

Government Meteorological Observatory.

METEOROLOGICAL Observations at Kelburn, Wellington, for the Month of July, 1939. Observations taken at 9 a.m.

Altitude of Observatory, 415 ft.

Date.	Pressure in Millibars, at Sealevel and Standard Gravity.	Temperature (° F.) from Observations at 9 a.m.							Wind.			Rainfall in Points: (100 Points = 1 Inch).	Bright Sunshine: Hours and Tenths.	Weather (Symbols) at 9 a.m.
		In Screen.						Minimum on Grass.	Beaufort Scale.		Anemometer.			
		At 9 a.m.			Maximum.	Minimum.	Direction.		Force.	Run in 24 Hours.				
		Dry.	Wet.	Humidity.										
1	997.9	53.4	51.1	81	59.0	48.4	40.6	Calm	..	9	40	0.0	oz	
2	989.7	48.6	48.2	97	49.8	47.5	47.2	S	2	67	26	0.4	or	
3	981.7	49.0	48.8	99	50.8	45.6	39.0	SSE	3	38	68	0.0	or	
4	990.6	45.7	43.6	83	50.0	44.5	42.2	SSW	3	311	61	3.1	ojp	
5	986.4	42.5	41.0	87	42.8	39.8	39.1	S	4	191	7	0.0	o	
6	982.6	37.8	35.4	77	50.0	33.2	28.4	NE	1	219	15	5.5	bz	
7	992.7	42.9	39.1	69	43.8	37.5	31.5	SSW	7	217	Trace	0.4	ojpq	
8	1000.5	43.3	39.1	68	46.5	40.4	37.1	SSW	6	395	4	3.2	ojp	
9	1004.7	42.7	37.2	55	45.0	38.3	34.8	SW	1	295	Trace	4.6	bz	
10	1012.6	44.5	39.9	64	52.3	35.8	32.5	W	2	251	..	8.6	b	
11	1015.5	38.8	38.2	95	50.0	35.1	27.3	Calm	..	45	..	8.1	bzx	
12	1015.4	39.6	38.6	91	46.6	35.7	28.1	Calm	..	41	46	1.1	oxjf	
13	1001.5	41.4	40.8	95	46.7	37.8	31.8	S	1	84	1	0.0	or	
14	1007.0	43.3	41.8	87	47.2	39.8	35.7	Calm	..	148	..	2.9	o	
15	1008.7	43.2	42.1	90	54.2	38.0	30.7	N	1	47	14	6.0	c	
16	1009.9	42.5	41.4	90	48.5	40.1	38.5	Calm	..	122	49	0.1	oir	
17	1005.0	37.6	37.0	94	41.7	36.6	37.0	S	2	156	16	0.3	oir	
18	1004.0	41.2	38.6	78	42.9	36.7	36.0	S	4	176	20	2.6	o	
19	1005.9	41.4	40.0	87	42.6	38.0	32.3	SW	5	238	83	0.0	or	
20	1009.1	41.7	40.2	87	43.8	38.0	37.0	SSW	4	259	5	1.2	op	
21	1009.8	42.4	39.5	78	46.6	40.2	36.5	S	2	170	..	5.0	ojp	
22	1008.7	46.1	42.4	71	52.0	35.2	27.8	NNW	5	105	9	5.2	o	
23	997.8	49.7	46.2	75	54.5	45.3	43.5	NW	6	335	7	7.2	cjp	
24	986.8	45.2	44.9	97	48.6	41.2	39.6	SW	2	289	28	4.3	or	
25	993.1	38.7	32.3	43	43.5	34.2	32.0	SSW	3	199	..	5.7	c	
26	995.8	38.0	31.4	42	42.3	32.8	28.3	SW	3	165	1	7.2	bc	
27	1003.7	41.8	34.5	40	50.4	32.8	29.8	SW	3	246	..	8.1	b	
28	998.2	50.4	43.3	51	56.9	36.8	28.3	WNW	3	138	..	6.9	b	
29	994.2	48.7	44.7	71	53.4	40.1	34.3	NW	4	208	15	6.8	c	
30	1006.5	39.8	35.7	63	43.6	36.8	34.7	S	6	305	46	3.6	c	
31	1016.9	43.6	40.0	71	45.4	35.7	32.4	SE	6	310	42	5.1	oph	
Means, &c. ..	1001.1	43.4	40.6	77	48.1	38.6	34.6	..	2.9	186	603	113.2	..	

Mean earth temperature at 1 ft., 44.5°; and at 3 ft., 48.5°. Number of rain days, 22. Total rainfall, 24 per cent. above normal. Sunshine, 38 per cent. of the possible. Mean dew-point at 9 a.m., 36.6°; mean vapour pressure, 0.216 in.

NOTE.—Coldest July ever experienced in Wellington. Snow fell on three occasions, that on the morning of the 27th being heavy for Wellington. On the 24th to 25th snow fell very low down on the Tinakori, Karori, and surrounding hills, being the lowest since 1926. Hail showers were frequent, some being heavy.

DIRECTION OF WIND.

Gale (force 8 or more).	Forces 4 to 7.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
..	11	1½	1	..	1½	10	7½	1½	3	5

NOTES ON THE WEATHER FOR JULY, 1939.

General.—After four mild months, July has been exceptionally severe. With winds almost continuously from a southerly quarter the month has been one of the coldest ever experienced by the Dominion. Exceedingly cold and stormy conditions prevailed throughout the greater part of the time. The wetness is proving troublesome for calving. Fortunately, the main lambing season has not commenced, and early lambs have withstood the extremes fairly well. In the back country of the South Island, and particularly in Southland where there are still deep snow-drifts, it is feared losses will be very heavy. Many animals have been snowed in and frozen over, while in many places the grass has been completely covered for lengthy periods. With pastures at a standstill, the rigours of winter have made heavy demands on limited supplies of winter feed. Ill effects on the ewes will come into evidence later, but on the whole stock is in fair condition.

Rainfall.—Rain was well distributed. The rainfall was below average in Westland, Nelson, parts of North Otago and South Canterbury, and sheltered parts both of North Taranaki and of the Wairoa - East Cape region. Excess rain was experienced elsewhere, notably so in North Auckland, Banks Peninsula, and the far south. In Christchurch and Dunedin totals were more than treble the average.

Temperature.—The mean temperatures were considerably below normal. The average departure was nearly 3° F., but in several areas the departures were between 4° F. and 5° F. Day temperatures were particularly low. Frosts were frequent and widespread and were unusually severe in the North Island. Hail showers were common throughout the month, while snowfalls were in many places unprecedented. The chief falls occurred in the periods 4th to 10th, 16th to 17th, and 22nd to 31st. Most urban areas had at least minor falls, while in Dunedin heavy snow resulted in serious disorganization. Numerous structures suffered damage, being insufficient to withstand the excessive weight of accumulated snow.

Sunshine.—The hours of bright sunshine were less than normal in the South Island except in Westland and parts of Marlborough. In the North Island the South Auckland province had well above average figures, while the remainder of the stations recorded about the average.

Thunderstorms.—The chief thunderstorms occurred on the 4th in Taranaki and Auckland, and again on the 23rd and 24th, when thunder was widespread. Mania had a rather severe electrical storm on the 31st.

Pressure Systems.—At the commencement of the month, with the passage of a complex depression from the Tasman Sea, the weather was dull with fairly general rain which was heaviest in central provinces. When the centre crossed over Auckland on the 3rd the pressure fell to 972.5 mb., the lowest ever recorded there. As this disturbance moved towards Chatham Island, secondary depressions crossed the country, bringing cold showery weather between the 4th and 7th. There were westerly gales in Auckland Province, and elsewhere south-westerly gales in places. The West Coast escaped much of the rain, while the ranges had snow which reached lower levels in the South Island. At this stage an anti-cyclone slowly approached from Australia. The East Coast continued to experience very stormy southerly weather with heavy snow in the East Cape district and considerable falls extended up the Coromandel Peninsula, with snow low down in the Waikato and Thames Valley region. The weather then moderated but continued cold and frosty except in the extremities, where there were still passing showers.

During the 12th and 13th another complex depression moved across New Zealand. North-easterly winds prevailed and rain extended southwards, falls being very heavy in Auckland and on parts of the East Coast. In the clearer parts of the South Island there were hard frosts. As this depression travelled away rapidly eastwards during the 14th a new anti-cyclone centred over eastern Australia extended on to northern New Zealand. Although the weather remained dull in the east, temperatures were considerably milder for a brief period.

A series of westerly depressions commenced on the 15th, when conditions became unsettled again in the south and showers gradually became general. Snowfalls were widespread and unusually heavy in Nelson and Hawke's Bay on the 17th. Fortunately the south-westerly winds were not excessive. With pressure falling to the east and the extension of a small anti-cyclone on to Southland, the weather became fairer for three days except in the East Coast where it remained showery.