, the weather was again settled in many districts from the 9th to the 13th. However, some showers were reported in Southland, Wellington, Wairarapa, Gisborne, parts of the Canterbury coast, the Manawatu-Wanganui area, and Buller.

On the 14th a small depression from the Tasman Sea crossed the North Island, where nearly all districts received some rain. During the next two days an anticyclone was centred over the North Island and the weather was settled.

From the 17th to the 19th a slow-moving trough of low pressure crossed the North Island, followed by westerly to north-westerly winds. Rain was restricted mainly to western districts at first, but gradually became widespread over the North Island, except for Hawke's Bay. In the South Island, in addition to western districts, northern districts were affected, besides parts of the Southland and Otago coast. During the next two days a small depression crossed Northland, bringing rain to the northern half of the North Island; while a weak trough affected Fiordland and the Southland coast. A large anticyclone now moved on to the South Island from the south-west. With the change to southerly winds light rain was recorded in Southland and most eastern districts on the 22nd and 23rd.

The anticyclone now moved to a position just east of Cook Strait and remained there from the 24th to the 29th. Like the 6th to the 13th, this was a period of predominantly settled and at times sunny weather. However, Northland and Gisborne received some rain from the north-easterlies on several days; Auckland and Bay of Plenty were also affected at times. In the south the passage of a weak trough caused considerable rain in Fiordland and Westland on the 25th and 26th.

On the 30th and 31st a depression passed close to Campbell Island, and the associated trough of low pressure brought considerable rain to western and northern districts of the South Island. Some rain extended also to Southland, the Canterbury high country, and parts of the North Island.

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