



SUPPLEMENT

TO THE

NEW ZEALAND GAZETTE

OF

THURSDAY, 15 JANUARY 1981

*Published by Authority*

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WELLINGTON: WEDNESDAY, 21 JANUARY 1981

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CLIMATOLOGICAL TABLE  
FOR OCTOBER 1980

NEW ZEALAND METEOROLOGICAL SERVICE

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for October 1980

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	°C	mm	mm	mm	mm	Hrs		
Cape Reinga	191	17.2	11.6	14.4	+0.4	20.3	27	9.4	20	108	20	+37	40	5	..
Kaitaia Airport	80	18.3	11.4	14.9	+0.4	22.9	23	5.5	14	124	15	+12	70	5	163
Aupouri Forest	69	17.9	12.2	15.1	+0.3	22.7	23	8.0	20	123	17	-10	60	5	..
Kerikeri Aerodrome	150	18.2	9.9	14.1	..	21.6	23	4.6	20	89	20	..	14	5	..
Umawera	50	18.4	10.7	14.6	..	22.4	23	3.7	20	75	15	..	19	5	..
Kaikohe	204	17.1	10.5	13.8	+0.2	22.0	26	6.5	14	115	20	..	31	5	146
Waiotemarama	229	16.4	10.2	13.3	..	19.8	23	5.9	20	111	18	..	41	9	..
Waipoua Forest	88	18.1	9.7	13.9	+0.6	21.7	23	3.5	20	100	16	-50	27	9	..
Dargaville	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waitangi Forest	55	18.6	10.7	14.7	-0.1	22.3	23	5.5	20	70	15	-27	17	10	169
Glenbervie Forest	107	17.9	9.2	13.6	+0.7	21.1	26	1.4	20	145	16	+8	37	5	..
Whangarei Airport	37	18.5	11.3	14.9	+0.3	21.1	26	5.8	14	108	16	-1	31	5	..
Whangarei	29	18.9	10.4	14.7	+0.2	22.2	26	5.1	20	117	17	..	27	5	158*
Marsden Power Station	3	18.6	11.0	14.8	+0.2	22.0	29	1.9	28	92	20	..	33	10	..
Pouto	97	17.6	11.4	14.5	..	21.0	27	8.4	14	42	15	..	10	29	..
Leigh	27	17.5	12.5	15.0	+0.7	19.5	23	9.6	18	54	15	-36	24	10	162
Warkworth	72	18.0	10.0	14.0	+0.6	21.4	23	3.8	14	65	23	..	14	5	..
Oyster Point	0	18.5	10.8	14.7	..	22.7	23	3.8	14	33	16	..	8	17	..
Woodhill Forest	30	18.1	10.6	14.4	+0.8	22.0	23	4.0	14	33	12	-74	10	17	..
Riverhead Forest	28	18.2	9.3	13.8	+0.5	22.2	23	2.1	14	43	11	-76	9	17	..
Kumeu	32	18.1	10.2	14.2	..	22.2	23	2.7	14	50	15	..	10	17	..
Whenuapai	26	18.2	10.7	14.5	+1.1	22.6	26	5.0	25	39	15	-73	10	17	..
Albert Park, Auckland	49	18.6	12.0	15.3	+0.7	23.0	26	8.6	14	46	14	-61	10	17	168*
Owairaka, Auckland	41	18.1	11.3	14.7	+0.9	21.9	23	5.8	14	36	14	-78	9	17	..
Port Fitzroy	4	18.4	11.6	15.0	+0.7	21.4	23	7.0	25	61	17	-74	12	29	..
Coromandel	43	18.3	11.0	14.7	..	21.5	29	5.0	25	119	19	..	30	11	..
Whangapoua Forest	4	19.1	10.4	14.8	+1.3	22.0	10	3.6	26	78	16	-64	23	11	..
Thames	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tairua Forest	3	18.4	10.6	14.5	+0.7	22.3	10	4.5	24	101	16	-39	20	11	..
Paeroa	4	20.2	10.6	15.4	+2.1	24.9	27	3.7	24	73	15	-39	22	11	..
Waihi	91	18.1	9.7	13.9	+0.6	23.5	25	-1.8	24	103	18	-77	17	11	148
Te Aroha	12	19.6	11.0	15.3	+1.2	23.7	25	3.6	14	69	18	-61	14	17	..
Katikati	2	18.5	10.5	14.5	..	22.1	10	1.8	24	57	17	..	14	11	..
Tauranga	2	18.1	11.6	14.9	+0.9	22.4	10	5.1	14	54	15	..	15	17	..
Tauranga Airport	4	18.3	10.0	14.2	+0.7	22.4	10	0.4	24	52	15	-62	14	17	192
Te Puke	91	18.7	9.3	14.0	+0.9	22.8	3	1.8	14	77	15	..	15	10	192
Rotoehu Forest	72	18.3	7.5	12.9	+0.5	23.8	10	0.0	24	76	14	-64	39	17	..
Edgecumbe	5	19.0	8.7	13.9	+0.6	23.9	3	1.1	4	38	13	..	8	12	..
Whakatane	2	18.9	10.1	14.5	+0.7	25.5	2	4.2	14	48	14	-51	20	16	219
Whakatane Airport	6	18.5	8.8	13.7	..	23.8	3	1.5	14	38	13	..	11	16	..
Port Ohope	9	18.3	10.3	14.3	..	24.0	3	4.3	14	86	12	..	45	16	211
Kinleith	383	16.9	7.8	12.4	+1.2	21.2	25	1.3	14	70	15	-82	17	17	..
Tokoroa	305	17.9	7.2	12.6	+1.2	22.5	26	-0.4	14	91	16	..	25	17	..
Tikitere	338	16.5	8.6	12.6	..	20.5	25	2.8	14	70	12	..	20	10	..
Kawerau	30	19.4	9.7	14.6	+0.7	24.0	3	2.8	14	67	13	-78	16	21	..
Te Teko	8	20.1	8.2	14.2	+0.8	24.0	2	1.5	14	38	13	-84	8	17	193
Whakarewarewa	307	17.4	8.5	13.0	+0.9	22.5	26	1.0	14	58	16	-64	16	17	..
Rotorua Airport	287	17.4	8.3	12.9	+0.9	21.8	26	1.3	14	80	13	-44	42	10	200
Tarawera Forest	61	19.5	8.3	13.9	+1.4	23.6	25	-0.5	14	86	14	-84	19	21	..
Waiotapu Forest	435	16.6	7.0	11.8	+0.5	23.6	25	-1.1	14	76	14	-41	16	17	..
Atiamuri Power Station	253	18.0	7.6	12.8	+1.0	25.4	26	0.3	14	75	14	-50	19	10	..
Kaingaroa Forest	544	16.3	6.0	11.2	+0.7	24.3	25	-2.0	14	76	16	-51	20	11	..
Murupara	198	19.0	7.8	13.4	..	25.2	25	-1.2	1	59	13	-50	13	16	..
Broadlands	305	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wairapukao Forest	437	17.6	4.5	11.1	+0.5	25.7	25	-4.4	24	68	16	-49	16	17	..
Taupo	376	17.2	7.1	12.2	+0.8	25.8	26	-0.6	14	70	16	-32	19	10	181
Wairakei Power Station	342	18.1	7.2	12.7	+1.0	26.0	26	-1.5	14	48	16	-56	18	17	181
Wairakei Research Station	402	18.2	6.6	12.4	+1.5	27.2	26	-2.5	14	50	13	-52	21	17	..
Minginui Forest	366	18.1	5.7	11.9	+0.9	26.4	25	-4.0	14	55	14	-69	15	17	..
Taupo Airport	407	16.9	6.7	11.8	..	24.7	25	-2.0	24	40	12	..	15	17	..
Waimihia Forest	743	14.8	5.1	10.0	+1.2	24.3	25	-2.0	14	77	15	-70	24	17	..
Opotiki	6	18.0	9.1	13.6	+0.3	22.0	10	2.7	14	56	12	-51	13	16	213
Waimana	37	19.1	8.1	13.6	+0.3	25.5	2	2.0	14	85	13	-47	15	17	..
Mangere, Auckland	4	18.1	11.7	14.9	+1.0	23.3	23	5.5	14	37	17	-65	10	17	164
Otara, Auckland	12	18.4	10.7	14.6	+1.2	22.9	23	4.0	14	40	14	-59	7	17	..
Orere Point	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Auckland Airport	8	18.2	11.5	14.9	+0.9	23.6	23	6.3	14	34	15	-70	10	17	175
Ardmore	30	18.7	10.3	14.5	+1.3	23.4	23	2.8	14	54	11	-58	10	18	..
Pukekohe	82	17.8	9.7	13.8	+0.7	22.0	23	4.3	14	40	17	..	10	29	117
Maioro Forest	52	18.0	10.8	14.4	+0.8	23.1	23	4.5	14	48	15	-66	21	17	..
Hunua	122	18.1	9.3	13.7	..	22.9	26	1.2	14	50	16	..	8	17	..
Maramarua Forest	38	19.0	8.9	14.0	+1.2	23.0	25	1.3	14	71	16	-36	19	11	..
Te Kauwhata	32	18.8	10.7	14.8	+1.2	22.2	23	5.5	24	69	16	-40	14	19	146
Ruakura, Hamilton	40	18.8	9.4	14.1	+1.4	22.8	26	1.4	14	34	13	-73	16	17	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.			Maxi- mum	Date	Mini- mum	Date				Amount		Date
	Metres	°C	°C	°C	°C	°C	°C	°C	°C	mm	mm	mm	Hrs		
Whatawhata	104	17.8	9.7	13.8	+1.0	21.9	23	1.6	14	62	17	-88	20	17	140
Rukuhia	66	18.7	9.4	14.1	+1.1	22.8	26	2.4	14	47	12	-65	19	17	164
Hamilton Airport	50	18.9	7.9	13.4	+1.1	23.1	26	-0.5	14	44	11	-65	19	17	..
Cambridge	76	18.7	8.9	13.8	..	22.7	25	2.3	14	54	14	..	22	11	..
Port Taharoa	27	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mohakino Station Mokau	46	17.5	10.3	13.9	+0.9	21.5	24	5.5	14	51	12	-104	11	14	..
Arapuni Power Station	123	19.7	8.8	14.3	+1.3	27.5	25	1.5	14	45	13	-87	11	17	..
Waikeria	46	18.6	8.4	13.5	..	22.9	26	0.2	14	58	12	..	25	11	..
Te Kuiti	61	19.0	8.9	14.0	+1.2	23.8	25	1.7	14	85	20	-67	21	17	133
Pureora Forest	549	15.7	6.7	11.2	+1.4	23.2	26	-1.4	14	86	16	-92	23	17	..
Taumarunui	171	19.3	8.0	13.7	+0.9	27.8	26	-0.2	14	93	16	-44	27	17	149
Omata	61	17.1	10.9	14.0	+1.1	21.6	23	6.9	14	110	15	..	31	9	..
New Plymouth	55	17.6	9.8	13.7	..	23.5	23	4.3	14	128	13	..	58	9	..
New Plymouth Airport	27	17.0	9.4	13.2	+0.9	21.0	23	3.3	14	140	13	+5	81	9	199
Tikorangi	77	17.2	9.0	13.1	..	22.5	23	3.2	14	131	16	..	59	9	..
Te Wera Forest	180	17.5	7.4	12.5	+1.1	23.0	26	-0.2	14	112	18	-58	22	17	..
Lower Retaruke	223	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Turangi	366	17.0	7.0	12.0	+0.6	25.4	25	-1.5	14	68	17	..	17	17	168
Chateau, Mt Ruapehu	1119	..	2.4	..	..	..	..	-3.6	14	180	20	-99	39	18	..
Mangamutu, Pahiatua	116	16.8	8.0	12.4	+0.8	22.4	26	-0.9	14	133	15	+1	34	17	..
Mt Bruce Reserve	305	17.0	6.7	11.9	+1.5	25.5	24	-1.5	14	205	23	..	48	4	..
Waingawa, Masterton	114	18.8	7.2	13.0	+1.2	25.5	27	0.5	14	66	15	-8	36	4	225
Kopua	311	17.0	7.5	12.3	+1.1	22.6	26	-0.9	14	28	12	-51	11	18	..
Waipukurau	137	18.6	6.0	12.3	+0.5	24.5	27	-0.4	14	28	8	-28	9	18	211*
Dannevirke	207	17.5	8.3	12.9	+1.1	23.1	26	-0.9	14	58	14	-33	19	18	200
Porangahau	8	18.6	9.2	13.9	..	25.1	25	2.0	14	42	9	..	17	9	..
Castlepoint	3	18.1	11.0	14.6	+1.2	23.5	24	5.0	14	31	8	-33	11	4	..
Ngaumu Forest	244	18.3	6.9	12.6	+1.9	24.6	24	-0.5	14	66	11	-20	35	17	..
Tauherenikau, Alloa	43	18.5	7.4	13.0	+0.8	24.9	26	1.0	14	108	16	+19	53	4	..
Gladstone, Arahura	116	..	7.5	..	..	..	..	0.6	14	56	10	-13	26	4	..
Waiorongomai	21	16.4	8.5	12.5	+0.7	21.0	26	2.2	24	109	16	-26	33	4	..
Cape Palliser	10	18.5	11.3	14.9	+1.5	26.8	25	5.0	5	60	14	-16	26	4	..
East Cape	17	17.0	10.6	13.8	-0.2	23.0	3	6.4	14	81	15	-26	20	5	..
Ruatoria	61	19.0	8.1	13.6	-0.2	26.3	1	3.1	25	92	19	-50	22	21	..
Mangatu Forest	182	19.3	7.5	13.4	+0.6	27.5	25	2.6	14	39	10	-63	10	12	..
Manutuke Gisborne	9	19.3	7.9	13.6	+0.3	28.1	27	..	..	25	11	-46	9	4	..
Gisborne Airport	4	19.8	8.4	14.1	+0.6	29.4	27	1.9	24	27	13	-44	14	4	232
Onepoto, Waikaremoana	643	16.8	6.5	11.7	+1.1	25.2	27	1.0	14	95	12	-55	25	4	..
Wharerata Forest	439	16.8	7.9	12.4	..	24.0	27	2.7	24	179	9	..	72	10	..
Esk Forest	427	17.7	8.0	12.9	+1.5	26.2	27	-0.5	14	95	9	-17	34	10	..
Kaweka Forest	414	18.3	8.1	13.2	+1.1	25.8	27	1.7	14	59	10	..	15	4	..
Napier Airport	2	19.5	8.5	14.0	..	26.8	3	2.1	14	50	5	-8	19	4	..
Napier	2	20.0	9.8	14.9	+1.1	26.3	3	2.6	14	48	7	-5	17	4	233
Hastings	12	20.5	8.2	14.4	+1.1	27.1	3	1.2	14	20	5	-26	9	10	..
Havelock North	9	19.6	6.4	13.0	+0.6	26.1	3	0.0	14	19	7	-32	6	10	220
Gwavas Forest	335	18.3	5.1	11.7	+1.0	25.6	27	-1.3	14	42	9	-42	19	4	..
Makaretu	335	18.0	6.4	12.2	+0.7	24.8	25	-1.0	24	34	11	..	15	4	..
Mohaka Forest	286	18.9	8.1	13.5	+1.1	27.3	27	0.7	14	83	9	-30	31	4	..
Frasertown, Wairoa	8	20.3	8.8	14.6	+0.8	30.5	27	4.0	14	53	9	-46	26	4	..
Wairoa	20	..	8.3	..	..	..	..	2.8	14	44	9	..	17	4	235
Portland Island	78	16.3	10.6	13.5	+0.4	22.6	3	7.6	5	21	11	-37	12	4	..
Kapiti Island	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paraparaumu Airport	7	16.2	9.6	12.9	+0.6	19.7	9	4.0	24	86	16	-11	24	4	183
Flockhouse, Bulls	9	16.7	8.9	12.8	+0.5	20.7	29	3.4	24	75	14	-4	18	18	..
Ohakea	48	17.0	9.3	13.2	+0.5	20.7	9	3.6	20	75	15	-11	26	18	200
Wharite Peak	914	10.6	4.0	7.3	+0.9	17.5	26	0.0	5	236	19	+56	62	18	..
Kairanga Palmerston North	15	17.3	9.1	13.2	+0.8	20.7	9	2.4	14	98	17	..	31	18	183
Palmerston North Airport	45	17.1	8.3	12.7	+0.7	21.6	26	-0.5	14	126	15	+45	36	18	..
Palmerston North D S I R	34	17.0	9.7	13.4	+0.9	21.0	26	2.8	14	130	17	+41	39	18	168
Massey University	61	17.2	9.4	13.3	..	20.9	27	2.2	14	134	15	+43	33	18	..
Foxton	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waitarere Forest	3	16.5	9.4	13.0	+0.5	20.4	9	2.2	20	99	14	+20	18	17	..
Levin	46	16.3	9.3	12.8	+0.4	20.6	9	4.6	24	103	16	+4	18	9	161
Taita, Lower Hutt	65	16.0	8.6	12.3	+0.3	19.7	24	2.2	20	87	16	-35	20	4	186
Avalon, Lower Hutt	15	16.2	9.4	12.8	+0.4	19.5	9	3.7	20	79	17	-25	17	4	..
Kelburn, Wellington	125	15.6	9.5	12.6	+0.7	19.2	1	4.0	5	72	14	-40	29	4	216
Somes Island	43	15.4	9.9	12.7	..	18.1	9	5.0	5	37	14	..	9	4	..
Gracefield, Lower Hutt	34	15.9	9.9	12.9	+0.5	19.4	9	4.2	6	63	16	-46	12	17	..
Wainuiomata	82	15.9	8.4	12.2	+0.5	20.1	26	1.3	20	109	14	..	38	4	..
Wellington Airport	6	16.2	10.2	13.2	+0.5	19.8	9	4.6	20	67	15	-22	25	4	..
Kaitoke	223	15.5	7.0	11.3	+0.9	22.0	26	-0.7	24	208	19	+15	55	4	176
Wallaceville	56	16.3	7.8	12.1	+0.3	20.5	24	0.9	20	119	16	+2	32	4	184
Cape Egnont	8	16.7	10.3	13.5	+0.4	19.6	8	2.8	14	105	15	-25	29	4	..
Stratford Mountain House	846	13.5	3.7	8.6	+0.9	21.7	26	-0.6	14	448	20	-167	73	29	..
Stratford Dem. Farm	311	16.5	5.8	11.2	+0.4	20.5	26	-0.4	14	135	11	-66	29	4	182
Manajia Dem. Farm	98	16.6	7.5	12.1	+0.3	20.0	24	0.3	20	47	12	-65	19	4	190
Normanby	122	16.9	8.3	12.6	..	20.5	24	1.5	20	72	19	..	19	9	..

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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.			Maxi-mum	Date	Mini-mum	Date				Amount		Date
Metres	°C	°C	°C	°C	°C	°C	°C	°C	mm	mm	mm	Hrs			
Patea	43	16.9	9.8	13.4	+0.5	21.0	9	4.0	26	85	11	-9	25	4	..
Ohakune Junction	629	15.5	..	..	..	23.0	26	..	..	90	15	..	35	17	..
Karioi	648	16.2	5.1	10.7	+1.1	23.9	26	-0.8	14	58	13	-56	19	17	..
Waiouru	823	14.8	4.6	9.7	+1.5	23.0	26	-3.2	14	50	12	-57	18	17	..
Waiouru Military Camp	823	14.2	4.9	9.6	+1.6	21.9	26	-2.9	14	58	12	-51	16	18	..
Taihape	433	17.7	6.3	12.0	+0.8	23.5	26	-1.6	14	63	11	..	16	18	..
Kahui, Taihape	518	16.9	7.0	12.0	+1.1	23.9	7	0.6	14	55	12	..	20	17	..
Wanganui	22	17.7	10.1	13.9	+0.9	21.0	9	4.4	20	52	13	-29	20	17	189
Wanganui Airport	9	17.5	9.5	13.5	..	20.0	4	2.5	20	43	12	..	9	4	..
Farewell Spit	3	16.8	9.6	13.2	+1.1	20.0	26	4.1	21	110	12	-7	40	4	..
Totaranui	10	17.8	8.3	13.1	..	23.2	22	4.8	5	174	13	..	48	4	..
Westport Airport	2	15.4	9.3	12.4	+0.8	18.4	26	5.7	13	163	19	-20	18	14	144
Cobb Dam	823	13.5	4.0	8.8	+1.0	22.9	27	-0.4	21	198	18	+0	36	4	..
Arapito	20	16.2	9.1	12.7	..	19.7	24	4.8	13	254	17	..	33	14	123
Karamea	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Rotoroa	443	..	6.0	..	..	..	..	..	..	185	19	..	35	9	..
Lake Rototoi	634	15.4	4.0	9.7	+1.0	25.0	26	-1.5	6	165	18	+33	38	10	..
Hokitika Airport	39	15.3	8.6	12.0	+1.1	18.0	5	4.5	5	142	22	-115	19	29	154
Reefton	198	17.4	8.0	12.7	+1.6	24.9	27	3.2	5	144	23	-36	22	29	..
Barrytown	30	15.5	10.1	12.8	..	17.8	8	8.0	12	182	21	..	31	3	..
Totara Flat	77	17.4	8.0	12.7	+1.4	22.0	26	2.9	5	121	16	-49	22	3	..
Greymouth	4	15.3	9.3	12.3	+0.7	17.5	5	6.0	21	161	21	-63	35	14	117
Otira Substation	383	14.4	6.5	10.5	..	21.5	26	2.5	13	363	20	-130	90	29	117
Springs Junction	421	15.6	6.4	11.0	..	23.9	26	2.0	13	179	19	-29	39	29	..
Hari Hari	45	16.0	7.5	11.8	+1.1	19.7	23	1.4	13	240	24	-187	59	31	..
Franz Josef	122	15.0	6.8	10.9	+0.5	19.0	23	1.0	5	297	18	-191	60	28	..
Fox Glacier	152	14.8	7.0	10.9	..	18.2	23	2.2	5	321	21	-111	59	31	..
Milford Sound	3	14.4	6.7	10.6	+0.4	18.0	24	1.1	5	635	22	+89	109	28	..
Puyssegur Point	43	13.5	..	..	..	17.1	28	..	..	129	24	-56	23	30	..
Stephens Island	187	13.7	9.4	11.6	..	15.8	24	5.7	11	59	12	-17	26	4	..
Riwaka, Motueka	8	18.5	7.5	13.0	+1.0	23.2	1	2.4	6	129	17	+17	43	4	239
Tapawera	146	18.3	6.4	12.4	..	25.0	25	0.8	6	104	16	..	35	4	..
Appleby	17	17.5	8.4	13.0	+0.9	22.9	1	3.1	6	93	16	+14	26	4	..
Nelson Airport	2	17.1	8.6	12.9	+1.2	21.5	1	2.7	6	94	16	+13	21	4	232
Rai Valley	79	17.9	6.9	12.4	+1.0	22.4	2	0.0	6	263	13	+98	46	4	..
Moutere Hills	110	17.0	9.1	13.1	+1.0	22.5	25	4.7	5	99	16	+10	24	4	..
Blenheim Airport	27	19.1	8.2	13.7	+1.6	27.9	25	2.8	21	50	10	-11	13	18	..
Blenheim	4	19.7	8.8	14.3	+1.8	28.1	25	2.9	21	51	10	-2	17	18	245
Waihopai Power Station	262	18.5	7.0	12.8	+1.2	27.2	27	1.2	5	106	15	+30	36	4	..
Vernon Lagoons	2	19.1	7.7	13.4	+1.6	25.5	1	2.6	21	48	11	..	16	4	228
Lake Grassmere	2	18.1	10.3	14.2	+2.0	24.5	1	4.2	5	42	7	-1	25	4	230
Cape Campbell	3	15.7	10.4	13.1	+1.3	19.0	15	5.1	5	44	9	-7	20	4	..
Hanmer Forest	387	18.4	5.4	11.9	+1.5	26.5	27	-0.5	6	138	14	+41	26	18	206
Molesworth	893	16.4	2.4	9.4	+1.2	24.2	24	-2.9	20	47	9	-11	19	4	..
Kaikoura	108	16.9	9.1	13.0	+1.4	23.0	29	3.6	5	53	11	-8	17	4	236
Arthurs Pass	738	12.8	4.4	8.6	..	19.5	26	0.0	23	201	18	-183	65	31	..
Balmoral Forest	198	19.2	7.1	13.2	+2.4	27.2	27	0.9	20	62	9	+9	16	15	..
Hawarden	244	18.3	6.7	12.5	..	24.4	24	-4.3	11	62	10	..	12	15	..
Waiau	137	19.7	6.6	13.2	..	28.7	27	0.2	20	76	12	..	18	4	..
The Hermitage, Mt Cook	765	15.2	6.2	10.7	+1.9	22.9	23	-0.9	5	337	17	-34	146	3	129
Mt John	1027	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Craigieburn Forest	914	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Coleridge	364	17.6	7.0	12.3	+1.7	24.8	24	1.3	5	74	14	-2	25	31	..
Highbank Power Station	336	16.9	7.2	12.1	+1.4	24.5	3	0.7	17	51	12	-35	20	17	214
Hororata Substation	192	19.6	6.3	13.0	+2.2	29.6	27	0.5	6	38	12	-28	17	17	..
Winchmore	160	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Peel Forest	274	18.6	5.5	12.1	..	26.0	24	-0.2	5	61	15	..	14	11	..
Ashburton	101	21.4	7.3	14.4	+2.7	..	..	-0.2	5	41	8	-20	15	17	193
Waipara	64	20.4	8.2	14.3	..	27.2	27	2.3	14	51	7	..	21	17	..
Ashley Forest	107	18.5	7.7	13.1	+1.7	27.3	27	1.5	5	56	6	-2	19	18	226
Rangiora	46	19.5	6.6	13.1	+1.8	29.0	27	1.2	5	31	8	-12	7	17	..
Darfield	195	19.9	6.9	13.4	+2.1	27.3	27	0.0	5	48	11	-18	20	18	..
Eyrewell Forest	158	19.3	4.6	12.0	+1.0	28.8	27	-2.6	6	32	9	-42	7	17	..
Christchurch Airport	30	20.0	6.9	13.5	+2.0	30.1	27	-1.6	5	12	10	-31	3	15	236
Templeton	46	19.7	6.5	13.1	..	30.0	27	0.0	5	13	6	..	5	15	..
Christchurch	7	20.6	7.7	14.2	+2.2	31.4	24	1.4	5	14	7	-32	3	16	..
Bromley, Christchurch	9	19.0	9.0	14.0	+2.3	28.0	24	3.0	5	21	11	-22	4	22	..
Mt Pleasant	137	18.5	9.7	14.1	+2.2	25.9	24	4.1	5	18	9	-33	5	3	..
Lincoln	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akaroa	3	19.4	7.7	13.6	..	27.8	1	2.0	5	38	7	..	11	15	..
Lake Tekapo	683	16.0	5.8	10.9	+1.3	24.0	27	-0.2	6	53	11	+2	13	31	162
Lake Pukaki	556	16.0	6.0	11.0	+1.4	22.7	27	0.3	6	71	15	..	17	18	..
Fairlie	304	18.3	4.5	11.4	..	27.7	27	-1.8	6	52	13	..	12	17	..
Twizel	457	17.4	5.1	11.3	+1.9	24.1	26	-3.0	6	60	14	..	13	31	..
Ikawai	70	17.7	5.5	11.6	+1.2	27.0	27	-2.5	6	53	9	..	15	29	..
Geraldine	119	19.0	6.3	12.7	..	27.0	1	-0.5	6	42	8	..	17	11	..
Orari Estate	81	18.6	5.8	12.2	+1.4	27.6	1	-0.8	6	46	10	-15	16	11	..

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for October 1980—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				
Temuka	24	17.9	5.8	11.9	+1.1	28.3	1	-0.5	6	20	8	-33	8	17	..
Timaru Airport	26	17.8	5.5	11.7	+1.2	28.0	1	-1.2	6	12	9	-34	4	17	..
Adair	85	17.4	7.5	12.5	+1.6	26.4	1	2.5	6	23	12	-25	6	17	..
Timaru	17	18.1	7.4	12.8	+1.3	28.8	1	1.1	6	15	8	-33	6	17	175
Waimate	61	18.0	7.5	12.8	+1.3	27.3	1	1.6	6	29	12	-22	6	17	..
Kurow	207	18.7	7.6	13.2	..	25.4	27	1.0	13	50	14	..	12	17	..
Oamaru Airport	30	16.6	6.5	11.6	+1.3	26.6	3	-1.6	6	24	9	-17	6	29	142
Tara Hills, Oamarua	488	16.6	5.8	11.2	+1.4	23.1	26	-1.9	13	49	13	+1	12	18	162
Lake Hawea	350	..	..	..	..	..	..	..	..	58	11	-8	15	28	..
Wanaka	296	17.2	7.3	12.3	+1.8	22.6	26	-0.2	13	51	12	-7	11	29	..
Queensberry	277	17.1	7.8	12.5	..	23.9	26	0.5	13	43	14	..	11	28	..
Bendigo	200	17.8	7.4	12.6	..	24.7	26	-0.2	13	36	14	..	12	9	..
Naseby Forest	610	15.4	4.0	9.7	+1.1	21.4	1	-5.5	5	58	12	+2	18	9	..
Ranfurly	427	16.4	5.2	10.8	..	21.8	1	-5.0	5	40	10	..	13	9	139
Herbert Forest	61	17.2	5.7	11.5	+1.4	27.3	3	-1.2	6	47	13	-5	20	17	..
Palmerston	21	17.2	5.7	11.5	+1.6	25.0	1	-3.6	5	33	8	..	11	9	134
Cherry Farm Hospital	6	16.8	6.5	11.7	+1.4	26.0	27	-0.5	5	39	12	-7	10	9	..
Taiaroa Head	72	14.0	8.3	11.2	+0.9	23.4	27	0.5	6	43	10	-8	16	9	..
Invermay, Taieri	30	16.6	6.8	11.7	..	24.4	27	-1.7	5	62	13	..	32	9	143
Berwick Forest	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dunedin Airport	1	17.5	6.7	12.1	+1.5	26.0	27	-3.7	5	48	12	+2	30	9	142
Musselburgh, Dunedin	2	15.9	8.4	12.2	+1.1	26.2	1	2.0	5	56	16	-2	28	9	135
Te Anau	215	15.6	5.9	10.8	+1.6	20.5	23	-1.7	5	73	14	-29	22	28	155
West Arm, Manapouri	232	14.0	6.7	10.4	+1.4	19.5	26	2.0	23	270	21	..	40	28	..
Borland Burn	183	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Queenstown	329	16.5	7.0	11.8	+1.4	20.7	23	0.9	5	76	13	+0	25	30	168
Queenstown Airport	349	15.6	5.6	10.6	+0.9	20.8	27	0.0	5	73	12	+19	30	30	168
Otama	183	16.2	6.1	11.2	..	22.3	1	-1.4	5	50	15	-11	15	9	..
Cromwell	213	18.0	6.9	12.5	+1.0	23.3	26	-1.0	5	26	13	-7	9	9	171
Northburn	210	17.9	6.8	12.4	..	24.3	26	-0.9	5	23	13	..	7	9	..
Clyde Dam	160	18.1	7.4	12.8	..	25.6	27	-0.4	5	43	11	..	21	9	..
Ophir	305	17.7	5.8	11.8	+1.5	22.9	23	-4.5	5	40	11	-1	12	9	..
Moa Creek	427	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Earnscleugh	152	18.3	5.9	12.1	+1.1	24.7	27	-2.2	5	18	11	-12	5	9	..
Alexandra	141	18.6	6.9	12.8	+1.2	25.3	27	-1.0	5	22	12	-6	7	29	158
Roxburgh Power Station	110	18.0	6.7	12.4	+0.9	25.0	1	-1.0	5	24	12	-14	6	9	..
Mahinerangi Dam	396	14.8	5.1	10.0	+1.6	23.7	27	-2.7	5	67	14	-4	25	9	..
Tapanui	226	15.9	6.1	11.0	+0.7	24.0	27	-1.4	5	61	13	-13	13	18	..
Rankleburn Forest	255	16.0	5.4	10.7	+1.1	24.1	27	-4.4	5	97	16	+13	23	9	..
Taieri Mouth	15	15.4	6.8	11.1	+1.1	25.8	27	-2.4	5	45	10	-16	20	9	..
Tuatapere	27	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Otautau	55	16.4	6.3	11.4	+1.3	22.6	27	0.5	6	60	14	-31	16	14	147
Winton	44	16.3	6.1	11.2	+0.6	22.4	1	-2.4	5	53	12	-8	17	18	151
Gore	123	15.8	6.5	11.2	+1.0	22.0	27	-0.9	5	63	19	..	22	9	140
Hokonui Forest	46	16.7	6.3	11.5	+1.0	22.5	23	-2.3	5	80	14	-1	18	17	..
Woodlands	47	16.1	6.6	11.4	+1.2	22.2	27	-1.1	5	64	24	..	13	14	..
Invercargill Airport	0	15.7	6.4	11.1	+1.2	22.1	27	-1.4	5	49	18	-37	12	14	152
Tiwai Point, Bluff	5	15.1	7.6	11.4	+0.8	21.4	27	0.6	5	65	15	..	12	29	152
Stewart Island	3	14.6	6.4	10.5	..	20.6	24	-1.0	5	103	23	..	19	28	..
Milton	18	16.7	5.8	11.3	+1.0	24.6	27	-1.1	5	49	14	-4	21	9	..
Finegand, Balclutha	6	16.9	6.5	11.7	+1.4	24.7	27	-1.3	5	56	15	..	15	9	154
Owaka	5	16.3	7.1	11.7	..	23.5	27	-1.5	5	61	17	..	14	9	..
Nugget Point	129	14.3	7.3	10.8	+1.4	22.9	27	2.4	5	51	19	-13	10	29	..
Tautuku	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nandi Airport, Fiji	19	30.5	20.9	25.7	+0.5	34.2	23	17.3	4	108	12	+13	42	6	232
Rarotonga Airport	7	26.7	21.2	24.0	+1.0	28.6	26	19.3	31	64	21	-66	35	27	187
Totokoitu, Rarotonga	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Raoul Island	38	20.5	15.4	18.0	+0.5	22.7	10	11.1	15	114	19	+28	52	8	169
Campbell Island	15	9.1	4.4	6.8	+0.6	10.9	26	-0.4	31	111	29	-6	19	28	68
Waitangi, Chatham Island	44	13.3	7.8	10.6	+0.4	17.1	26	2.4	24	37	11	-19	14	18	167
Scott Base, Antarctica	16	-16.7	-26.2	-21.5	+0.7	-4.6	30	-45.9	5	..	..	..	..	..	..
LATE RETURNS AND CORRECTIONS															
Waiotemarama 09/1980	229	14.3	9.5	11.9	..	16.8	19	5.7	2	158	24	..	21	1	..
Pouto 08/1980	97	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thames 08/1980	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pukekohe 09/1980	82	15.4	8.8	12.1	+0.4	18.7	3	5.8	9	80	23	..	19	4	107
Wharerata Forest 09/1980	439	16.5	6.6	11.6	..	21.5	27	1.2	18	87	5	..	40	4	..
Kairanga Palmerston North 09/1980	15	15.0	7.9	11.5	+0.9	18.6	25	1.4	15	113	19	..	18	13	104
Palmerston North D S I R 09/1980	34	15.0	8.2	11.6	+0.8	19.0	25	2.6	15	122	20	+53	18	13	83
Foxton 08/1980	3	..	..	..	..	..	..	..	..	55	17	-26	19	26	..
Foxton 09/1980	3	..	..	..	..	..	..	..	..	86	18	+20	15	27	..
Kahui, Taihape 09/1980	518	12.9	5.1	9.0	+0.1	17.3	25	-0.1	1	88	17	..	13	27	..
Mt John 08/1980	1027	..	..	..	..	..	..	..	..	82	..	+44	..	27	..
Mt John 09/1980	1027	..	..	..	..	..	..	..	..	63	..	+17	..	..	..
Hororata Substation 09/1980	192	17.5	3.9	10.7	+2.2	21.2	23	-1.8	14	20	10	-33	5	22	..

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for October 1980—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				
LATE RETURNS AND CORRECTIONS															
Ashley Forest 09/1980	107	16.8	5.2	11.0	+1.8	22.0	30	0.0	14	7	6	-46	3	13	176
Geraldine 09/1980	119	17.3	3.6	10.5	..	24.5	30	-1.0	14	7	4	..	2	2	..
Moa Creek 08/1980	427	10.3	-1.2	4.6	+1.1	14.8	26	-6.5	9	55	9	+40	22	15	..
Moa Creek 09/1980	427	..	..	..	..	..	..	..	..	18	8	-5	11	4	..
Rarotonga Airport 09/1980	7	26.0	20.1	23.1	+1.0	27.5	10	16.7	16	42	11	-67	9	18	209
Totokoitu, Rarotonga 09/1980	9	25.4	20.1	22.8	..	28.4	15	18.0	14	79	16	..	39	23	..
Scott Base, Antarctica 08/1980	16	-19.3	-32.3	-25.8	+5.4	-9.9	31	-45.1	7	..	..	..	..	..	..
Scott Base, Antarctica 09/1980	16	-22.4	-32.9	-27.7	+0.5	-10.6	1	-42.4	17	..	..	..	..	..	..

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.

## WEATHER NOTES FOR OCTOBER 1980

*General*—Over most of New Zealand, October was a windy, sunny, and mild month with below average rainfall. There was a high frequency of north-west winds although in the north, north-east winds predominated.

Good pasture growth and high dairy production were reported by many farmers despite the below average rainfall. In the east of the South Island spring crops had not been striking well because of depleted soil moisture. During October areas of Canterbury had a calculated soil water deficiency on at least 10 days.

The Milford Sound - Te Anau road was reopened to tourist traffic by the middle of the month, after having been closed by avalanches since mid-August.

Early in the month gale force winds fanned fires in Otago and Canterbury. These caused the loss of about 8000 hectares of tussock land in Otago and more than 1300 hectares of beech forest at Mount Thomas Forest.

*Rainfall*—Rainfall was above average in Fiordland, the north of the South Island about Manawatu, and in the far north of the North Island. Elsewhere it was below average, and in some eastern districts was less than 50 percent of normal.

During the 9th, localised heavy showers in the Dunedin area made roads slippery and accidents were reported. Musselburgh reported 28 mm during the day, 9 mm falling between 2 p.m. and 4 p.m. Portobello Road measured 26 mm, 11 of which fell between 2 p.m. and 5 p.m.

Heavy rain during the 17th to 19th in the Manawatu area caused some lowland areas to flood on the 18th and 19th. Rainfall totals for the 17th to 19th included Fielding (57 mm), Bunnythorpe (47 mm), Palmerston North (71 mm), Komako (74 mm), Haydon Street, Palmerston North (75 mm), and Waipuna (79 mm).

Christchurch with only 12 mm of rain had its driest October since 1961. The total September-October rainfall of 13 mm was the lowest recorded for these months at the airport since records began there in 1943. The combined September-October rainfall at Timaru (23 mm) is the lowest total measured since 1954, and the third lowest total since 1897.

At Paparua (Canterbury) 6 mm of rain was measured, this being the lowest October total since 1954, and Otoko (Gisborne) with 24 mm, had the driest October since 1961.

The highest October rainfall at lowland stations in New Zealand occurred at Milford Sound where 635 mm fell. Such a value occurs at Milford Sound in at least two Octobers every three years.

*Temperatures*—October's mean temperatures were above average over most of the country. Many eastern districts were over 1.5°C warmer than usual and both the mean maximum and minimum temperatures were above average.

At Christchurch the mean maximum temperature of 20.0°C was the highest since 1961, and this value has been exceeded on only one other occasion (20.7°C) since records began in 1953. The extreme maximum of 30.1°C occurring on the 27th was the highest (13.5°C above the mean daily October maximum) October temperature ever recorded at the airport.

At Onepoto (Lake Waikaremoana) the mean maximum temperature of 16.7°C was the highest since 1963; on only 2 other occasions since 1935 has this value been exceeded.

*Sunshine*—In northern districts, the Bay of Plenty, and in the west and south of the South Island sunshine hours were below average. Elsewhere they were above average, and areas of North Canterbury had an excess of over 40 hours.

The largest surpluses were noted at Hamner (48 hours), Christchurch (44 hours), Kelburn (31 hours), and New Plymouth (25 hours). Largest deficits were at Kaitaia (26 hours) and Dunedin (28 hours). Hamner had its sunniest October since 1961, the monthly value of 232 hours being exceeded only twice.

## DAILY WEATHER SEQUENCE FOR OCTOBER 1980

Embedded in a westerly airflow over New Zealand, a cold front passed over the South Island during the 1st and 2nd bringing rain to the west of the South Island, but mostly dry conditions persisted elsewhere. Another cold front over the Tasman Sea moved on to New Zealand on the 3rd. This front brought outbreaks of heavy rain to Westland, Buller, inland Kaikoura, and southern North Island districts. It became slow moving over northern districts on the 5th as a depression formed in the north Tasman Sea, with heavy falls of rain being recorded in Northland.

An intensifying anticyclone moved across the south Tasman Sea on the 4th to reach southern New Zealand by the 5th. The anticyclone lay east of the South Island on the 6th. Both the depression and anticyclone moved slowly east. Apart from showers in Fiordland and in the east of the North Island from East Cape to Cape Reinga dry weather prevailed during the 6th and 7th.

A trough of low pressure accompanied by rain moved across the Tasman Sea on the 8th reaching Fiordland on the 9th with heavy rain being reported there. The trough lay over New Zealand on the 10th and 11th and during this time light rain fell in most other districts.

An anticyclone over the Tasman Sea on the 11th extended a ridge into the South Tasman Sea and a south-west airflow covered New Zealand on the 12th bringing light showers to many areas. The anticyclone and ridge moved eastwards as a depression moved on to the Tasman Sea. The depression crossed the South Island during the 15th, and its associated north-south front brought rain to the country. A ridge of high pressure behind the depression, moved on to the South Island on the 16th, and lay to the east by the 17th. Meanwhile, a depression moved north-east from south of Tasmania, and deepened to lie over central New Zealand on the 18th, and near Chatham Island by the 19th. This system brought rain to New Zealand and localized flooding was reported in parts of Manawatu during the 18th.

A large anticyclone centred in the south Tasman Sea covered New Zealand on the 20th, and lay to the east of the North Island on the 21st. Dry weather covered the country except for a few showers in Northland. A trough of low pressure formed near Norfolk Island on the 21st and then moved east bringing rain to Northland.

A cold front over the Tasman Sea on the 21st moved over New Zealand on the 22nd. Apart from local heavy falls of rain in Fiordland, mostly light falls were recorded. An anticyclone in the central Tasman Sea moved onto central New Zealand on the 24th. The north-westerlies on the southern side of the high brought some heavy falls of rain to Fiordland, but elsewhere dry weather persisted. Another cold front with rain affected the south-west of New Zealand on the 25th, but dry conditions prevailed as the front moved north-east over the South Island and weakened. The front was followed by an anticyclone, and by the 27th the main anticyclonic centre lay east of Gisborne with a ridge of high pressure over New Zealand and the Tasman Sea.

During the 28th and 29th a strong north-west airflow became established over the country as the ridge of high pressure weakened, and on the 29th a cold front spread onto New Zealand bringing rain to most areas. Heavy falls of rain occurred again on the West Coast during the 28th and 29th, some southern areas receiving more than 100 mm. As the front moved away to the east on the 30th, a disturbed westerly airflow became established.

A trough of low pressure on this flow on the 31st brought frequent showers and thunderstorms to the west and south of the South Island, and scattered light showers to the west of the North Island.

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J. S. HICKMAN, Director.

