Climatological Table-Summary of the Records of Temperature, Rainfall, and Sunshine for September 1959-continued

| Station |  |  | Air Temperatures in Degrees (Fahrenheit) |  |  |  |  |  |  |  | Rainfall in Inches |  |  |  |  | $\begin{aligned} & \text { Bright } \\ & \text { Sun- } \\ & \text { shine } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Means of |  | $\underset{\substack{\text { Mean } \\ \text { of Ad } \\ \text { and } \\ \text { B }}}{ }$ | Difference Normal | Absolute Maximum and Minimum |  |  |  | $\begin{aligned} & \text { Total } \\ & \text { Fall } \end{aligned}$ | $\begin{gathered} \text { No. } \\ \text { of } \\ \text { Rain } \\ \text { Days } \end{gathered}$ | $\begin{aligned} & \text { Differ- } \\ & \text { ence } \\ & \text { From } \\ & \text { Normal } \end{aligned}$ | Maximum Fall |  |  |
|  |  |  | $\underset{\text { Max. }}{\text { A }}$ | $\begin{gathered} B \\ \text { Min. } \end{gathered}$ |  |  | $\begin{aligned} & \text { Maxi- } \\ & \text { mum } \end{aligned}$ | Date | $\begin{aligned} & \text { Mini- } \\ & \text { mum } \end{aligned}$ | Date |  |  |  | Amount | Date |  |
|  |  | Ft. | 5. | 57. | ${ }^{\circ} \mathrm{F}$. |  | ${ }^{\circ} \mathrm{F}$. |  | ${ }^{\circ} \mathrm{F}$. |  | In. |  |  | In. |  | Hrs. |
| Hanmer |  | 1,270 | 59.0 | 37.2 | $48 \cdot 1$ | $+2 \cdot 0$ | 67.0 | 5 | $27 \cdot 4$ | 11 | $3 \cdot 63$ | 12 | -0.80 | $1 \cdot 19$ | 30 | 158 |
| Hokitika South |  | 15 | $56 \cdot 3$ | $42 \cdot 5$ | $49 \cdot 4$ | +1.6* | $62 \cdot 8$ | 22 | $33 \cdot 5$ | 11 | 11.73 | 20 | $+3 \cdot 11 *$ | $2 \cdot 56$ | 15 | $106$ |
| Balmoral |  | 650 | $61 \cdot 0$ | $36 \cdot 5$ | $48 \cdot 8$ | $+2 \cdot 6$ | $71 \cdot 0$ | 23 | $26 \cdot 0$ | 9 | 0.89 | 7 | -1.39 | $0 \cdot 49$ | 30 |  |
| Lake Coleridge |  | 1,195 | 59.0 | 38.9 | $49 \cdot 0$ | $+2 \cdot 2$ | $69 \cdot 0$ | 21 | $28 \cdot 0$ | 11 | 2.73 | 11 | -0.39 | 0.98 | 30 |  |
| Eyrewell |  | 520 | $60 \cdot 4$ | $37 \cdot 8$ | $49 \cdot 1$ |  | $71 \cdot 0$ | 17 | $25 \cdot 5$ | 9 | $0 \cdot 48$ |  | -2.96 * | $0 \cdot 13$ | 22, 28 |  |
| Franz Josef |  | 450 | 57.0 | 41.7 | $49 \cdot 4$ |  | $67 \cdot 1$ | 22 | $35 \cdot 2$ | 12 | 29.61 | 20 |  | 8.05 | 15 |  |
| Ashley Forest |  | 350 | $59 \cdot 3$ | $40 \cdot 9$ | $50 \cdot 1$ | $+2 \cdot 2$ * | 69-2 | 17 | $31 \cdot 2$ | 9 | 0.54 | 8 | $-2 \cdot 12 *$ | 0. 15 | 13 |  |
| Darfield |  | 640 | $60 \cdot 9$ | $39 \cdot 1$ | $50 \cdot 0$ | $+3 \cdot 0$ | $70 \cdot 2$ | 17 | $30 \cdot 4$ | 9 | $0 \cdot 81$ | 7 | t-1.95 | $0 \cdot 23$ | 30 |  |
| Christchurch Airport |  | 94 | 59.9 | $38 \cdot 9$ | $49 \cdot 4$ |  | 71.2 | 6,17 | $26 \cdot 6$ | 9 | $0 \cdot 32$ | 6 |  | $0 \cdot 11$ | 13 | 172 |
| Christchurch |  | 22 | $61 \cdot 0$ | $40 \cdot 8$ | $50 \cdot 9$ | $+2 \cdot 2$ | $73 \cdot 8$ | 6 | 31.4 | 1 | $0 \cdot 24$ | 5 | -1.82 | $0 \cdot 08$ | 13 |  |
| Wigram |  | 74 | 60.7 | $40 \cdot 1$ | $50 \cdot 4$ | +1.6* | $72 \cdot 1$ | 6 | $31 \cdot 1$ | 28 | $0 \cdot 27$ | 5 | -1.63* | 0.10 | 22 |  |
| Akaroa |  | 150 | 59.9 | $43 \cdot 4$ | 51.6 | $+1 \cdot 2$ | $71 \cdot 0$ | 7 | $34 \cdot 0$ | 27 | 0.46 | 10 | $-2 \cdot 82$ * | $0 \cdot 10$ | 2 | 174 |
| Lincoln |  | 36 | 59.4 | 38.4 | $48 \cdot 9$ | $+1.4$ | $70 \cdot 5$ | 6 | $27 \cdot 9$ | 27 | $0 \cdot 29$ | 5 | -1.61 | 0.08 | 2, 22 | 179 |
| Highbank |  | 1,102 | 57.6 | $41 \cdot 6$ | $49 \cdot 6$ |  | $65 \cdot 5$ | 6 | $35 \cdot 3$ | 14 | $1 \cdot 14$ | 9 |  | 0.44 | 30 | 180 |
| The Hermitage |  | 2,510 | 54.8 | $36 \cdot 5$ | $45 \cdot 6$ | $+3 \cdot 1$ | $63 \cdot 0$ | 6 | $29 \cdot 0$ |  | 19•24 | 15 | $+5.70$ | $7 \cdot 15$ | 15 | 103 |
| Winchmore | . | 626 | $58 \cdot 6$ | $38 \cdot 4$ | $48 \cdot 5$ | $+2.0$ | $68 \cdot 8$ | 6 | 27.2 | 9 | $0 \cdot 48$ |  | $-1.88 *$ | $0 \cdot 20$ | 30 |  |
| Haast | . | 15 | 55.8 | $43 \cdot 4$ | $49 \cdot 6$ | +1.4* | $64 \cdot 0$ | 22 | $36 \cdot 8$ | 11, 8 | 19.95 | 18 | $+9 \cdot 20 *$ | $3 \cdot 25$ | 2 | 124 |
| Ashburton |  | 323 | 62.4 | $38 \cdot 8$ | $50 \cdot 6$ | $+2.7$ | $74 \cdot 8$ | 6 | 28.2 | 11, 12 | $0 \cdot 48$ | 7 | -2.14 | $0 \cdot 21$ | 30 | 160 |
| Fairlie |  | 1,004 | 59.0 | $34 \cdot 5$ | $46 \cdot 8$ | $+1.7$ | $70 \cdot 5$ | 15 | $22 \cdot 0$ | 9 | 1.53 | 8 | -1.13 | $0 \cdot 64$ | 30 |  |
| Timaru |  | 56 | $60 \cdot 0$ | $39 \cdot 8$ | $49 \cdot 9$ | $+2 \cdot 0$ | $72 \cdot 7$ | 7 | $32 \cdot 0$ | 9 | 0.47 | 6 | $-1.48$ | 0. 21 | 30 | 66 |
| Adair |  | 200 | $56 \cdot 7$ | $41 \cdot 2$ | $49 \cdot 0$ | $+1.7 *$ | 71.3 | 6 | $32 \cdot 8$ | 9 | $0 \cdot 55$ | 7 | $-1 \cdot 57 *$ | $0 \cdot 30$ | 30 |  |
| Tara Hills, Omarama | . | 1,600 | $58 \cdot 3$ | $33 \cdot 5$ | $45 \cdot 9$ | $+1 \cdot 8^{*}$ | $66 \cdot 8$ | 16 | $20 \cdot 3$ | 9 | 1.89 | 10 | $+0.38 *$ | 0.97 | 30 | 183 |
| Benmore, Otematata | . | 920 | $60 \cdot 2$ | $36 \cdot 4$ | $48 \cdot 3$ |  | $69 \cdot 0$ | 15 | 23.9 | 9 | 0.89 | 7 |  | 0.47 | 30 |  |
| Milford Sound |  | 20 | 55.0 | $40 \cdot 7$ | $47 \cdot 8$ | $+1.4$ | $61 \cdot 1$ | 25 | $34 \cdot 2$ | 8 | $31 \cdot 16$ | 17 | $+11 \cdot 36$ | $8 \cdot 44$ | 15 |  |
| Waimate |  | 200 | 60.1 | $38 \cdot 8$ | $49 \cdot 4$ | +0.9 | $73 \cdot 0$ | 7 | 29.9 | 9 | 0.44 | 8 | $-1.81$ | $0 \cdot 14$ | 2 | 148 |
| Naseby Forest |  | 2,300 | $56 \cdot 7$ | $31 \cdot 8$ | $44 \cdot 2$ |  | $64 \cdot 6$ | 17 | $22 \cdot 2$ | 9 | 0.71 | 7 |  | $0 \cdot 28$ | 24 |  |
| Queenstown | $\cdots$ | 1,100 | $57 \cdot 2$ | $38 \cdot 0$ | $47 \cdot 6$ | $+1 \cdot 5$ | $64 \cdot 3$ | 16 | $30 \cdot 5$ | 8 | $3 \cdot 33$ | 14 | $+0.67$ | 1.04 | 15 | 175 |
| Cromwell |  | 720 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ophir .. | . | 1,000 | $60 \cdot 3$ | 32.0 | $46 \cdot 2$ | $+0.9$ | $66 \cdot 8$ | 16 | $19 \cdot 0$ | 8 | 0.49 | 6 | -0.65 | 0. 22 | 30 |  |
| Moa Creek |  | 1,400 | $58 \cdot 0$ | $29 \cdot 7$ | $43 \cdot 8$ |  | $66 \cdot 0$ | 16 | $17 \cdot 6$ | 14 | $0 \cdot 52$ | 6 |  | $0 \cdot 22$ | 30 |  |
| Earnscleugh | . | 500 |  |  |  |  |  | . |  | . |  | . |  |  |  |  |
| Waipiata <br> Alexandra | $\cdots$ | 1,550 520 | $61 \cdot 1$ | $35 \cdot 7$ | 48.4 | $+1.3$ | 67.0 | 20 |  |  |  |  |  |  |  |  |
| Garston |  | 1,009 | 58.9 | $36 \cdot 0$ | 47.4 |  | $67 \cdot 1$ | 20 | $24 \cdot 7$ | 9 | 0.83 1.98 | 11 | +0.010 | 0.42 0.51 | 30 15 | 08 |
| Roxburgh Hydro |  | 350 | $61 \cdot 3$ | 37.2 | $49 \cdot 2$ |  | $69 \cdot 5$ | 17 | $26 \cdot 0$ | 9 | $0 \cdot 30$ | 6 | -0.79* | $0 \cdot 10$ | 2 |  |
| Moa Flat, West Otago |  | 1,345 | 55.0 | $36 \cdot 2$ | $45 \cdot 6$ |  | $62 \cdot 9$ | 23 | $30 \cdot 4$ | 9 | $1 \cdot 14$ | 12 | -0.78* | $0 \cdot 32$ |  |  |
| Taieri .. .. |  | 80 | 58.8 | 37:6 | $48 \cdot 2$ | +0.5* | $70 \cdot 0$ | 15 | 25.7 | 9 | 0.77 | , | -1.16* | $0 \cdot 37$ | 1 | 186 |
| Musselburgh, Dunedin |  | 5 | $57 \cdot 6$ | $41 \cdot 8$ | $49 \cdot 7$ | +0.4* | $69 \cdot 0$ | 15 | $33 \cdot 7$ | 9 | 1.01 | 11 | -0.95 | $0 \cdot 35$ | 1 | 176 |
| Tapanui ... |  | 550 | 59.0 | $38 \cdot 3$ | $48 \cdot 6$ |  | $69 \cdot 0$ | 23 | $28 \cdot 5$ | 28 | $2 \cdot 10$ | 13 |  | 0.49 | 7 |  |
| East Gore |  | 245 | 59.9 | 38.8 | 49.4 | +2.1 | $71 \cdot 0$ | 23 | 29.0 | 9 | 1.78 | 10 | -0.68 | 0.42 | 1 |  |
| Gore |  | 240 | 59.6 | $38 \cdot 8$ | $49 \cdot 2$ | +1.6 * | $71 \cdot 0$ | 23 | 31.0 | 9, 29 | 1.74 | 11 | -0.72* | $0 \cdot 37$ | 1 | 189 |
| Otautau |  | 180 | 53.7 | $37 \cdot 4$ | $45 \cdot 6$ | -0.7* | $62 \cdot 5$ | 15 | 29.0 | 26,28 | $2 \cdot 32$ | 11 | $-0.70^{*}$ | $0 \cdot 58$ | 15 | 157 |
| Pebbly Hills |  | 150 | 58.6 | 38.9 | $48 \cdot 8$ |  | $70 \cdot 5$ | 23 | $29 \cdot 0$ | 9,29 | $2 \cdot 59$ | 11 | -0.25* | $0 \cdot 58$ | 24 |  |
| Invercargill Invercargill Airfield |  | 8 0 | $56 \cdot 5$ | $39 \cdot 2$ | $47 \cdot 8$ | -2.1* | $67 \cdot 8$ | 23 | $30 \cdot 2$ | ${ }^{\cdot} 9$ | 1.92 | 15 | -1.30* | 0.38 | is | 65 |

## LATE RETURNS

Whatawhata, Aug 1959 .. 340
Kaingaroa Jul 1959
$\therefore \quad 1,800$
Kaingaroa, Aug $1959 \quad \therefore 1,800$
Chateau Tongariro, Aug 19593,670

| $58 \cdot 0$ | $42 \cdot 2$ | $50 \cdot 1$ |
| :---: | :---: | :---: |
| $50 \cdot 7$ | $33 \cdot 2$ | $42 \cdot 0$ |
| $53 \cdot 5$ | $34 \cdot 7$ | $44 \cdot 1$ |
| $45 \cdot 7$ | $32 \cdot 6$ | $39 \cdot 2$ |

$+1 \cdot 0$
$+1 \cdot 8$

| $62 \cdot 0$ | 7,13 | $32 \cdot 5$ | 30 | $3 \cdot 75$ | 19 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $58 \cdot 0$ | 21 | $25 \cdot 1$ | 19 | $3 \cdot 72$ | 9 |
| $61 \cdot 2$ | 21 | $27 \cdot 0$ | 25 | $2 \cdot 07$ | 15 |
| $52 \cdot 0$ | 29 | $25 \cdot 0$ | 26,29 | $3 \cdot 32$ | 13 |


| $\ddot{0} .93$ | 0.72 |
| :---: | :---: |
| -3.80 |  |
| -3.16 | 0.43 |
| $-5.00^{*}$ | 0.46 |

20
26
21
14

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 September 1959
General: September was a mild month. The spell of dry, settled weather which had commenced in about mid-August was broken in many districts by welcome rains in mid-September, and in these areas pasture growth was satisfactory. However, in parts of Canterbury the dry weather persisted also in the second half of the month, seriously affecting pastures. As in August, conditions were particularly favourable for lambing; and generally it was a good month for stock apart from a few reports of bloat in the Auckland Province.
On the 15th and 16th north-westerly gales raged from Wellington to Otago, causing damage in parts of Westland and Canterbury.

Rainfall: Rainfall was only half the average value in Canterbury and Otago and two-thirds in Southland and in northern and western districts of the Auckland Province, In the Christchurch-Ashburton area and on Banks Peninsula totals were mainly below half an inch.
For August and September combined, the Christchurch total of 0.78 in . was the lowest in nearly 100 years of record.

On the other hand, it was wetter than usual in western and northern districts of the South Island and also in Wellington and South Manawatu.
Heavy rain was reported about Cook Strait from the 17th to the 19th, with disruption of rail and road transport just north of Wellington. In Nelson and Marlborough for the 17 th and 18 th some stations reported 8-9 in.; while Kowhai Ridge (near Paekakariki) received 7.21 in . for the 18th and 19th.
Temperatures: Temperatures were above average, mainly by 1 to 2 degrees.

Snow fell on the ranges of both islands about the end of the month.

Sunshine: Sunshine was below average in western and northern districts of the South Island and in the North Island south of Hamilton, mainly by about 30 hours. For Nelson, with a total of 155 hours of sunshine, it was one of the cloudiest Septembers on record.

Otago was favoured with $30-40$ hours more sunshine than usual; and sunshine was also appreciably above average in Southland and Northland.

Weather Sequence: The first 11 days was a period of dry, settled weather, except at times in western and far southern districts of the South Island. From the 1st to the 3rd an anticyclone moved across the North Island, but a weak trough of low pressure brought considerable rain to the West Coast and some rain also to Otago and Southland; a few showers were reported in Northland, Gisborne, and Hawke's Bay. For the next three days an extensive belt of high pressure covered New Zealand and the weather was fair. The passage of a weak trough across the South Island on the 7th brought some rain to Westland, Southland, and parts of the Otago and Canterbury high country. However, from the 8th to the 11th the weather was again mainly fine, under the influence of a large anticyclone. Some showers occurred in Northland, Coromandel, and Gisborne.

From the 12 th to the 17 th north-westerly winds prevailed, with considerable rain on the West Coast. During the first half of this period a weak trough moved northward over the country, with rain in western districts of both islands and also in northern districts of the South Island. From the 15th to the 17th pressure was high to the north-east, and two depressions in succession moved south-eastward past 'Southland. North-westerly gales were

