

CLIMATOLOGICAL TABLE—continued

Summary of the Records of Temperature, Rainfall, and Sunshine for June, 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.		In.			In.		Hours.
Winchmore ..	626	47.0	29.1	38.0	..	56.6	11	22.0	30	1.38	10	..	0.56	20	..
Haast ..	15	51.6	36.1	43.8	..	56.8	9	30.8	5	4.55	11	..	1.89	18	156.2
Ashburton ..	323	48.9	30.3	39.6	-1.6	56.4	14	23.0	22	1.34	10	-1.13	0.50	20	148.0
Fairlie ..	1,004	49.7	22.7	36.2	-2.3	62.0	15	13.0	30	0.74	8	-1.03	0.37	15	..
Lake Tekapo ..	2,400	..	..	..	..	..	..	..	..	..	3	..	0.53	8	143.8
Timaru ..	56	49.1	29.1	39.1	-3.3	57.0	8	24.6	30	0.64	6	-1.15	0.23	16	154.9
Adair ..	200	48.0	33.3	40.6	..	55.8	8	23.5	27	0.51	7	..	0.23	15	..
Tara Hills ..	1,600	42.1	22.5	32.3	..	57.2	15	11.9	30	0.23	3	..	0.20	15	..
Milford Sound ..	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waimate ..	200	51.7	31.4	41.6	-1.9	60.5	11	24.5	30	0.85	8	-1.04	0.29	15	141.6
Queenstown ..	1,100	44.5	28.5	36.5	-3.0	51.6	13	21.2	25	0.98	6	-1.28	0.41	15	90.2
Cromwell ..	720	41.1	26.6	33.8	..	47.6	15	20.7	27	0.54	4	..	0.37	15	..
Ophir ..	1,000	42.3	23.3	32.8	-2.6	52.6	15	17.4	30	0.54	3	-1.32	0.45	15	..
Earnsleugh ..	500	42.1	25.4	33.8	..	50.3	5	21.3	25	0.35	4	..	0.23	15	..
Waipiata ..	1,550	41.3	27.7	34.5	-2.7	49.0	20	19.0	29	0.80	4	-0.33	0.57	14	109.9
Alexandra ..	520	42.6	26.8	34.7	-3.1	52.0	5	21.9	25	0.49	4	-0.27	0.30	15	120.4
Roxburgh Hydro ..	350	44.7	32.7	38.7	..	51.8	5	27.3	3	0.69	9	..	0.32	15	..
Mid Dome ..	1,252	44.4	28.1	36.2	..	55.0	14	21.0	3,29	3.58	12	..	1.23	15	..
Moa Flat, West Otago	1,345	41.8	30.1	36.0	..	47.8	9	24.0	3	2.04	13	..	0.69	15	..
Manorburn Dam ..	2,448	38.9	23.3	31.1	-1.9	45.0	6,7	18.5	22,23	0.77	7	-0.56	0.38	15	..
Taieri ..	80	48.6	31.4	40.0	-1.8	57.9	8	25.0	24	2.19	12	(-0.05)	0.92	15	98.7
Musselburgh, Dunedin	5	49.0	36.0	42.5	(-0.7)	57.3	8	23.6	23	1.92	15	-0.54	0.64	15	102.4
East Gore ..	245	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gore ..	240	46.7	31.4	39.0	-2.0	52.0	8	27.0	4	2.13	14	..	0.41	3	92.4
Otautau ..	180	47.9	31.3	39.6	..	59.5	15	24.0	2,3	3.05	11	..	0.93	19	..
Pebbly Hills ..	150	48.1	31.4	39.8	..	55.0	8,11	24.0	3	2.57	14	..	0.66	15	..
Invercargill ..	32	48.7	32.7	40.7	-1.5	54.0	8	25.0	3	2.90	15	-0.85	0.46	19	74.9
Invercargill South ..	8	48.6	32.8	40.7	-2.0	54.0	8	26.5	3	2.89	16	-0.96	0.45	3,15	..

LATE RETURNS

Opotiki, March, 1951 ..	27	73.2	55.2	64.2	..	77.5	7	43.0	30	2.52	9	..	1.35	23	230.3
Opotiki, April, 1951 ..	27	68.0	48.2	58.1	..	75.1	1	39.0	29	3.87	17	..	0.85	21	173.0
Opotiki, May, 1951 ..	27	62.5	41.4	52.0	..	66.5	2	28.0	25	2.44	6	..	0.80	15	181.6
Golden Downs, May, 1951	900	53.6	32.4	43.0	-2.6	59.4	8	24.0	24	4.77	10	(+0.99)	1.84	26	..
Milford Sound, May, 1951	20	52.8	36.7	44.8	(-1.1)	59.4	3	28.8	24	10.28	11	(-11.94)	4.56	27	..

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 JUNE, 1951

**General.**—June was sunny but cold with light rainfalls. In general, it was a good month for stock, although in parts of the North Island the cessation of pasture growth resulted in some local shortages of cattle fodder. In the Hawke's Bay and Gisborne districts it has been an adverse year for young sheep, and some further losses were reported during the past month.

In inland Canterbury, frozen ground further hindered the cultivation programme already delayed by an exceptionally wet autumn; near the coast it was still too wet for ploughing.

**Rainfall.**—Over most of the country rainfall was only about half the average. The deficiency was small, however, in Southland and near Banks Peninsula, while in the northern half of the Auckland Peninsula there was a slight surplus. Totals were exceptionally low in the Canterbury foothills and in parts of Westland.

Some minor flooding was reported from the far north on the 10th.

**Temperatures.**—With mean temperatures 3° to 4° F. below normal, Canterbury experienced the coldest June for at least forty years. Temperatures elsewhere were also below normal, mainly by about 2° F., though in the centre of the North Island and in the far north they were within 1° F. of the normal. For the country, as a whole, it was the coldest June since 1945.

Frosts were much more numerous and severe than is usual in early winter. Exceptionally low temperatures were recorded in the early morning of the 30th. In spite of the prevailing coldness snowfalls were relatively light and were confined to the higher country.

**Sunshine.**—It was a sunny month with totals generally at least equivalent to half an hour a day above normal. In Canterbury and Westland the surplus was, in places, better than an hour and a half a day.

In Wellington City the sunshine total did not quite reach the average, but the Gisborne district was the only one reporting a significant deficiency.

**Weather Sequence.**—At the beginning of the month anticyclones were centred over south-eastern Australia and south of New Zealand, while an extensive depression near the Chatham Islands moved slowly away eastwards. The weather was clear and frosty in the eastern half of the South Island, but cold and showery elsewhere. Any further clearance was delayed temporarily by the passage of a depression in the far south which resulted in more widespread shower activity on the 3rd and 4th,

Fine weather predominated from the 5th to the 9th as the anticyclone from the west moved centrally across the Dominion.

During the 9th easterlies freshened in the far north and rain developed there during the night. Next day, an occluded warm front preceded by a very extensive rain-band moved south-eastwards over the North Island. On the 11th the depression with which this frontal system was associated crossed Nelson and Marlborough, rain having extended to the northern half of the South Island. The warmer air which invaded the North Island was soon repelled by a cold front on the 12th.

An intense anticyclone brought clear, cold weather on the 13th, but it soon began to lose intensity. Barometers continued to fall steadily for several days with the approach of a large and complex disturbance from the Tasman Sea. An active cold front reached Southland on the night of the 14th, and then proceeded slowly northwards to become stationary near Cook Strait until the passage of a low-pressure centre across the North Island on the 18th. Another cell of the main disturbance, after lying stationary west of Southland for several days, crossed southern New Zealand on the 19th. Cold southerlies advanced northwards during the 20th and 21st, followed by heavy showers in the South Island and as far as East Cape. Next day a ridge of high pressure extended across the centre of the Dominion, but conditions remained very disturbed to the north and south. On the 22nd the centre of a deep depression passed close to North Cape causing widespread rains and strong easterly winds in Northland, and later to a lesser extent from Cook Strait to East Cape. Cloudy, showery weather also persisted on the Southland coast. On the 26th it became showery on the whole of the east coast while southerlies freshened again in the South Island ahead of a wedge advancing across the south Tasman Sea. At the same time rain set in over Northland and gradually spread southwards to the Waikato due to the passage of a depression across the north Tasman Sea.

With rising barometers the weather began to improve generally on the 28th, although it continued rather showery on the east coast of the North Island and in the far south. Temperatures remained very cold and severe frosts were recorded in most districts. At the end of the month an intense anticyclone was centred over the North Island.

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