

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for December 1969—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.			Maxim-um	Date	Mini-mum	Date				Amount		Date
	Ft.	°F.	°F.	°F.	+3.3	°F.		°F.		In.			In.		Hrs.
Gore	235	69.2	51.8	60.5	+3.3	86.5	3	38.0	12	5.30	13	+2.2	1.63	24	189
Pebble Hills	50	68.4	48.4	58.4	+2.0	84.5	3	37.6	12	5.84	17	+2.3	1.35	24	..
Invercargill Airport	1	65.8	48.4	57.1	+2.2	81.4	3	37.3	12	5.23	17	+1.6	1.08	24	186
Milton	60	69.2	48.9	59.0	..	80.5	3	35.5	12	4.45	15	+1.7	1.35	24	..
Balclutha	20	68.0	49.5	58.8	..	80.0	23	39.4	8	3.97	12	..	1.75	24	170
Rarotonga	15	82.0	70.6	76.3	-0.5	85.4	27	64.0	5,6	17.70	18	+8.3	3.40	31	139
Raoul Island	126	73.6	64.7	69.2	+0.2	76.0	26	59.6	3	3.43	14	-0.4	1.14	23	221
Chatham Islands	157	64.4	54.1	59.2	+3.8	69.1	30	43.5	15	2.10	8	-0.2	0.52	4	175
Campbell Island	49	56.5	44.2	48.7	..	60.6	3	36.7	31	3.77	26	..	0.62	15	84
Scott Base, Antarctica	45	..	..	25.3	+1.5	36.1	3	7.5	9	..	..	..	..	..	..
Lake Vanda, Antarctica	51	39.9	28.8	34.3	..	47.3	13	19.4	1	..	..	..	..	..	..

LATE RETURNS

	Ft.	°F.	°F.	°F.	+1.0	°F.		°F.		In.			In.		Hrs.
Takatu, Matakana, Nov 1969	230	69.0	54.2	61.6	+1.0	73.9	29	44.8	3	1.68	7	-1.8	0.62	30	..
Tarawera Forest, Nov 1969	200	72.3	47.7	60.0	..	81.2	8	31.3	4	4.46	9	-1.0	3.27	25	..
Pureora Forest, Nov 1969 ..	1,800	66.7	46.7	56.7	+3.7	75.8	20	28.4	3	4.01	11	-2.0	1.32	25	..
Makaretu, Nov 1969 ..	1,100	67.3	46.9	57.1	..	79.1	21	36.2	3	3.36	11	..	1.16	25	..
Makahu Spur, Nov 1969	4,850	54.2	41.4	47.8	..	69.0	6	25.0	3	..	..	..	..	..	..
Makahu Saddle, Nov 1969	3,200	60.2	42.8	51.5	..	72.8	6	31.0	3	9.11	14	..	2.07	25	150
Hiwi, Taihape, Oct 1969	2,157	55.8	39.6	47.7	..	65.8	14	28.1	11	2.36	15	..	0.52	9	..
Hiwi, Taihape, Nov 1969	2,157	66.3	46.4	56.4	..	75.9	20	32.7	2	1.71	6	..	0.48	22	..
Mt. John, Nov 1969 ..	3,367	65.7	44.0	54.8	..	77.0	17	31.0	23	0.48	3	-1.5	0.28	22	258
Ashley Forest, Nov 1969	350	64.7	47.9	56.3	+0.8	81.5	7	36.2	2	1.29	7	-1.1	0.62	25	196
Glentanner, Nov 1969 ..	2,800	66.1	43.8	55.0	..	76.5	24	31.5	24	1.40	5	..	0.70	22	..
Mid Dome, Sept 1969 ..	1,268
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The "normal" refers to the present site of the instruments. The standard periods for normals are: for temperature 1931-60, for rainfall 1921-50, and for sunshine 1935-60. No normals are available for stations with only short records.

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

NOTES ON THE WEATHER FOR DECEMBER 1969

General—December was warm and wet. During the first half of the month, in most districts there was sufficient rain to prevent the generally dry conditions at the end of November from worsening. However, in the drought-stricken areas of Canterbury and North Otago conditions did deteriorate and by the middle of the month they were reported to be the worst ever experienced. Fortunately good rains from the 17th to the 19th freshened up pastures throughout the country. In many districts, especially in the North Island, growth was very good. However, in coastal Canterbury and parts of North Otago and Central Marlborough, besides some southern and western districts of the North Island, conditions were still too dry.

Many districts were buffeted by north-westerly gales on Christmas Day, and these were particularly strong through Cook Strait.

Rainfall—Rainfall was mainly 50 percent above average. It was more than double the average value in Central Otago and part of inland Canterbury, around Motueka, in Taupo and eastern Bay of Plenty, and in parts of Northland. Rainfall was below average by up to 50 percent in Waitomo, northern Hawke's Bay, northern Wairarapa, Wellington, the Kaikoura coast, and Banks Peninsula; and also in Taranaki except around and just south of Mount Egmont.

Many thunderstorms were reported, with local downpours at times causing flooding. Thunderstorms were widespread throughout the country during the periods 1-4 and 18-19 December. They were also reported frequently in the North Island on the 11th, 12th, and 20th, and in the South Island on the 21st and 25th.

Temperatures—In the North Island and in the South Island from Greyouth and Dunedin eastward temperatures were 3-5 degrees warmer than normal; and Auckland, Wellington, and Christchurch all had their warmest December since 1934. Over the remainder of the South Island temperatures were 1-2 degrees above average.

Sunshine—Sunshine was mainly close to average. In eastern districts from Gisborne to Kaikoura and in Wellington, Bay of Plenty, and northern Northland it was 20-45 hours below average.

Weather Sequence—During the first 2 days of December a shallow depression from the west crossed the North Island, with rain in most districts there and also in northern districts of the South Island. Another shallow depression which passed close to Southland caused rain over the greater part of the country on the 3rd and 4th, with considerable falls on the West Coast. On the 5th a ridge of high pressure extended on to New Zealand from an anticyclone over the Tasman Sea and the weather was fine.

For the next 2 days a deep depression was centred far to the south-west. Rain affected mainly the West Coast and Southland, but there were some isolated heavy downpours in the east of the North Island. The main trough of low pressure associated with the deep depression crossed New Zealand during the 8th and 9th, with fairly general rain. The greater part of the country also received some rain during the next 3 days with the slow passage of another trough of low pressure. On the 13th an anticyclone brought fair weather to most of the country, but the trough still affected eastern and northern districts of the North Island. Conditions remained somewhat similar as the anticyclone moved eastward during the next 2 days, but the rain in the east spread to Bay of Plenty, Taupo, and Taihape.

From the 16th to the 19th a depression over the central Tasman Sea moved slowly southward and lost intensity off the West Coast. The cold front from this depression moved eastward across the North Island while the warm front moved southward over the South Island. This was a period of general rain with some considerable falls; including in the droughtstricken areas of Canterbury and North Otago the heaviest rain which had fallen for many months.

On the 20th some rain still persisted in the east of the North Island, and on both this day and the 21st there was also considerable rain on the West Coast and in Southland and parts of Otago with the passage of a trough of low pressure. However, the 22nd was fine under the influence of an anticyclone.

On the 23rd a deep depression was centred to the south-west of Campbell Island and the associated trough of low pressure was approaching New Zealand, causing considerable rain in Westland, Southland, and the Canterbury high country. During the 24th and 25th, as the trough of low pressure crossed the country, a small depression formed on it and developed over the northern half of the South Island. This was the second period of fairly general rain, including again Canterbury and North Otago. Some very strong gales were reported, especially about Cook Strait.

During the next 4 days an extensive belt of high pressure over New Zealand brought mainly fine weather. However, rain was recorded in Fiordland and parts of Westland, besides Southland, on the 26th and 27th. By the last 2 days of the month the anticyclone was centred to the east of the Chatham Islands. Rain was reported from the moist north-easterlies in northern and some eastern districts of the North Island besides Taihape and Wanganui.

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