

CLIMATOLOGICAL TABLE—continued
Summary of the Records of Temperature, Rainfall, and Sunshine for July, 1951—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.		In.	In.	In.	Hours.		
Rudstone, Methven ..	1,217	51.1	34.9	43.0	+2.2	59.1	15	27.3	3	2.89	12	-0.05	0.78	18	137.0
Akaroa ..	150	52.6	40.4	46.5	(+1.5)	61.0	17	32.0	1,10	4.68	12	(-1.24)	1.65	8	116.4
Lincoln ..	36	52.6	33.9	43.2	+2.2	64.5	29	24.4	1	1.85	13	-0.88	0.58	11	139.2
The Hermitage ..	2,510	43.2	25.6	34.4	+0.4	52.1	6	17.2	11	22.15	18	+13.58	6.20	17	64.2
Winchmore ..	626	54.0	31.7	42.8	..	62.9	29	22.2	3	1.30	9	..	0.56	18	..
Haast ..	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ashburton ..	323	53.6	32.5	43.0	+2.9	64.8	5	24.0	3	1.33	7	-1.32	0.56	18	148.1
Fairlie ..	1,004	51.1	25.5	38.3	+1.6	63.0	17	13.0	2,3	2.19	9	+0.13	0.87	18	..
Lake Tekapo ..	2,400	44.3	24.3	34.3	..	62.8	17	10.8	1	4.73	7	..	1.91	17	114.9
Timaru ..	56	51.9	30.5	41.2	-0.1	63.0	17	23.8	7	0.60	6	-1.13	0.35	18	136.3
Adair ..	200	52.3	35.6	44.0	..	66.1	5	28.8	13	0.79	9	..	0.41	17	..
Tara Hills ..	1,600	44.4	24.0	34.2	..	56.7	5	13.0	3	3.45	11	..	1.16	17	..
Milford Sound ..	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waimate ..	200	54.1	32.4	43.2	+1.0	64.0	17	24.8	3	0.73	7	-1.17	0.24	18	123.7
Queenstown ..	1,100	47.6	30.7	39.2	+1.4	58.0	5	23.0	1	7.18	18	+5.18	1.91	17	90.0
Cromwell ..	720	46.9	27.6	37.2	..	58.7	16	18.7	11	2.55	12	..	0.91	17	..
Ophir ..	1,000	46.7	25.3	36.0	+1.7	56.7	17	15.0	11	1.30	8	+0.55	0.67	18	..
Earnsclough ..	500	50.0	25.4	37.7	..	58.3	30	16.0	15	1.90	13	..	0.66	18	..
Waipiata ..	1,550	44.6	29.2	36.9	+0.9	54.5	16	21.0	1	1.07	7	+0.13	0.47	18	108.4
Alexandra ..	520	46.9	26.0	36.4	+0.5	58.6	22	17.1	11	1.34	13	+0.69	0.69	18	120.2
Roxburgh Hydro ..	350	48.7	33.4	41.0	..	58.5	16	24.9	11	1.09	8	..	0.53	18	..
Mid Dome ..	1,252	46.8	30.4	38.6	..	60.0	4	22.0	11	4.32	11	..	0.96	11	..
Moa Flat, West Otago ..	1,345	45.8	31.9	38.8	..	56.7	17	23.0	12	1.97	14	..	0.65	11	..
Manorburn Dam ..	2,448	..	..	..	..	..	..	..	..	0.93	..	..	..	..	..
Taieri ..	80	52.7	31.9	42.3	(+1.3)	65.5	17	22.8	3	2.01	12	(-0.12)	0.58	7	101.4
Musselburgh, Dunedin ..	5	51.9	36.7	44.3	(+1.9)	61.9	17	28.9	10	1.93	12	-0.44	0.60	7	110.6
East Gore ..	245	50.3	33.1	41.7	+2.6	61.0	16, 17	25.0	3, 11	1.67	13	-0.39	0.39	11	..
Gore ..	240	50.5	32.2	41.4	+1.6	61.0	16, 17	24.5	10, 11	1.67	14	..	0.36	11	99.6
Otautau ..	180	50.1	31.9	41.0	..	58.8	16	22.7	10	3.09	12	..	0.86	31	..
Pebble Hills ..	150	50.8	34.2	42.5	..	60.0	30	23.5	11	2.37	15	..	0.64	6	..
Invercargill ..	32	50.2	33.0	41.6	+0.9	58.0	16, 28	23.0	11	2.98	17	-0.02	0.40	6	90.3
Invercargill South ..	8	50.3	34.1	42.2	+1.0	58.8	28	26.5	11	2.90	17	(-0.18)	0.40	6	..
LATE RETURNS															
Milford Snd., June, 1951 ..	20	46.4	31.7	39.0	(-3.2)	52.2	1	25.9	30	6.28	10	(-7.78)	2.26	18	..
East Gore, June, 1951 ..	245	46.2	31.7	39.0	-1.2	58.0	8	25.0	3	2.18	15	-0.73	0.43	15	..

NOTE.—At stations where departures from normal are in parentheses, the temperature record has been maintained for less than ten years, the rainfall record for less than twenty years, and the normals are partly interpolated.

NOTES ON THE WEATHER FOR JULY, 1951

General.—The unsettled weather of the past month was fairly typical of a normal winter season, but temperatures were rather milder than usual, especially in the second half of the month.

Considerable damage to roads through slips and wash-outs was reported from the Rotorua-Taupo district following heavy rains on the 4th and 5th. Rivers in Southland and Western Otago were in high flood on the 17th.

Lambs were beginning to appear in numbers in the North Island, and stock generally was reported to be wintering well. Some pasture growth was noticeable towards the end of the month.

Rainfall.—There was a substantial surplus of rainfall over the South Island except near the east coast. Near the main ranges, and in Central and Western Otago, totals were more than twice normal; in the Lakes District they were three times normal. On the other hand, parts of Canterbury had only half the normal July rainfall.

From Taupo to the Bay of Plenty rainfall was well in excess, at least half of the month's total falling on the 4th-5th. Over the remainder of the North Island totals were near normal, mostly with a slight positive tendency.

Temperatures.—Mean temperatures for the month were above the July normal. In the North Island and in coastal districts of the South Island the anomaly was about 1° F.—in mid-Canterbury it was about 2° F.

A spell of westerly winds brought decidedly milder weather in the second half of the month. Snow fell over much of the South Island on the 11th and lay for a few hours down to sea-level. At higher levels there was a rapid thaw on the 16th.

Sunshine.—Except in the east, the duration of bright sunshine was below normal, generally by the equivalent of about half an hour a day. Otago, Canterbury, Marlborough, northern Hawke's Bay, and Gisborne had approximately the same amount in excess of the normal.

Weather Sequence.—Clear, cold weather continued for the first few days of July due to the presence of a very intense anticyclone. Frosts were widespread and severe. As this system moved away towards the east, north-easterlies prevailed generally on the 3rd and soon became strong in Northland where rain commenced to fall with the approach of an active disturbance from the north-west. The low pressure centre moved southwards through the Tasman Sea, but the associated frontal system travelled slowly south-eastwards across the Dominion causing a general deterioration on the 4th. Winds rose to gale force in the north, and heavy rainfall was

recorded over the Auckland Province, especially from Taupo to the Bay of Plenty where the frontal system was retarded during the development of a wave depression. Deepening rapidly, the latter moved south-eastwards past East Cape on the 6th.

Although rain had not so far extended to Canterbury and Otago, cold showery weather developed there following the passage of a cold front on the 6th.

A brief clearance on the 9th was followed by two days of unsettled weather associated with a deep depression which moved eastwards across the centre of the Dominion on the night of the 10th. Snow fell to low levels in the South Island on the 11th.

A large anticyclone whose centre crossed Northland on the 14th provided clear, cool weather from the 12th to the 15th, except for some scattered showers in western districts.

With the approach of a deep trough from the west, rain developed in Westland on the 16th. During the next two days very heavy rainfalls accompanied by northerly gales were experienced in and west of the Southern Alps, and about Nelson and Marlborough. The development of a depression in the Tasman Sea which subsequently crossed Southland, together with a rapid thaw in the high country raised rivers in the above districts to flood level. General rain extended to eastern districts of the South Island on the 18th and the North Island on the 19th.

The weather remained mild but unsettled. As the centre of a deep depression moved rapidly out of the Tasman Sea to the south of New Zealand, a belt of heavy rain crossed the country from the west. On the 22nd winds turned to strong westerlies, then temporarily to south-westerly in the North Island when a small depression sped rapidly eastwards across the Cook Strait region on the night of the 23rd. The next two days were fine east of the ranges but showery elsewhere, barometers remaining high to the north and low to the south.

After brief but heavy rain during the north-eastward passage of a cold front on the 26th, a wedge brought a rapid clearance except in the Gisborne district where showers continued until the 28th due to the development of a low-pressure centre to the north-east.

Pressures remained high across the north Tasman Sea. The weather deteriorated rapidly in Westland on the 28th with the approach of a westerly depression. Except near the east coast, rainfall became heavier and more widespread during the passage of a second westerly depression on the 31st.

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