



SUPPLEMENT

TO THE

NEW ZEALAND GAZETTE

OF

THURSDAY, 1 SEPTEMBER 1983

Published by Authority

WELLINGTON: TUESDAY, 6 SEPTEMBER 1983

CLIMATOLOGICAL TABLE

FOR JULY 1983

NEW ZEALAND METEOROLOGICAL SERVICE

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for July 1983

Station	Height of Station Above M.S.L.	Air Temperature in Degrees Celsius								Rainfall in Millimetres				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
Metres	°C	°C	°C	°C	°C	°C	°C	mm	mm	mm	Hrs				
Cape Reinga	191	14.6	8.7	11.7	-0.3	18.0	8	6.6	4	104	21	-15	34	24	..
Kaitaia Airport	80	14.5	6.5	10.5	-1.2	17.5	8	3.1	27	64	14	-86	33	9	174
Aupouri Forest	69	14.7	7.3	11.0	-1.4	17.3	8	4.0	27	82	11	-68	32	10	..
Kaitaia	8	15.6	5.1	10.4	..	18.0	8	-0.3	27	66	11	..	37	9	..
Kerikeri M A F	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kerikeri Downs	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kerikeri Aerodrome	150	14.1	5.5	9.8	..	17.6	10	2.5	5	70	12	..	37	9	..
Umawera	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kaikohu	204	12.9	5.9	9.4	-1.2	16.3	10	2.5	27	114	15	..	59	9	151
Waiotemarama	229	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waipoua Forest	88	14.3	4.6	9.5	-0.8	17.5	9	-1.0	27	147	17	-31	63	9	..
Dargaville	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waitangi Forest	55	15.0	5.6	10.3	-1.1	18.0	10	1.9	7	83	10	-72	40	9	164
Glenbervie Forest	107	13.7	2.4	8.1	-1.3	17.8	10	-3.6	28	87	14	-129	49	9	..
Whangarei Airport	37	14.1	5.3	9.7	-1.5	18.0	10	0.6	28	61	12	-107	31	9	..
Whangarei	29	14.6	4.3	9.5	-1.3	19.0	8	-1.5	28	68	13	..	36	9	142*
Marsden Power Stn	3	14.6	..	..	..	18.2	10	..	..	40	13	..	20	9	..
Poua	97	13.3	7.5	10.4	..	16.9	8	3.7	27	50	10	..	27	9	..
Leigh	27	14.2	8.5	11.4	-0.5	17.4	8	4.6	5	27	8	-98	15	9	176
Warkworth	72	13.5	3.5	8.5	-1.4	16.5	9	-1.6	27	66	8	..	47	9	..
Oyster Point	0	..	3.3	..	..	..	..	-2.4	27	57	13	..	32	9	..
Woodhill Forest	30	14.2	3.4	8.8	-1.4	18.2	8	-3.7	27	65	11	-75	27	9	..
Riverhead Forest	28	13.9	2.1	8.0	-1.5	17.0	8	-3.9	27	58	10	-99	31	9	..
Kumeu	32	13.8	1.4	7.6	..	18.0	8	-4.1	27	55	11	..	34	9	..
Whenuapai	26	13.6	2.5	8.1	-1.7	16.6	8	-3.5	27	44	9	-103	31	9	..
Albert Park Auckland	49	13.9	6.5	10.2	-0.8	16.8	10	3.3	27	41	7	-96	29	9	180*
Owairaka, Auckland	41	13.3	4.8	9.1	-1.0	16.2	10	0.3	28	42	9	-103	29	9	..
Port Fitzroy	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Little Barrier Is	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rotorua Is	30	12.8	7.4	10.1	..	17.0	9	4.5	5	26	7	..	19	9	..
Coromandel	43	14.0	3.0	8.5	..	17.0	10	-0.9	5	79	7	..	61	9	..
Whangapoua Forest	4	14.6	2.9	8.8	-1.1	18.1	12	-1.6	28	39	6	-159	22	9	..
Thames	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tairua Forest	3	13.7	2.7	8.2	-1.5	16.8	10	-2.4	27	44	7	-144	33	9	..
Paeroa	4	13.1	1.0	7.1	-1.8	17.0	9	-4.0	27	23	6	-112	20	9	..
Waihi	91	12.9	0.8	6.9	-1.8	15.5	9	-5.0	27	74	6	-150	62	9	154
Te Aroha	18	13.3	1.9	7.6	-1.7	17.0	9	-3.2	6	41	8	-119	36	9	..
Katikati	2	14.5	1.9	8.2	..	18.3	13	-2.8	26	27	4	..	26	9	..
Tauranga	2	13.9	5.2	9.6	-0.5	17.7	13	1.5	28	23	5	..	19	9	..
Tauranga Airport	4	13.9	3.6	8.8	-0.6	18.0	13	-0.7	28	22	4	-115	16	9	182
Te Puke	91	13.6	3.3	8.5	-0.6	17.3	13	-1.2	28	31	4	..	27	9	181
Rotochu Forest	72	13.6	0.4	7.0	-0.9	17.7	13	-3.6	26	36	4	-139	30	9	..
Whakatane Airport	6	13.6	1.2	7.4	..	18.0	13	-2.6	29	27	5	..	18	9	186
Te Kaha	6	14.9	5.9	10.4	..	17.0	8	2.7	28	78	9	..	44	9	..
Port Ohope	9	14.2	4.8	9.5	..	18.2	13	1.7	5	20	5	..	14	9	190
Kinleith	383	10.7	0.9	5.8	-1.0	14.3	13	-2.9	6	49	6	-71	39	9	..
Tikitere	338	11.2	2.8	7.0	..	15.5	13	-0.9	28	88	3	..	79	9	..
Kawerau	30	..	2.6	..	..	..	..	-2.5	23	69	3	-122	57	9	..
Te Teko	8	14.5	2.4	8.5	-0.6	18.8	13	-2.3	5	51	4	-109	36	9	178
Rotorua Airport	287	11.6	1.5	6.6	-0.8	15.7	13	-2.6	27	76	4	-74	68	9	177
Waiotapu Forest	435	10.6	-0.8	4.9	-0.7	14.5	13	-7.4	2	66	3	-66	59	9	..
Atiamuri Power Stn	253	..	-0.4	..	..	..	..	-4.6	26	44	6	-78	37	9	..
Kaingaroa Forest	544	9.8	-0.8	4.5	-1.2	13.4	13	-5.6	27	94	5	-48	77	9	..
Murupara	198	12.1	-0.5	5.8	..	15.1	13	-5.5	29	65	3	-59	53	9	..
Wairapukao Forest	437	10.7	-2.1	4.3	-0.8	15.2	13	-7.1	27	73	5	-54	62	9	..
Taupo	376	10.7	0.2	5.5	-0.9	15.5	13	-4.0	27	52	6	-65	42	9	137
Wairakei Power Stn	342	11.4	0.3	5.9	-0.7	15.5	13	-3.5	22	61	6	-63	50	9	..
Wairakei Research Stn	402	11.5	-0.9	5.3	-0.8	16.4	13	-5.6	26	58	5	-61	43	9	..
Minginui Forest	366	11.2	-1.8	4.7	-1.0	15.3	30	-8.3	27	62	6	-78	45	9	..
Taupo Airport	407	10.4	-0.6	4.9	..	14.0	13	-5.3	26	42	3	..	38	9	..
Waimihia Forest	743	7.9	-0.5	3.7	-0.4	12.0	30	-5.0	28	73	6	-90	52	9	..
Opotiki	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waimana	37	13.5	-0.9	6.3	-1.5	17.5	13	-4.1	7	87	4	-96	66	9	..
Mangere Auckland	4	13.4	3.7	8.6	-1.6	17.0	9	-1.0	23	34	10	-98	27	9	172
Otara Auckland	12	13.5	2.5	8.0	-1.6	17.1	10	-3.3	27	40	5	-92	34	9	..
Auckland Airport	8	12.9	4.7	8.8	-1.4	16.5	10	0.5	23	36	5	-94	29	9	181
Ardmore	30	13.6	1.6	7.6	-2.0	17.0	8	-3.8	27	44	4	-101	37	9	..
Pukekohe	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Maioro Forest	52	14.1	3.6	8.9	-1.2	16.6	8	-1.5	23	24	7	-111	18	9	..
Hunua	122	12.7	1.1	6.9	..	15.6	9	-4.7	27	52	6	..	38	9	..
Maramarua Forest	38	12.8	0.4	6.6	-1.9	16.7	10	-4.7	27	44	4	-80	40	9	..
Te Kauwhata	32	13.1	1.0	7.1	-2.0	16.3	9	-3.2	27	34	8	-88	29	9	145
Huntly	34
Taupiri	23
Ruakura Hamilton	40	12.9	0.6	6.8	-1.5	16.9	14	-4.6	6	30	6	-87	27	9	160

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		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	
		Metres	°C	°C	°C	°C	°C	°C	°C	mm	mm	mm		Hrs	
Whatawhata	104	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rukuhia	66	13.1	2.0	7.6	-1.0	16.1	9	-3.9	6	31	9	-96	27	9	162
Hamilton Airport	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cambridge	76	12.8	1.0	6.9	..	16.0	9	-4.0	27	26	7	..	24	9	..
Port Taharoa	27	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mohakatino Stn Mokau	46	12.4	4.9	8.7	-0.8	16.2	9	0.4	21	56	7	-122	26	9	..
Arapuni Power Stn	123	12.9	0.8	6.9	-1.1	16.4	10	-3.3	5	29	6	-116	27	9	..
Waikeria	46	13.0	-0.1	6.5	..	16.6	14	-4.9	26	25	3	..	24	9	..
Te Kuiti	61	13.0	1.5	7.3	-0.7	16.0	14	-2.5	27	52	9	-103	41	9	141
Wairere	122	12.2	1.2	6.7	..	16.0	14	-5.0	27	59	9	-101	43	9	..
Pureora Forest	549	9.5	-0.5	4.5	-0.9	14.5	13	-4.6	26	73	10	-105	59	9	..
Mangakahu Valley	397	9.7	0.6	5.2	..	13.8	9	-3.5	6	55	10	..	38	9	..
Taumarunui	171	11.8	0.2	6.0	-1.2	15.8	9	-4.3	27	43	14	-92	27	9	100
Tokirima	152	11.7	0.6	6.2	..	16.0	9	-5.8	26	55	10	..	31	9	..
Omata	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Plymouth	55	13.2	4.7	9.0	..	16.4	14	-1.1	26	87	9	..	57	9	..
New Plymouth Airport	27	12.7	4.5	8.6	-0.4	17.2	29	-1.3	26	61	12	-102	39	9	158
North Egmont	955	7.1	0.5	3.8	..	11.2	29	-1.9	26	497	19	..	241	9	..
Te Wera Forest	180	11.4	1.4	6.4	-0.3	15.0	9	-6.2	26	77	11	-101	39	9	..
Lower Retaruke	223	11.2	1.2	6.2	-0.4	15.2	9	-5.9	27	42	10	..	29	9	..
Turangi	366	10.9	0.5	5.7	-0.5	15.8	13	-6.5	26	64	10	..	42	9	153
Chateau, Mt Ruapehu	1097	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hukanui	235	10.1	2.9	6.5	..	14.4	10	-3.5	26	62	18	-123	13	9	..
Mt Bruce Res	305	9.8	2.4	6.1	-0.1	14.2	30	-4.2	26	103	19	..	17	18	..
Waingawa Masterton	114	11.3	2.9	7.1	+0.0	17.1	10	-3.1	28	86	17	-16	17	18	88
Kopua	311	9.8	2.8	6.3	-0.3	18.0	10	-3.1	26	62	16	-37	14	17	..
Waipukurau	137	11.1	2.5	6.8	-0.2	17.5	10	-3.4	7	29	14	-57	6	18	108*
Dannevirke	207	10.7	3.4	7.1	+0.0	18.4	10	-3.6	26	61	13	-46	20	17	91
Porangahau	8	12.4	4.5	8.5	..	17.2	10	-1.0	6	90	15	..	18	13	..
Castlepoint	3	11.8	7.0	9.4	+0.0	15.6	10	1.9	26	117	18	+10	33	15	..
Ngaumu Forest	244	10.4	2.5	6.5	+0.4	15.5	10	-4.3	26	143	17	+6	24	16	..
Tauherenikau, Alloa	43	11.8	3.5	7.7	+0.2	17.2	10	-2.8	28	107	16	-5	36	17	..
Waiorongomai	21	10.8	4.3	7.6	+0.0	16.5	9	-2.2	27	227	20	+62	63	17	..
Cape Palliser	10	12.0	6.6	9.3	-0.2	17.5	9	0.1	2	132	21	+13	47	17	..
East Cape	17	13.8	7.6	10.7	-0.6	17.1	11	4.6	3	28	12	-114	9	13	..
Ruatoria	61	13.9	4.5	9.2	-0.3	17.9	31	-1.0	7	76	10	-135	21	9	..
Mangatu Forest	182	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manutuke Gisborne	9	12.8	3.4	8.1	-0.9	16.9	30	-2.0	7	74	15	-38	19	18	..
Gisborne Airport	4	12.8	3.8	8.3	-0.9	17.0	9	-1.0	7	113	15	+1	41	18	97
Onewoto, Waikaremoana	643	..	2.5	..	..	..	..	-0.5	28	159	18	-39	32	18	..
Wharerata Forest	439	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Esk Forest	427	10.0	2.9	6.5	-0.3	17.4	30	-2.8	6	132	13	-36	39	18	..
Kaweka Forest	414	10.5	3.3	6.9	-0.7	15.5	30	-1.0	26	85	12	..	20	13	..
Napier Airport	2	13.0	3.7	8.4	..	18.2	10	-2.3	28	73	11	-8	30	18	..
Napier	2	12.9	4.0	8.5	-0.4	17.2	10	-1.3	6	76	12	-3	29	18	106
Hastings	16	..	3.1	..	..	..	..	-1.7	28	55	12	..	18	13	..
Havelock North	9	12.6	2.0	7.3	-0.3	17.4	10	-4.2	7	56	13	-23	18	18	87
Whakatu	6	12.6	3.1	7.9	..	17.2	10	-2.5	7	77	12	..	29	18	..
Gwavas Forest	335	10.1	1.8	6.0	+0.1	16.6	10	-3.1	26	98	13	-16	32	11	..
Makaretu	335	10.8	2.6	6.7	-0.1	17.8	10	-3.0	26	64	16	..	15	11	..
Mohaka Forest	286	11.3	3.0	7.2	-0.3	18.2	30	-1.6	28	142	15	-4	57	18	..
Frasertown, Wairoa	8	12.8	5.2	9.0	+0.1	18.4	9	0.1	7	161	18	+21	42	11	..
Wairoa	20	12.8	4.2	8.5	-0.6	19.0	9	-0.8	7	157	16	..	49	11	82
Kapiti Is	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paraparaumu Airport	7	11.4	4.8	8.1	-0.1	17.3	9	-1.8	28	84	16	-23	22	31	102
Flockhouse Bulls	9	11.9	2.5	7.2	-0.8	18.7	9	-3.6	27	27	10	-52	7	9	..
Ohakea	48	11.5	3.9	7.7	-0.7	19.1	9	-0.9	26	26	9	-55	6	9	103
Wharite Peak	914	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kairanga Palmerston N	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Palmerston N Airport	45	11.5	3.1	7.3	-0.2	17.2	10	-3.6	29	35	11	-49	11	18	..
Palmerston N D S I R	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tiritia	100	10.9	4.3	7.6	..	16.0	10	-0.7	27	41	14	..	11	18	..
Waitare Forest	3	11.8	1.8	6.8	-0.9	16.3	10	-4.1	26	37	7	-47	13	9	..
Levin	46	11.4	3.7	7.6	-0.6	17.8	9	-1.5	26	60	11	-47	14	9	106
Titahi Bay	31	11.3	5.4	8.4	..	16.3	9	-2.0	26	134	17	..	22	9	..
Avalon, Lower Hutt	15	11.2	5.3	8.3	+0.0	16.7	9	-0.3	26	185	18	+28	39	17	..
Kelburn, Wellington	125	10.3	5.8	8.1	-0.2	16.5	9	0.2	26	174	18	+34	43	17	92
Somes Is	43	10.8	6.2	8.5	..	16.0	9	1.0	26	166	16	..	46	17	..
Gracefield Lower Hutt	34	11.2	5.8	8.5	-0.1	17.9	9	-1.1	26	237	18	+90	56	17	..
Wainuiomata	82	10.8	4.6	7.7	+0.2	16.1	9	-2.6	26	380	20	..	103	17	..
Wellington Airport	6	11.3	7.2	9.3	+0.4	16.0	9	0.7	26	110	19	+1	23	17	..
Rimutaka Forest	40	11.1	5.1	8.1	..	16.7	9	-2.4	26	275	18	..	91	17	..
Kaitoke	223	10.0	3.1	6.6	+0.3	16.0	9	-4.0	26	245	24	+24	46	17	59
Wallaceville	56	11.1	3.4	7.3	+0.0	15.5	9	-4.0	26	141	19	+6	28	9	69
Cape Egmont	8	12.6	5.4	9.0	-1.0	15.5	8	0.0	21	81	13	-74	56	9	..

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		A Max.	B Min.			Maximum	Date	Minimum	Date				Amount		Date
Metres	°C	°C	°C	°C	°C	°C	°C	mm	mm	mm	Hrs				
Stratford Mtn House	846	6.2	0.3	3.3	-0.4	11.0	29	-5.1	26	475	22	-236	213	9	..
Stratford Dem Farm	311	10.4	3.0	6.7	-0.3	13.7	9	-1.6	28	121	14	-100	71	9	117
Kapuni	173	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Manaia Dem Farm	98	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Normanby	122	11.1	3.5	7.3	..	15.0	31	-3.5	26	38	18	..	19	9	..
Patea	43	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ruatiti	354	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ohakune Junction	629	7.9	0.7	4.3	..	13.4	9	-7.0	26	65	14	..	27	9	..
Karioi	648	8.2	0.1	4.2	-0.7	15.4	9	-4.1	26	56	13	-51	14	9	..
Waiouru	823	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waiouru Military Camp	823	6.6	-1.0	2.8	-0.6	11.7	10	-7.1	6	62	17	-42	18	9	..
Ahu Ahu Valley	85	11.7	3.0	7.4	..	17.5	9	-3.0	27	82	14	..	20	17	..
Taihape	433	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kahui, Taihape	518	8.9	1.4	5.2	-1.1	16.2	9	-2.5	26	34	15	..	7	15	..
Wanganui	22	12.1	4.4	8.3	-0.4	18.6	9	-0.5	26	16	12	-65	4	15	101
Wanganui Airport	9	12.2	4.2	8.2	..	18.5	9	-0.6	26	21	12	..	6	15	..
Farewell Spit	3	12.3	3.1	7.7	-1.4	15.0	30	-1.0	4	74	12	-56	24	8	..
Totaranui	10	12.2	2.8	7.5	..	15.1	9	-0.6	2	163	7	..	85	9	..
Westport Airport	2	11.8	3.7	7.8	-0.3	15.2	9	-0.3	5	197	11	+14	87	8	132
Cobb Dam	823	8.5	-1.9	3.3	+0.3	12.1	30	-6.3	4	254	9	+46	133	9	..
Arapito	20	12.7	2.6	7.7	..	15.3	24	-1.2	5	127	7	..	48	10	135
Lake Rotoroa	443	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Rototiti	634	9.1	-2.7	3.2	+0.2	11.8	9	-8.9	25	104	8	-53	56	9	..
Hokitika Airport	39	11.0	1.9	6.5	-0.6	13.1	11	-3.0	4	325	12	+84	136	8	125
Punakaiki	4	12.9	5.5	9.2	..	15.8	16	0.5	3	246	11	..	86	9	..
Reefton	198	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barrytown	30	12.4	5.6	9.0	..	15.1	9	1.5	5	265	9	..	87	9	..
Totara Flat	77	10.6	0.5	5.6	+0.2	14.2	11	-4.8	4	176	15	+19	80	9	..
Greymouth	4	11.3	3.1	7.2	-0.4	15.0	9	-0.5	5	298	10	+105	140	9	107
Otira Substation	383	8.2	0.3	4.3	..	12.0	31	-4.0	25	477	10	+121	131	31	..
Springs Junction	421	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pukekura	86	11.1	0.1	5.6	..	14.0	18	-3.6	4	303	11	..	100	31	..
Hari Hari	45	12.0	0.0	6.0	+0.1	16.2	9	-5.1	4	323	11	+82	117	31	..
Okarito	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Franz Josef	122	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Franz Josef	155	11.3	2.7	7.0	..	13.8	16	-1.0	1	450	11	..	191	31	142
Fox Glacier	152	11.3	1.4	6.4	..	13.6	11	-1.4	1	503	9	+189	217	31	..
Milford Sound	3	8.5	0.9	4.7	-0.9	12.3	30	-2.7	5	387	15	+9	94	30	..
Puyssegur Point	43	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stephens Is	187	10.4	6.8	8.6	..	13.2	9	4.5	19	52	16	-32	19	9	..
Riwaka Motueka	8	12.1	0.6	6.4	-0.6	15.5	31	-3.0	4	249	9	+104	165	9	149
Tapawera	146	12.0	-0.9	5.6	..	15.9	29	-4.6	26	114	10	..	64	9	..
Craik Bay Pelorus Sd	13	11.8	5.4	8.6	..	14.8	8	-0.2	25	161	11	..	76	9	..
Appleby	17	11.6	1.2	6.4	-0.8	15.0	14	-2.5	25	173	6	+82	121	9	..
Nelson Airport	2	11.7	0.2	6.0	-0.4	16.2	9	-3.8	25	126	8	+35	83	9	147
Rai Valley	79	..	0.0	..	..	..	..	-5.1	4	290	8	+107	164	9	..
Moutere Hills	110	11.2	3.9	7.6	-0.2	14.9	29	0.8	25	184	8	+80	122	9	..
Blenheim Airport	27	11.8	0.8	6.3	-0.4	15.7	30	-4.0	4	99	8	+28	68	9	..
Brancott Valley	64	11.8	0.4	6.1	..	15.8	30	-4.4	25	95	7	..	65	9	..
Blenheim	4	12.5	0.6	6.6	-0.5	16.3	30	-4.4	4	82	8	+16	58	9	146
Wither Hills Blenheim	32	11.9	1.5	6.7	-0.6	16.0	30	-3.5	25	72	6	+3	48	9	..
Waihopai Power Stn	262	10.4	-0.1	5.2	-0.8	18.0	30	-4.5	25	146	6	+67	109	9	..
Vernon Lagoons	2	12.2	0.4	6.3	-0.5	17.0	30	-5.8	4	63	6	..	44	9	132
Lake Grassmere	2	11.5	2.9	7.2	-0.1	17.0	8	-3.0	26	57	6	-9	43	9	142
Cape Campbell	3	10.9	5.9	8.4	-0.1	13.9	31	1.8	26	39	5	-37	25	9	..
Hanmer Forest	387	9.0	-1.1	4.0	+0.3	17.2	30	-6.4	26	119	12	+15	37	9	78
Molesworth	893	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kaikoura Flats	24	10.3	2.3	6.3	..	20.6	31	-2.2	26	76	10	..	24	9	..
Kaikoura	108	9.4	4.5	7.0	-0.8	19.5	31	1.5	25	53	13	-28	20	9	113
Arthurs Pass	738	4.5	-3.0	0.8	..	9.5	31	-8.0	3	449	8	+172	166	9	..
Culverden	174	9.2	-0.5	4.4	..	16.8	31	-5.3	26	74	10	..	29	9	..
Balmoral Forest	198	9.6	-0.4	4.6	+0.1	16.3	31	-5.5	26	74	10	+10	20	9	..
Waiau	137	10.1	-0.2	5.0	..	18.4	31	-5.6	26	70	10	..	23	9	..
Cheviot	85	10.3	0.7	5.5	..	18.2	31	-5.9	5	58	11	..	19	23	..
The Hermitage Mt Cook	765	4.4	-3.6	0.4	-1.5	12.2	28	-11.3	14	352	10	+108	128	8	81
Mt John	1027	3.8	-2.1	0.9	-0.4	12.7	31	-7.0	14	82	6	+36	32	9	..
Craigieburn Forest	914	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Coleridge	364	8.7	-1.4	3.7	-0.2	..	..	-5.9	25	125	10	+44	65	9	..
Highbank Power Stn	336	8.7	1.5	5.1	-0.5	16.0	28	-3.7	25	94	10	+15	52	9	116
Hororata Substation	192	10.1	-0.6	4.8	+0.3	16.3	28	-5.5	25	76	12	+10	45	9	..
Winchmore	160	10.0	1.0	5.5	+0.8	18.0	31	-3.8	6	64	8	+3	43	9	..
Peel Forest	274	10.3	-1.3	4.5	..	19.4	31	-9.3	7	75	15	..	43	9	..
Ashburton	101	10.4	0.5	5.5	+0.3	19.4	31	-4.5	25	48	9	-13	31	9	106
Waipara	64	10.1	1.4	5.8	..	17.4	30	-6.3	6	49	12	..	18	9	..
Ashley Forest	107	9.6	1.6	5.6	-0.6	16.5	31	-2.9	25	66	10	-5	29	9	92

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for July 1983—continued

Station	Height of Station Above M.S.L.	Air Temperature in Degrees Celsius								Rainfall in Millimetres				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
	Metres	°C	°C	°C	°C	°C	°C	°C	mm		mm	mm		Hrs	
Owaka	5	9.5	1.5	5.5	..	14.5	31	-4.8	14	85	15	..	33	10	..
Nugget Point	129	8.6	3.0	5.8	+0.2	13.0	30	-1.2	14	73	19	+12	28	10	..
Tautuku	61	9.6	2.7	6.2	..	13.8	29	-2.2	14	74	18	..	17	10	..
Nandi Airport, Fiji	19	28.8	18.0	23.4	-0.2	32.2	25	13.9	8	23	6	..	9	23	229
Rarotonga Airport	7	24.7	18.9	21.8	+0.1	27.0	12	13.8	12	89	7	-8	37	29	180
Totokoitu, Rarotonga	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Raoul Is	38	18.2	12.9	15.6	-0.6	21.4	1	9.4	6	111	26	-52	21	22	162
Campbell Is	15	7.0	3.4	5.2	-0.6	9.1	20	-0.6	8	57	27	-50	6	31	7
Waitangi, Chatham Is	44	10.6	6.1	8.4	+0.7	13.0	31	2.4	24	91	25	+12	25	11	51
Scott Base Antarctica	16	-24.8	-36.5	-30.7	-0.9	-14.6	2	-47.6	17	..	..	..	..	..	..
LATE RETURNS AND CORRECTIONS															
Kerikeri M A F 06/1983	79	15.7	8.1	11.9	..	19.5	9	3.0	3	287	23	..	125	8	..
Kerikeri Downs 06/1983	79	15.4	8.2	11.8	..	19.5	9	2.3	4	268	23	..	113	8	..
Marsden Power Stn 06/1983	3	15.7	7.3	11.5	-1.3	18.0	9	3.1	4	190	26	..	67	8	..
Oyster Point 06/1983	0	..	..	..	..	..	..	..	..	104	21	..	15	8	..
Rotoroa Is 06/1983	30	14.3	9.8	12.1	..	16.5	1	2.5	3	64	21	..	10	30	..
Waihi 06/1983	91	13.5	6.8	10.2	+0.6	16.5	14	-3.3	4	200	22	-18	53	27	86
Opotiki 06/1983	6	14.8	5.2	10.0	+0.2	19.2	13	-3.2	19	96	13	-39	24	27	130
Huntly 06/1983	34	14.1	6.8	10.5	..	17.1	9	-1.0	4	101	..	..	22	1	..
Hamilton Airport 06/1983	50	14.3	..	..	..	18.4	14	..	..	100	15	-32	31	27	..
Port Taharoa 05/1983	27	15.8	10.8	13.3	-0.4	19.6	5	4.5	24	112	..	..	23	18	..
Arapuni Power Stn 06/1983	123	13.5	4.3	8.9	+0.3	18.2	13	-4.1	4	90	20	-65	28	27	..
Waingawa Masterton 06/1983	114	12.6	3.8	8.2	+0.6	17.3	12	-3.2	4	62	18	-45	12	30	97
Ruatoria 06/1983	61	15.1	6.1	10.6	+0.4	18.0	1	-2.3	19	278	19	+85	96	8	..
Mangatu Forest 06/1983	182	14.2	4.2	9.2	+0.3	20.0	1	-4.0	27	158	13	+21	32	10	..
Whareata Forest 06/1983	439	12.1	5.3	8.7	..	16.6	2	-2.5	19	291	21	..	51	16	..
Wharite Peak 06/1983	914	5.7	2.0	3.9	+0.1	12.2	10	-4.0	19	298	19	+95	63	22	..
Kapuni 02/1983	173	..	..	..	..	..	..	..	..	29	8	..	13	13	..
Kapuni 03/1983	173	20.0	10.9	15.5	..	24.6	13	4.4	18	48	18	..	12	23	..
Kapuni 04/1983	173	17.0	8.3	12.7	..	20.4	15	0.8	29	74	14	..	24	26	..
Kapuni 05/1983	173	..	6.4	..	..	..	9	-0.3	24	134	22	..	20	17	..
Kapuni 06/1983	173	13.2	5.0	9.1	..	17.6	9	-0.6	6	65	19	..	8	23	..
Normanby 06/1983	122	12.6	5.1	8.9	..	18.0	9	..	..	47	22	..	9	17	..
Waiouru 06/1983	823	..	1.4	..	..	..	..	-8.9	19	134	18	+12	37	10	..
Kahui, Taihape 06/1983	518	11.6	3.9	7.8	+1.0	19.6	1	-3.0	19	108	15	..	42	27	..
Westport Airport 06/1983	2	12.1	4.6	8.4	-0.3	15.3	8	-0.2	3	124	18	-64	15	27	115
Franz Josef 06/1983	122	11.5	2.1	6.8	-0.2	16.0	10	-2.5	18	491	14	+194	259	26	..
Wither Hills Blenheim 06/1983	32	13.3	2.7	8.0	+0.3	17.2	15	-2.7	3	13	6	-48	4	28	..
Kaikoura Flats 05/1983	24	14.6	4.8	9.7	..	24.6	5	-1.5	26	104	14	..	30	20	..
Kaikoura Flats 06/1983	24	12.1	2.3	7.2	..	17.1	15	-1.8	4	70	14	..	23	8	..
The Hermitage Mt Cook 06/1983	765	6.1	-1.7	2.2	-0.7	11.5	13	-6.2	18	358	12	+107	110	26	71
Ashley Forest 05/1983	107	13.7	4.7	9.2	+0.0	24.0	5	-1.0	24	75	15	-9	20	18	128
Ashley Forest 06/1983	107	11.0	2.4	6.7	-0.1	16.8	27	-1.7	4	44	12	-9	16	9	120
Eyrewell Forest 06/1983	158	11.4	0.2	5.8	+0.5	16.7	26	-4.8	4	57	14	-1	14	9	..
Kurow 05/1983	207	13.6	3.1	8.4	..	19.7	9	-1.9	11	17	13	..	5	9	..
Windsor 06/1983	88	10.8	2.2	6.5	..	16.1	14	-1.7	4	28	3	..	23	9	..
Taiaroa Head 06/1983	72	10.1	5.0	7.6	+0.2	15.2	14	-0.5	1	57	14	-1	17	9	..
Borland Burn 06/1983	183	6.4	-1.1	2.7	..	12.5	4	-3.6	2	166	17	..	52	26	..
Roxburgh Power Stn 06/1983	110	8.5	0.7	4.6	-0.3	15.0	14	-2.5	8	27	13	-9	9	18	..
Deep Stream 06/1983	396	8.7	-0.9	3.9	..	15.2	10	-7.1	8	35	10	..	8	30	..
Finegand Balclutha 06/1983	6	9.5	2.1	5.8	+0.5	15.0	26	-4.0	8	80	15	..	16	30	81
Rarotonga Airport 06/1983	7	25.8	19.1	22.5	+0.1	29.5	26	15.3	9	43	17	-54	13	9	146
Raoul Is 05/1983	38	21.5	15.3	18.4	-0.4	24.9	7	12.1	14	45	18	-100	14	13	171
Raoul Is 06/1983	38	19.9	15.4	17.7	+0.4	22.4	9	10.9	22	376	28	+226	77	13	101

The "normal" refers to the present site of the instruments. Standard period for normals is 1941-1970. No normals are available for stations with only short records.

*Indicates that the sunshine recorder is not located at the station but is in the near vicinity.

A rainday is a day with rainfall equal to or greater than 0.1 mm.

Where the extremes of temperature and rainfall have occurred more than once during the month, the date of the first occurrence is given.

THE NEW ZEALAND WEATHER IN JULY 1983

General—July was a cool month with below average rainfall over the North Island and more rain than usual over the South Island.

South-easterly winds were much more frequent than usual over New Zealand, resulting in an unusual rainfall and sunshine distribution.

A warm and very moist northerly airstream which covered New Zealand between the 8th and the 10th brought rain to much of the country with widespread and heavy falls over northern parts of the South Island on the 9th. Major flooding occurred in Marlborough and Golden Bay, resulting in heavy stock and property losses.

Several communities were isolated as a result of roads and bridges being washed out, and some 500 people had to evacuate their homes. At the same time north-easterlies were gusting to around 60 knots at Auckland, resulting in several boats breaking their moorings. An Auckland man was drowned while trying to secure a yacht during the storm.

Farmers in most North Island areas reported dry and frosty conditions with little pasture growth. However South Island farms had reasonable growth, in spite of a high frequency of frosts.

Rainfall—North Island rainfalls were generally below normal, with many areas receiving very little rain. Less than 50 percent of the normal July rainfall was recorded over most of the island, while parts of the Waikato and Bay of Plenty received less than 30 percent of their usual July totals.

Hamilton and Whakatane, with 31 mm and 27 mm respectively, had record low rainfalls for the month. Tauranga recorded its lowest July total (22 mm) since 1902. The far north, and eastern areas from Gisborne to Cook Strait recorded rainfalls close to or slightly above normal, while Wellington received 124 percent of its usual July total.

Over much of the South Island rainfalls were above normal, although parts of Southland, and some northern areas, despite the flood period, received considerably less rain for the month than usual. Lake Rotoiti recorded 45 mm, only 29 percent of its usual July total. On the other hand Mount John recorded a record 91 mm, almost twice its normal rainfall for the month.

Heavy snow fell over Otago on the 1st and over Canterbury on the 2nd. Some 40 000 sheep were rescued from the snow in the upper Clutha and Waitaki Valleys and drifts of snow on Banks Peninsula were up to 3 metres deep. Snow and ice during this period closed several roads in Otago, and the road and railway across Arthurs Pass.

Temperature—Average temperatures were close to normal over central and eastern areas of New Zealand during July, while much of the country experienced temperatures between 0.5°C and 1°C colder than usual. A few areas, notably coastal parts of Southland and Otago, recorded temperatures up to 1°C warmer than normal.

The first 6 days of the month were cold with minimum temperatures around 6°C below average being recorded in many places. Ice formed on Lyttleton Harbour on the morning of the 6th; the last time ice had been seen on the outer Harbour was in 1947. The following 5 days were much warmer, with several areas recording mean temperatures around 6°C above average.

Between the 12th and the 19th temperatures were close to normal, but fell again after this and remained low until the 29th. Frosts were widespread during this period. Sea ice was again reported, this time on the 27th when 4 mm of ice formed on the Aotea Lagoon at Porirua. This is an unprecedented event in the 23 years since the formation of the lagoon.

Sunshine—Sunshine totals for the month reflect the unusually high frequency of south-easterly winds. Eastern areas from East Cape southwards recorded less sunshine than normal, while western and northern areas had high sunshine totals. Auckland, Ruakura and Rotorua all recorded record high totals for the month, with 42, 49, and 36 hours respectively above normal. Gisborne on the other hand recorded 97 hours, its lowest July total since 1963.

THE WEATHER SEQUENCE JULY 1983

1-7 July

A complex trough moved off to the east of New Zealand on the 1st, allowing a cold south-westerly flow to spread over the country, with showers in western areas of both islands. The flow turned southerly during the 2nd and showers spread to eastern areas, with some heavy snowfalls over the South Island.

Apart from a few showers near Gisborne, the weather became fine and cold as a high spread over New Zealand from the Mid Tasman Sea during the 4th and 5th. The high moved across the North Island during the 6th and 7th, while a moist north to north-west flow spread over the South Island, bringing showers to Fiordland on the 6th, and rain to western areas from Taranaki southwards on the 7th.

8-14 July

On the 8th a complex low moved into the mid Tasman Sea, maintaining a warm and moist northerly flow over New Zealand with rain in western areas of both islands. The low moved across the South Island during the 9th and 10th, bringing rain to most of the country, with widespread and heavy falls causing serious flooding in northern South Island areas on the 9th.

A southerly flow spread onto the South Island during the 10th and onto the North Island during the 11th, bringing showers to eastern areas and snow to the South Island high country. A ridge spread onto the South Island on the 11th, and onto the North Island during the 12th, 13th, and 14th, bringing generally fine cool weather, although a few showers persisted on the east coast of the North Island and about Wellington. The low had by this stage become slow moving to the east of New Zealand.

15-21 July

During the 15th the ridge weakened and showery southerlies freshened as a cold front moved across New Zealand. The southerly continued to bring showers to eastern areas on the 16th and 17th. A ridge spread onto the South Island on the 18th, bringing mainly fine weather, although the southerlies continued to give a few showers to eastern and southern North Island areas on the 19th.

The high spread onto the North Island during the 20th and showers became confined to the Gisborne area. On the 21st a cold front moved onto the South Island, bringing scattered rain to Fiordland while the weather remained fine and cool over the remainder of the country.

22-30 July

A low which had developed in the Coral Sea moved south-east towards the North Island on the 22nd, bringing showers to Northland, while a cold front approaching the South Island, brought rain to Westland and Fiordland. Over the rest of the country the ridge continued to give fine weather. The front moved north-east across New Zealand during the 23rd, forming a complex trough as it merged with the low near Northland.

A strong, cold and showery southerly spread over the South Island behind the front. Strong south-easterlies spread over the North Island during the 24th, bringing showers to eastern areas, while a ridge spread over the South Island, with clearing weather.

The ridge spread over the remainder of the country on the 25th, with fine cool weather in most places, although a few showers persisted near Gisborne and on the south coast of the South Island. Similar conditions were experienced on the 26th, 27th, 28th, and 29th, although the showers near Gisborne cleared and a moist north-westerly flow brought showers to Fiordland.

By the 30th the anticyclone lay over Northland and strong north-westerlies had spread over the South Island, ahead of a cold front in the Tasman Sea. As the front approached New Zealand rain became widespread in Western South Island areas.

(N.Z. Met. S. Pub. 107)

J. S. HICKMAN, Director.

