

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for January 1977—continued  
LATE RETURNS AND CORRECTIONS—continued

Station	Height of Station Above M.S.L.	Air Temperatures 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
Otira Substation, December 1976	383	°C	°C	°C	°C	°C		°C		mm		mm	mm	Hrs	
Springs Junction, December 1976	421	..	..	..	..	..	..	..	..	253	16	+68	68	5	
Franz Josef, December 1976	122	18.6	9.6	14.1	+0.4	22.8	10	6.4	23	671	20	+216	120	8	
Golden Downs Forest, December 1976	274	19.6	9.6	14.6	+0.3	24.0	27	2.1	24	248	18	+106	38	18	
Craigieburn Forest, December 1976	914	16.3	6.8	11.6	+0.0	24.9	16	0.3	24	220	22	+101	48	5	
Eyrewell Forest, December 1976	158	20.2	9.4	14.8	+0.0	27.6	8	4.2	25	105	17	+14	15	22	
Lincoln December 1976	11	19.4	10.2	14.8	-0.1	27.1	27	4.9	31	99	17	+41	20	19	
Ranfurlly, December 1976	427	19.2	7.4	13.3	..	25.0	8	0.3	24	123	15	..	25	13	
Ophir, December 1976	305	19.6	9.3	14.5	+0.1	26.5	12	1.6	24	118	13	+72	27	13	
Taiari Mouth, November 1976	15	13.0	6.1	9.6	-1.5	15.7	8	0.0	9	35	13	-44	6	8	
Tautuku, December 1976	61	17.8	8.5	13.2	..	24.5	16	2.0	15	112	17	..	16	2	
Campbell Island, December 1976	15	12.5	7.1	9.8	+1.2	16.3	8	0.5	2	75	21	-27	16	27	
Scott Base, Antarctica, October 1976	16	-24.7	-39.0	-31.9	-9.1	-12.2	29	-52.0	14	..	..	..	..	..	
Scott Base, Antarctica, December 1976	16	-1.0	-7.7	-4.4	+0.9	..	..	-13.8	6	..	..	..	..	..	

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 rain day 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.

#### NOTES ON THE WEATHER FOR JANUARY 1977

**General**—In January pressures were very low over New Zealand and for the second successive month there was a predominance of winds from a westerly quarter. Wellington and Palmerston North recorded their highest January mean daily wind run in about forty years. The month was very dry in some parts of Northland and Bay of Plenty. Cloudy conditions prevailed over the South Island and the southern half of the North Island. Grass growth was good in most areas, but some parts of Northland reported pastures becoming very dry. Some farmers found haymaking conditions poor in Taranaki, Wairarapa, Westland, Canterbury, Otago and Southland.

**Rainfall**—Rainfall was below the normal January value in most parts of Northland, Bay of Plenty, Hawke's Bay, Taranaki, Nelson, Otago and Southland. It was more than twice the normal value in some areas of northern Canterbury and northern Buller. A thunderstorm in the Dunedin area on the afternoon of the 3rd caused flooding in the Waiholia district. On the 18th heavy rain fell in Westland, Canterbury and Marlborough and some stations in these areas recorded falls of between 50 and 200 mm. There was major flooding in Greymouth caused by the Grey River breaking its banks early on the 19th. A state of civil emergency was declared and many homes were evacuated. During this period rainfalls of up to 42 mm were recorded in the Wellington/Hutt Valley area causing surface flooding.

**Temperatures**—Temperatures were below normal over most of the country. In some parts of Canterbury, Otago and Southland temperatures were as much as 2.5°C below normal, Lake Hawea was nearly 3.5°C below. The coldest spell was between the 18th and the 20th when temperatures fell well below normal on the east coast of both the North and South Islands.

**Sunshine**—Sunshine was above normal in the Bay of Plenty, Hawke's Bay, Taranaki and most places north of Hamilton, where it was 20 to 30 hours above. In the South Island some areas were below normal by up to 45 hours.

**Weather Sequence for January 1977**—At the beginning of January pressures were low over New Zealand and to the southeast of the country, with a ridge of high pressure in the Tasman Sea. By the 2nd the ridge had extended onto New Zealand and a depression to the north of Tasmania was moving eastwards. Temperatures were cold over most of the country. The depression moved onto the South Island on the 3rd and its associated cold front brought heavy rain to the West Coast of the South Island.

Thunderstorms in the Dunedin area on the afternoon of the 3rd caused minor flooding.

From the 4th to 7th the depression moved slowly east and a ridge of high pressure extended onto the country from the Tasman Sea, pressures were low to the north of New Zealand. Temperatures were cold in eastern parts of the South Island during this period. On the 8th a small depression with associated cold front moved onto Northland, and by noon on the 8th had begun to move southeast over the North Island. Severe electrical storms associated with this depression were reported in Auckland, Waikato and Bay of Plenty with rainfalls of up to 70 mm being recorded in some areas. Hundreds of transformers were damaged and major transmission lines shorted during this storm.

During the 9th and 10th the depression moved to the east of the country and a ridge of high pressure was lying over the country. Pressures were low to the south of New Zealand, and a cold front passed northwards over the country bringing considerable rain to the West Coast of the South Island on the 11th.

From the 14th to 16th an anticyclone covered New Zealand and temperatures were warm particularly in Canterbury and Hawke's Bay.

On the 17th a cold front passed over the South Island. Pressures were high to the north of New Zealand with a depression centred near Tasmania.

By the 18th the depression near Tasmania had moved east onto the South Island and heavy rainfalls of between 50 and 200 mm were recorded in Westland, Canterbury and Marlborough. Heavy falls in the Greymouth area resulted in major flooding. A depression formed to the northwest of New Zealand and moved over the North Island on the 22nd. Heavy rain was recorded in many parts of the North Island. A ridge of high pressure then moved onto the country and an anticyclone persisted until the 24th.

During the 24th to 28th a westerly airflow covered the country with pressures high to the north of New Zealand. Disturbances in this flow resulted in some considerable rainfalls being recorded in parts of the West Coast of the South Island. Temperatures were warm in Hawke's Bay and Canterbury.

From the 29th to 31st a ridge extended onto the North Island and pressures were low to the north of the country. On the 30th a cold front passed northwards over the South Island and some heavy falls of rain were recorded on the West Coast.

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