CLIMATOLOGICAL TABLE—Summary of the Records of Temperature, Rainfall, and Sunshine for July 1960—continued

Station   Stat		TYalaha	Air Temperatures in Degrees (Fahrenheit)							Rainfall in Inches						
MS.L.   Max.   Mis.	Station	Station Above	Means of							Total			Differ- Fa		Brig Su shi	
ake Grassmere .					and	From		Date		Date		Rain	From	Amount	Date	3111
ake Grassmere .		Ft.	°F.	°F.	°F.		°F		°F		In			In		Н
loiden Downs								17		1		12			20	1
Vaihopai	olden Downs	900	51.4	30.2	40.8	+1.0	55.9	17	21.9	12	3.98	15	-0.11	1.25	20	
Vestport	aihopai	860	53 · 5	34.1	43.8	+1.3	60.6	31	26.5	1	3.14					
folesworth	estport	7	54.3	39.1	46.7	+0.9	59.0	19	31.0							
ireymouth		2 020	46.0	26.0	36.0						2.77					
Tammer Forest   1,270   50-9   30-1   40-5   +2-0   60-5   5, 31   17-0   12   2-20   15   -2-00   0.56   21														122		
Oktitika South		1 270														3
almoral 650 53.3 29.0 41.2 +1.8* 65.0 55 19.0 12 1.60 9 -0.43 0.57 29.0 41.2 +1.8* 65.0 15.0 19.0 12 1.60 19.0 -0.43 0.57 29.0 41.2 +1.8* 65.0 15.0 19.3 12.0 5 11 1.50 13.2 14.2 0.55 12 19.0 12 1.75 13.4 41.6 +2.8* 65.0 19.3 12.0 5 11 1.5* 8 13 -1.42 0.55 12 49.0 12 1.97 9 -1.15 0.73 12.4 41.6 1.2* 62.5 14.2 1.97 9 -1.15 0.73 12.5 12 1.97 9 -1.15 0.73 12.5 12 1.97 19 -1.15 0.73 12.5 12 1.97 19 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		15														
ake Coleridge 1,195 51-7 31-4 41-6 2.8 61-0 19, 31 20-5 11 1.58 13 1-42 0.35 7 yeavell 520 52-0 31-2 41-6 62-5 4 22-5 12 12 1 1-15 0.73 25 7 anz Josef 392 54-0 37-1 45-6 59-2 28 30-0 20 16-41 17 9 1-15 0.73 25 7 anz Josef 390 53-2 34-0 43-6 -2-8 65-8 30-0 20 16-41 17 9 1-15 0.73 25 7 anz Josef 390 53-2 34-0 43-6 -2-8 65-8 31 24-9 12 1.72 12 -0-45 0.75 25 1 hristchurch Airport 94 52-9 33-7 43-3 64-2 5 24-1 12 1-12 14 0.57 25 1 hristchurch Airport 22 53-8 35-2 44-5 -2-2 64-1 5 23-3 12 1-143 14 -1-17 0.44 25-1 1 hristohurch 22 53-8 35-2 44-5 -2-2 64-1 5 23-3 12 1-143 14 -1-17 0.44 25-1 1 hristohurch 36 52-7 33-7 43-2 2-2-1 16-4 3 30 21-2 12 1-3 13 1-2-6 0.51 25 1 hristohurch 36 52-7 33-7 43-2 2-2-1 16-4 3 30 22-1 12 1-3 13 1-2-6 0.51 25 1 hristohurch 36 52-5 33-3 1 4-2 2-2-1 16-4 3 30 22-1 12 1-3 13 1-2-6 0.51 25 1 hristohurch 36 52-7 33-7 43-2 2-2-1 16-4 3 30 23-7 11, 12 3-88 17 -0-90 1-30 1-30 1 hristohurch 36 52-7 33-7 43-2 2-2-1 16-4 3 30 22-1 12 1-13 13 1-1-26 0.51 25 1 hristohurch 36 52-6 52-3 33-1 42-7 1-3-0* 61-3 30 23-7 11, 12 1-19 11 1-1-20* 0.48 22-5 1 1 hristohurch 36 52-6 52-3 33-1 42-7 1-3-0* 61-3 30 23-7 11, 12 1-19 11 1-1-20* 0.48 22-5 1 1 hristohurch 36 52-6 52-0 33-4 42-7 1-3-0* 61-3 30 23-7 11, 12 1-19 11 1-1-35 0.50 25 1 hristohurch 32 55-4 33-1 44-2 1-3-1 65-8 31 0.2 22 1 12-7 11 1-1-35 0.50 0.50 25 1 hristohurch 32 55-4 33-1 44-2 1-3-1 65-8 31 0.2 24 1 12 1-19 11 1-1-35 0.50 0.50 25 1 hristohurch 32 55-4 33-1 44-2 1-3-1 65-8 31 0.2 24 1 12 1-19 11 1-1-20* 0.48 22-5 1 1 1-1-35 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.		650														
Syrewell		1 105						10 21					100			
ranz Josef						+7.8										
sahley Forest  350   53-2   36-6   44-9   -3-1*   62-0   5   28-8   12   1-55   8   -1-49*   0-78   22   hristchurch Airport   94   52-9   33-7   43-3													-1.15			
Darfield											1				16	
Christchurch Airport															26	
Christchurch   22   53-8   35-2   44-5   +2-2   64-1   5   23-3   12   1-43   14   -1-17   0.44   725   Drawe, Akaroa   150   53-2   39-8   46-5   +1-9   65-0   31   31-0   1,12   1-35   9     0.61   25   Drawe, Akaroa   150   53-2   39-8   46-5   +1-9   65-0   31   31-0   1,12   1-35   9     0.61   25   Drawe, Akaroa   150   53-2   39-8   46-5   +1-9   65-0   31   31-0   1,12   1-35   13   -1-26   0.51   25   Drawe, Akaroa   150   53-2   39-8   46-5   +1-9   65-0   31   25-5   11   1-73   12   1-31   3   -1-26   0.51   25   Drawe, Akaroa   150   53-2   33-7   44-5   -2-1   64-3   30   22-1   1-73   12   1-31   13   -1-26   0.51   25   Drawe, Akaroa   150   53-2   33-7   44-5   -2-1   64-3   30   22-1   1-73   12   1-31   1-1   31   -1-26   0.51   25   Drawe, Akaroa   150   53-2   33-1   42-7   +3-0*   61-3   30   22-0   1,27   12-04   8   +2-55   2.82   16   Drawe, Akaroa   15   53-7   33-1   42-7   +3-0*   61-3   30   22-0   1,27   12-04   8   +2-55   2.82   16   Drawe, Akaroa   15   53-7   33-1   42-7   +3-0*   61-3   30   23-0   1,27   12-04   8   +2-55   2.82   16   Drawe, Akaroa   15   53-7   33-1   42-7   +3-0*   61-3   30   23-0   1,27   12-04   8   +2-55   2.82   16   Drawe, Akaroa   15   53-7   33-1   44-2   +3-1   65-8   31   22-5   11   1-17   12   1-135   0.54   Drawe, Akaroa   15   53-7   33-1   44-2   +3-1   65-8   31   22-5   11   1-1   31   1-1   1-1   31   2-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1-1   1-1   31   1						+2.8							-0.45		25	
Christchurch														0.57	25	
Formatian   Gal   S3-1   30-2   41-6     G4-3   30   21-2   12   1-35   9     0-61   25						+2.2				12	1.43	14	-1.17	0.44	25	
Drawe, Akaroa	ororata	631	53 · 1	30.2	41.6		64.3	30	21.2	12	1.35			0.61	25	
incoln	nawe, Akaroa		53.2	39.8	46.5	+1.9	65.0	31	31.0				-0.90*		26	1
flighbank       1,102       51-3       37-9       44-6        62-0       31       28-5       11       1-73       12        0-52       25       10-2        0-52       25       10-2        0-52       25       10-2        0-52       25       25       33-1       42-7       +3-0*       61-3       30       23-7       11, 12       1-10       11       +1-20*       0-82       25       16-4       63-2       33-1       42-7       +3-0*       61-3       30       23-7       11, 12       1-10       11       1-1-20*       0-88       22       18       12-47       16       +4-60*       1-10       12       28       12-47       16       +4-60*       1-17       0-25       25       0-33       11       42-7       1-13       60-8       31       22-2       12       12-17       11       1-1-35       0-20       0-50       23       33-1       42-7       1-1-35       0-6       30       26-4       12       0-64       9       1-10       0-35       50       33-4       44-2       1-1-35       0-6       30       26-4       12       0-64       9       1-10 <t< td=""><td>ncoln</td><td> 36</td><td>52.7</td><td>33.7</td><td>43.2</td><td></td><td>64.3</td><td>30</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	ncoln	36	52.7	33.7	43.2		64.3	30								
The Hermitage	ighbank	1 100											1 20			
Vinchmore   526   52-3   33-1   42-7   +3-0*   61-3   30   23-7   11, 12   1-19   11   +1-20*   0-48   25   Isast   15   53-7   38-4   46-0   +1-2*   59-5   8   31-0   28   12-47   16   +4-60*   1-74   23   Isashburton   323   55-4   33-1   44-2   +3-1   65-8   31   22-2   12   1-27   11   -1-35   0-50   25   Isairlie   1,004   51-3   28-3   39-8   +2-8   60-5   16   17-0   12   0-81   8   -1-17   0-35   55   Isairlie   1,004   51-3   28-3   39-8   +2-8   60-5   16   17-0   12   0-81   8   -1-17   0-35   55   Isairlie   200   51-3   36-0   43-6   +1-7*   59-4   4   29-7   12   0-64   9   -1-09   0-26   55   Isairlie   200   51-3   36-0   43-6   +1-7*   59-4   4   29-7   12   0-42   7   -1-35*   0-21   5   Isairlie   1,147   47-0   33-4   40-2   -1-5*   58-0   30   23-0   12   0-48   5   -1-6   -1-6   Isairlie   1,147   47-0   33-4   40-2   -1-5*   58-0   30   23-0   12   0-48   5   -1-6   -1-6   Isairlie   1,147   47-0   33-4   40-2   -1-5*   58-0   30   23-0   12   0-48   5   -1-6   -1-6   -1-6   Isairlie   1,147   47-0   33-4   40-2   -1-5*   58-0   30   23-0   12   0-48   5   -1-6   -1-		2 510				+4.6							+2:55			,
flast       15       53.7       38.4       46.0       +1.2*       59.5       8       31.0       228       12.47       16       +4.60*       1.74       22         sisburton       323       55.4       33.1       44.2       +3.1       65.8       31       22-2       12       1.27       11       -1.35       0.50       25         airlie       1,004       51.3       328.3       39.8       +2.8       60.5       16       17.0       12       0.81       8       -1.17       0.35       5         imar       56       52.0       33.4       42.7       +1.3       60.6       30       26.4       12       0.64       9       -1.09       0.26       5         ara Hills, Omarama       1,600       47.8       25.9       36.8       +1.3**       54.9       5,31       15.0       0.42       7       -1.09       0.62       5       2       20       12.0       0.48       5       -1.00       0.48       5       0.30       23       3       4       4       -1.1       0.60       0.0       2       0.30       23       3       4       4       -1.0       0.0       0.0       0.2		F26														
Saburton		1.5														
Fairlie		222				13.1										
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Adair		The second second													2	
Cara Hills, Omarama												9				1
Remmore, Otematata		1 (00														
Aske Hawea						+1.3*						5	-0.48*			
Milford Sound																. ,
Waimate		1,147													16	
Naseby Forest	ilford Sound	20			44.4	+3.2	$60 \cdot 2$	15		1	14.99	18	+1.09	2.97	4	1
Naseby Forest   1,300   46.4   28.3   37.4   1,100   47.1   32.6   33.8   41.5   55.3   20   26.2   1   2.31   15   +0.13   0.61   42   27   28   28   28   28   28   28   2	aimate		54.2	33 · 1	43.6	+1.6	63.8	30	25.0	12	0.69	10	-0.62	0.25	23	
Queenstown	aseby Forest	2,300	46.4	28.3	37.4		55.0	3	17.4	11	0.58	7		0.22		
Charton   Char	ueenstown	1,100	47.1		39.8	+1.5	55.3	20	26.2				+0.13			'
Ophir		25 CO. 10														
Moa Creek   1,400   45 4   26 9   36 2     55 3   16   18 3   1   0 28   6     0 15   16		1 000														
Carnscleugh	A CONTRACT OF THE CONTRACT OF	1 400				150							-0 38			
Vaipiata						12.4*							0.25*			
Alexandra   520   48.6   30.3   39.4   +3.1   59.9   30   15.5   1   0.44   6   -0.22   0.12   4   4   5   6   6   6   6   6   6   6   6   6															4	
Sarston																1
Roxburgh Hydro        350       50·3       34·1       42·2        59·0       30       26·6       1       0·62       12       -0·42*       0·15       16         Vest Arm, Lake Manapouri       593       44·0       36·3       40·2        48·8       5       30·9       11       9·22       27        0·92       4         Mid Dome        1,252       50·9       33·9       42·4        58·9       16       21·5       1       4·76       15        0·92       4         Cherry Farm, Waikouaiti       21       51·9       33·9       42·4        61·2       30       27·8       11       0·65       8        0·24       25         Goa Flat, West Otago        1,345       46·7       32·8       39·8        53·9       30       24·8       12       1·76       14       -0·24*       0·45       25         Gusselburgh, Dunedin        5       52·7       37·7       45·2       +2·4*       61·6       30       28·8       10       1·47       12       -0·79       0·37       27         J		1 000				+3.1							-0.22			
Vest Arm, Lake Manapouri 593 44.0 36.3 40.2													÷			
Mid Dome        1,252       50.9       33.9       42.4        58.9       16       21.5       1       4.76       15        0.82       25         Cherry Farm, Waikouaiti       21       51.9       33.0       42.4        61.2       30       27.8       11       0.65       8        0.24       25         Moa Flat, West Otago       1,345       46.7       32.8       39.8        53.9       30       24.8       12       1.76       14       -0.24*       0.45       25         Gaieri         80       53.1       32.3       42.7       +1.7*       60.3       30       23.6       11       0.89       10       -1.05*       0.25       27         Musselburgh, Dunedin        550       49.9       34.8       42.4        57.0       16       25.6       10       2.29       15        0.34       7         Jast Gore <td></td> <td>-0.42*</td> <td></td> <td></td> <td></td>													-0.42*			
Cherry Farm, Waikouaiti  21 51.9 33.0 42.4 61.2 30 27.8 11 0.65 8 0.24 25  All All All All All All All All All Al															4	
Cherry Farm, Waikouaiti Aoa Flat, West Otago $\begin{array}{cccccccccccccccccccccccccccccccccccc$															25	
Taiseri	nerry Farm, Waikouaiti	21	51.9	33.0	42.4		61.2	30	27.8	11	0.65	8		0.24	25	
Taiseri	oa Flat, West Otago	1,345	46.7	32.8	39.8		53.9	30	24.8	12	1.76	14	-0.24*	0.45	25	
Musselburgh, Dunedin		90				+1.7*			23.6						27	
Papanui   550   49·9   34·8   42·4     57·0   16   25·6   10   2·29   15     0·34   7   7   7   7   7   7   7   7   7		F							28.8							
LATE RETURNS  245   245   245   245   245   245   245   245   245   245   245   240  51·1  33·4  42·2  +2·5*  59·5  16  26·2  11  2·30  15  +0·29*  0·45  27  27  27  28  29  29  29  29  29  29  29  29  29		550														
Fore	-4 C	215		0.0	.~ 7		0.0	10	25 0			10		0 54		1
tautau   180   51 $\cdot 9$   33 $\cdot 9$   42 $\cdot 9$   +3 $\cdot 7*$   58 $\cdot 0$   16   24 $\cdot 5$   10   3 $\cdot 00$   14   -0 $\cdot 22*$   0 $\cdot 66$   25 ebbly Hills   150   51 $\cdot 9$   33 $\cdot 4$   42 $\cdot 6$     59 $\cdot 0$   17, 18   25 $\cdot 0$   10   2 $\cdot 23$   14   -0 $\cdot 30*$   0 $\cdot 28$   23, 31 evercargill Airfield   0   51 $\cdot 3$   33 $\cdot 9$   42 $\cdot 6$   +2 $\cdot 1*$   57 $\cdot 7$   4   25 $\cdot 8$   11   2 $\cdot 59$   15   -0 $\cdot 22*$   0 $\cdot 48$   31 LATE RETURNS		240	51.1	33.4	42.2	12.5*	59.5	16	26.2	11	2:30	15	±0.20*	0.45	27	
The below the b	Laura & aura	100				12.7*	58.0									
nvercargill Airfield 0   51·3   33·9   42·6   +2·1*   57·7   4   25·8   11   2·59   15   -0·22*   0·48   31  LATE RETURNS		150				+3.1.	50.0	17 10			3.00					
LATE RETURNS	voncencial Ainfield					1 2 1*	59.0									
	vercargin Anneid		31.3	33.9	42.0				23.8	11	1 2.39	1 13	-0.22	0.48	31	, L
alkella le Awalliutu Julie	aikeria Te Awamutu Ju	ine ]		1		LATE	RETU	RNS	I	I	1	1	,			
		150	57.8	38.2	48.0		65.7	8	26.4	16	4.08	16		0.47	7	
Vaiouru, June 1960 2,700   46.9   34.6   40.8     58.3   8   24.0   16   3.50   20     0.70   6								8							6	

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 July 1960

General: The changeable weather during July was fairly typical of the midwinter month. In the South Island, however, and particularly in Canterbury, it was very mild, and farmers found conditions much to their liking. In the North Island conditions were also mainly favourable for stock, but in parts of Northland the ground was becoming very wet owing to the persistent unsettled weather. The first lambs had commenced to appear by the end of the month under very favourable conditions.

A vigorous cold front which crossed the country on the 25th and 26th brought the coldest weather to date this year. Southerly winds reached strong gale force in some North Island districts, uprooting trees and snapping power poles in north Taranaki. Snow fell to low levels in the South Island and covered the high country of the north Island.

Rainfall: Rainfall was half the average value in Hawke's Bay. General: The changeable weather during July was fairly typical

Rainfall: Rainfall was half the average value in Hawke's Bay, Canterbury, and Otago. Around and to the north-west of Hastings it was less than a quarter.

The Wellington and Rotorua districts and the greater part of Taranaki and Westland had 50 per cent more rainfall than normal.

Temperatures: Over most of the South Island it was 2-4 degrees warmer than average, but in the North Island temperatures were mainly close to normal.

For the Hermitage, Mt. Cook, it was the warmest July in 30 years of records.

In addition to the snowfall of the 26th, snow was also reported to have fallen on Ruapehu on the 6th and the 20th. Generally, however, there was much less snow than usual on the ranges, especially in the South Island.

The most frosty period was the 7th to the 15th, when the weather

was comparatively settled.

Sunshine: Sunshine was close to average over most of the country. However, Central Otago, Nelson, Manawatu, and Wellington received 20 to 40 hours less sun than normal; while Gisborne and parts of Northland and the Canterbury Plains were favoured with 20 hours more than average.

Weather Sequence: The month opened with two days of southwesterlies, as a depression to the east moved away and an anticyclone remained centred over the Tasman Sea. A few showers were reported, mainly in Southland and in parts of North Taranaki and the Auckland Province.

On the 3rd and 4th the anticyclone was centred to the north, and a deep depression which formed off the Victorian coast passed close to Southland. Winds freshened and turned to the north and north-west; while rain spread over the country from the west, not yet affecting eastern districts. However, some of these districts received rain on the next two days when winds turned to south-