

CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for January 1959—continued

| Station                       | Height of Station Above M.S.L. | Air Temperatures in Degrees (Fahrenheit) |        |                 |                        |                              |      |         |       | Rainfall in Inches |                  |                        |              | Bright Sunshine Hrs. |      |
|-------------------------------|--------------------------------|------------------------------------------|--------|-----------------|------------------------|------------------------------|------|---------|-------|--------------------|------------------|------------------------|--------------|----------------------|------|
|                               |                                | 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 |
|                               | Ft.                            | °F.                                      | °F.    | °F.             | °F.                    | °F.                          | °F.  | °F.     | In.   |                    |                  | In.                    |              |                      |      |
| Balmoral .. .. .              | 650                            | 76.4                                     | 50.0   | 63.2            | +1.6                   | 94.0                         | 18   | 35.0    | 4     | 1.82               | 9                | -0.24                  | 0.43         | 13                   | ..   |
| Lake Coleridge .. .. .        | 1,195                          | 74.0                                     | 50.2   | 62.1            | +2.7                   | 91.0                         | 18   | 37.0    | 3, 4  | 0.88               | 7                | -1.58                  | 0.32         | 12                   | ..   |
| Eyrewell .. .. .              | 520                            | 72.8                                     | 52.1   | 62.4            | ..                     | 89.0                         | 19   | 36.0    | 7     | 2.83               | 12               | -0.57                  | 1.18         | 14                   | ..   |
| Franz Josef .. .. .           | 450                            | 72.1                                     | 51.1   | 61.6            | ..                     | 87.2                         | 20   | 39.5    | 3     | 6.16               | 9                | ..                     | 1.63         | 27                   | ..   |
| Ashley Forest .. .. .         | 350                            | 70.1                                     | 53.4   | 61.8            | +1.3*                  | 87.4                         | 26   | 41.0    | 4     | 2.19               | 13               | -0.70*                 | 0.74         | 31                   | ..   |
| Darfield .. .. .              | 640                            | 75.3                                     | 52.1   | 63.7            | +2.9                   | 91.0                         | 26   | 38.7    | 7     | 2.70               | 11               | -0.08                  | 0.93         | 14                   | ..   |
| Christchurch Airport .. .. .  | 94                             | 71.8                                     | 53.4   | 62.6            | ..                     | 91.1                         | 19   | 37.6    | 7     | 1.80               | 8                | ..                     | 1.14         | 31                   | 216  |
| Christchurch .. .. .          | 22                             | 72.9                                     | 53.8   | 63.4            | +2.0                   | 92.1                         | 19   | 39.5    | 7     | 1.65               | 8                | -0.58                  | 0.92         | 31                   | ..   |
| Wigram .. .. .                | 74                             | 72.8                                     | 53.7   | 63.2            | +2.0*                  | 89.6                         | 19   | 39.1    | 7     | 1.61               | 6                | -0.48*                 | 1.09         | 31                   | ..   |
| Akaroa .. .. .                | 150                            | 73.7                                     | 55.9   | 64.8            | +2.8                   | 89.0                         | 19   | 43.5    | 7     | 1.38               | 7                | -0.94*                 | 0.48         | 2                    | 242  |
| Lincoln .. .. .               | 36                             | 72.7                                     | 51.5   | 62.1            | +1.7                   | 87.5                         | 26   | 32.7    | 7     | 1.65               | 5                | -0.45                  | 0.88         | 31                   | 222  |
| Highbank .. .. .              | 1,102                          | 71.7                                     | 52.2   | 62.0            | ..                     | 90.4                         | 18   | 41.2    | 3     | 3.50               | 14               | ..                     | 1.34         | 14                   | 202  |
| The Hermitage .. .. .         | 2,510                          | ..                                       | ..     | ..              | ..                     | ..                           | ..   | ..      | ..    | ..                 | ..               | ..                     | ..           | ..                   | ..   |
| Winchmore .. .. .             | 626                            | 72.2                                     | 51.2   | 61.7            | +2.1*                  | 93.2                         | 18   | 37.0    | 27    | 1.29               | 9                | -1.15*                 | 0.47         | 31                   | ..   |
| Haast .. .. .                 | 15                             | 67.4                                     | 51.3   | 59.4            | +1.3*                  | 77.6                         | 20   | 38.6    | 31    | 3.19               | 11               | -11.86*                | 1.30         | 12                   | 293  |
| Ashburton .. .. .             | 323                            | 77.0                                     | 53.1   | 65.0            | +4.0                   | 99.0                         | 18   | 36.8    | 7     | 1.74               | 8                | -0.89                  | 0.57         | 14                   | 202  |
| Fairlie .. .. .               | 1,004                          | 72.0                                     | 49.0   | 60.5            | +1.3                   | 93.0                         | 18   | 35.0    | 3     | 1.42               | 8                | -1.60                  | 0.50         | 13                   | ..   |
| Timaru .. .. .                | 56                             | 73.2                                     | 53.5   | 63.4            | +2.8                   | 85.2                         | 19   | 38.8    | 4     | 1.64               | 10               | -0.73                  | 0.42         | 14                   | 200  |
| Adair .. .. .                 | 200                            | 68.6                                     | 52.9   | 60.8            | +1.8*                  | 85.1                         | 18   | 40.8    | 3     | 1.81               | 9                | -0.73*                 | 0.40         | 31                   | ..   |
| Tara Hills, Omarama .. .. .   | 1,600                          | 78.6                                     | 48.6   | 63.6            | +3.6*                  | 93.9                         | 21   | 34.8    | 4     | 0.78               | 7                | -1.44*                 | 0.22         | 27                   | 289  |
| Benmore, Otamatata .. .. .    | 920                            | 76.4                                     | 51.9   | 64.2            | ..                     | 96.5                         | 18   | 37.8    | 4     | 0.87               | 7                | ..                     | 0.27         | 27                   | ..   |
| Milford Sound .. .. .         | 20                             | 67.8                                     | 52.2   | 60.0            | +2.8                   | 79.8                         | 21   | 40.3    | 3     | 7.64               | 10               | -18.74                 | 3.02         | 1                    | ..   |
| Waimate .. .. .               | 200                            | 70.9                                     | 52.8   | 61.8            | +1.6                   | 89.6                         | 18   | 42.8    | 3     | 2.08               | 11               | -0.53                  | 0.60         | 31                   | 172  |
| Naseby .. .. .                | 2,300                          | 74.8                                     | 44.4   | 59.6            | ..                     | 93.3                         | 21   | 28.3    | 3     | 2.22               | 12               | ..                     | 0.45         | 12                   | ..   |
| Queenstown .. .. .            | 1,100                          | 76.8                                     | 50.4   | 63.6            | +4.2                   | 93.2                         | 21   | 33.3    | 1     | 1.17               | 8                | -1.86                  | 0.48         | 26                   | 300  |
| Cromwell .. .. .              | 720                            | 80.6                                     | 53.1   | 66.8            | +4.7*                  | 97.8                         | 21   | 38.0    | 3     | 1.10               | 7                | -0.68*                 | 0.33         | 26                   | ..   |
| Ophir .. .. .                 | 1,000                          | 79.6                                     | 48.0   | 63.8            | +3.6                   | 95.4                         | 21   | 30.8    | 3     | 2.30               | 8                | +0.46                  | 1.10         | 10                   | ..   |
| Moa Creek .. .. .             | 1,400                          | 77.0                                     | 45.2   | 61.1            | ..                     | 93.4                         | 21   | 31.5    | 4, 7  | 2.12               | 8                | ..                     | 0.92         | 11                   | ..   |
| Earnsclough .. .. .           | 500                            | 78.0                                     | 49.5   | 63.8            | +2.8*                  | 97.0                         | 21   | 38.0    | 4, 7  | 2.20               | 8                | +0.58*                 | 0.82         | 11                   | ..   |
| Waipiata .. .. .              | 1,550                          | 75.0                                     | 50.4   | 62.7            | +4.7                   | 92.0                         | 21   | 36.0    | 8     | 2.22               | 9                | +0.21                  | 1.21         | 12                   | 258  |
| Alexandra .. .. .             | 520                            | 79.0                                     | 53.9   | 66.4            | +4.7                   | 97.0                         | 21   | 42.0    | 3     | 2.55               | 8                | +0.71                  | 0.88         | 11                   | 284  |
| Garston .. .. .               | 1,009                          | 75.4                                     | 46.8   | 61.1            | ..                     | 91.8                         | 21   | 32.9    | 6     | 4.06               | 10               | ..                     | 1.00         | 10                   | ..   |
| Roxburgh Hydro .. .. .        | 350                            | 76.3                                     | 49.0   | 62.6            | ..                     | 95.5                         | 19   | 31.0    | 4     | 2.73               | 10               | +0.95*                 | 1.40         | 13                   | ..   |
| Mid Dome .. .. .              | 1,252                          | 74.2                                     | 48.7   | 61.4            | ..                     | 93.3                         | 18   | 36.8    | 6     | 2.46               | 10               | ..                     | 0.92         | 26                   | ..   |
| Moa Flat, West Otago .. .. .  | 1,345                          | 68.8                                     | 48.2   | 58.5            | ..                     | 89.2                         | 18   | 35.3    | 6     | 3.34               | 12               | +0.62*                 | 0.68         | 26                   | ..   |
| Taieri .. .. .                | 80                             | 71.5                                     | 50.1   | 60.8            | +3.0*                  | 92.6                         | 18   | 35.8    | 6     | 2.03               | 10               | -0.35*                 | 0.60         | 12                   | 248  |
| Musselburgh, Dunedin .. .. .  | 5                              | 69.1                                     | 53.3   | 61.2            | +3.0                   | 88.3                         | 18   | 42.0    | 6     | 1.70               | 10               | +1.03                  | 0.41         | 2                    | 239  |
| Tapanui .. .. .               | 550                            | 71.9                                     | 49.9   | 60.9            | ..                     | 91.8                         | 18   | 38.0    | 7     | 3.82               | 9                | ..                     | 1.62         | 12                   | ..   |
| East Gore .. .. .             | 245                            | 73.5                                     | 50.6   | 62.0            | +4.0                   | 95.0                         | 18   | 40.0    | 3     | 3.74               | 9                | +0.66                  | 1.66         | 12                   | ..   |
| Gore .. .. .                  | 240                            | 73.8                                     | 50.9   | 62.4            | +4.0*                  | 95.0                         | 18   | 40.0    | 3     | 4.04               | 10               | +0.96*                 | 2.05         | 12                   | 242  |
| Otautau .. .. .               | 180                            | 70.5                                     | 48.4   | 59.4            | +2.3*                  | 92.9                         | 18   | 38.8    | 7     | 2.45               | 9                | -0.72*                 | 0.64         | 26                   | 252  |
| Pebble Hills .. .. .          | 150                            | 72.6                                     | 49.5   | 61.0            | ..                     | 94.0                         | 18   | 40.0    | 1, 28 | 2.85               | 9                | -0.73*                 | 0.72         | 29                   | ..   |
| Invercargill .. .. .          | 8                              | 68.9                                     | 51.9   | 60.4            | +3.2                   | 87.8                         | 18   | 41.2    | 6     | 2.67               | 9                | -1.14                  | 0.55         | 1                    | ..   |
| Invercargill Airfield .. .. . | 0                              | 67.6                                     | 49.2   | 58.4            | +2.2*                  | 84.5                         | 18   | 39.1    | 6     | 2.66               | 10               | -1.07*                 | 0.56         | 1                    | 235  |

LATE RETURNS

|                                  |       |      |      |      |       |      |       |      |      |      |    |        |      |    |     |
|----------------------------------|-------|------|------|------|-------|------|-------|------|------|------|----|--------|------|----|-----|
| Paerata, Dec 1958 .. .. .        | 150   | 71.3 | 55.7 | 63.5 | +1.5* | 76.4 | 19    | 46.6 | 31   | 6.31 | 15 | +3.67  | 1.50 | 8  | ..  |
| Waereangaokuri, Dec 1958 .. .. . | 1,130 | 70.9 | 55.6 | 63.2 | +3.4* | 79.8 | 29    | 44.4 | 6    | 3.50 | 14 | +0.75* | 0.97 | 15 | ..  |
| Queenstown, Dec 1958 .. .. .     | 1,100 | 69.6 | 49.5 | 59.6 | +1.7  | 78.6 | 10    | 41.8 | 20   | 4.15 | 13 | +1.65  | 1.44 | 12 | 233 |
| Musselburgh, Dec 1958 .. .. .    | 5     | 64.4 | 50.0 | 57.2 | +0.4* | 78.8 | 30    | 42.8 | 6    | 2.85 | 15 | -0.03  | 0.73 | 16 | 190 |
| Gore, Dec 1958 .. .. .           | 240   | 68.2 | 47.5 | 57.8 | +1.1* | 77.0 | 4, 25 | 38.0 | 6, 9 | 3.18 | 8  | +0.10* | 1.18 | 22 | 182 |

NOTE—At stations where departures from normal have an asterisk, the temperature record has been maintained for less than 10 years, the rainfall record for less than 20 years. Rainfall normals have been revised and now refer to the standard period 1921–50. Where observations are not available for the whole period, or where the site of the rain gauge has been changed, the normals are partly interpolated.

NOTES ON THE WEATHER FOR JANUARY 1959

**General:** It was a month of very warm and mainly settled weather. As in the previous four months, it was wetter and more cloudy in the north than in the south. Dairy production was maintained at a high level in the North Island, but in places the humid conditions have caused blight damage in potato and tomato crops. It has not been a good season for fat lamb production, growth being too abundant in the North Island, while serious feed shortages developed in Marlborough and North Canterbury.

**Rainfall:** Rainfall was below average over the South Island (except Central Otago) and in eastern districts from Wairarapa to Gisborne. About the west of the Southern Alps and in most of Nelson and Marlborough it was only a third of the normal value.

It was twice as wet as usual in northern Northland and the Wanganui-Manawatu area, and for Wanganui City with 7.43 in. it was the wettest January on record.

On the 31st a violent thunderstorm associated with a vigorous cold front brought unusually heavy hail to South Canterbury, causing severe local damage to wheat, vegetable crops, and glass houses.

**Temperatures:** As in the three previous months, temperatures were above normal over the whole country. Departures amounted mainly to three degrees but were somewhat higher in the central high country of the North Island and in Central Otago.

Highest temperatures were recorded between the 17th and the 27th. During this period the maximum temperature recorded at many places east of the main ranges exceeded 95°F, the highest being 99° at Ashburton on the 18th.

**Sunshine:** Sunshine showed great variations from the average. Western districts as far north as Manawatu and Otago and Southland were favoured with 30 to 90 hours more sunshine than usual. It was the sunniest January on record for Hokitika, Queenstown, Alexandra, and Dunedin.

On the other hand, in the Auckland and Hawke's Bay Provinces sunshine was below average by 30 to 100 hours. The lowest value recorded was 143 hours at Kerikeri, Bay of Islands.

**Weather Sequence:** On the first two days of the month a deep depression passed far to the south, and the associated trough of low pressure moved over the country. There was some rain in most districts as far north as Manawatu, and also in Northland. From the 3rd to the 5th an anticyclone covered New Zealand, bringing fine weather apart from a few showers in Waikato and on the Canterbury coast.

Pressures remained high to the south and east, while a depression over the north Tasman Sea moved very slowly south-eastward. From the 6th to the 9th the moist north-easterly airstream brought considerable rain to Northland. By the 10th a trough of low pressure had reached the South Island, and during its slow northward movement over the next two days rain became general, with heaviest falls in Taranaki, Manawatu, and Westland. From the 13th to the 15th the trough, still very active, continued north-eastwards across the North Island followed by a change to south-westerly winds and improved weather.

From the 16th to the 25th pressures were high as two anticyclones in succession crossed the country. The weather was fine, apart from a few showers about Hawke's Bay on the 19th and between Timaru and Wellington on the 22nd and 23rd. Temperatures were very warm.

From the 26th to the 28th a cold front moved slowly northwards over the South Island accompanied by a broad band of rain. Conditions also began to deteriorate in the north with the approach of a tropical storm. Continuing its slow northward passage the front became even more active, but the tropical storm had almost lost its identity by the time it crossed the Auckland Province on the 30th. Under their combined influence, however, there was general rain over the North Island on the 29th and 30th.

On the last day of the month a vigorous cold front brought some heavy showers from Invercargill up the east coast of the South Island to Wellington. Violent thunderstorms with heavy hail were reported in parts of Canterbury.

M. A. F. BARNETT, Director.