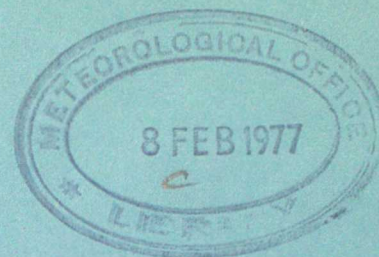


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CLIMATOLOGICAL MEMORANDUM 96

Percentage frequency of hourly values of
dry-bulb and wet-bulb temperatures
at Kinloss 1960 - 74

by

H.J. Baker and Joyce Laing

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CLIMATOLOGICAL MEMORANDUM NO. 96

PERCENTAGE FREQUENCY OF HOURLY VALUES OF DRY-BULB AND WET-BULB TEMPERATURES

AT KINLOSS 1960-74

BY H J BAKER AND JOYCE LAING

Introduction

Hourly observations of dry-bulb and wet-bulb temperature were made at Kinloss, Grampian Region, NGR NJ 067627 during the 15 years 1960-74. The thermometers were exposed in the standard louvered screen 4 feet (1.25 metres approximately) above short grass. An analysis has been made by computer of these observations to give monthly and annual tables showing the percentage frequency of combinations of dry- and wet-bulb readings in ranges of one degree Celsius. Tables are also given showing the frequency of dry-bulb and wet-bulb temperatures separately.

Explanation of the tables

Tables 1 to 13 contain for each month, and for the year, the distribution of combined dry-bulb and wet-bulb temperature. The ranges of dry-bulb temperature are shown down the left hand side: the ranges of wet-bulb temperature, across the page, are for the sake of brevity given as T (the dry-bulb temperature range for the row) $T-1$ degC, $T-2$ degC etc. Thus if T is 0.1 to 1.0 then $T-1$ is -0.9 to 0.0 and so on.

For any given range of dry-bulb temperature and associated wet-bulb temperature two values are given. The upper figure is the percentage frequency of occurrence within the given range calculated to two places of decimals; the lower figure is the cumulative percentage frequency of occurrence of dry-bulb temperature and associated wet-bulb temperature greater than, or equal to, the lower values in the appropriate range as indicated, calculated to one place of decimals. Entries of 0.0⁺ indicate values of less than .05 per cent but greater than zero.

Example. In Table 1 for January, the percentage frequency of the number of hours with dry-bulb temperature within the range 11.1 to 12.0 deg C and the associated wet-bulb temperature within the range 9.1 to 10.0 deg C (column $T-2$) is 0.77. The cumulative value in this 'box', 1.4, indicates that a dry-bulb temperature of 11.1 deg C or more and an associated wet-bulb temperature of 9.1 deg C or more occurred on 1.4 per cent of the hours. This value is derived from the sum of the upper figures in each box below and to the left of a diagonal through the box concerned to the bottom right of the table, thus:

0.0	0.03	0.77	0.53	0.02	0.01
	0.0	0.04	0.30	0.07	0.02
		0.02	0.15		
			0.05		

Slight discrepancies may occur in the last place of decimals due to the rounding off of figures when the percentage frequencies were calculated; the printed cumulative figures are correct rather than those obtained by simple addition of the figures in the table.

Table 14 gives the frequency of dry-bulb temperatures alone and table 15 gives the frequency of wet-bulb temperatures alone. The annual percentage frequencies have been worked from all the data and are not a direct mean of the monthly figures.



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Average of accumulated temperature

Accumulated temperatures are the integrated excess or deficit from a stated base temperature, and are expressed as degree-days or degree-hours. From data given in table 14 the degree-hours can be calculated using the following method.

The average number of degree-hours in any month **above** a base temperature (b °C) is given by the sum of the products obtained by multiplying the entries for that month which refer to temperatures greater than b °C (ie those values lying beneath the entry referring to the range of temperature whose upper limit is b) by $(1/2) \times (N/100)$, $(3/2) \times (N/100)$, $(5/2) \times (N/100)$ etc. respectively, where N is the number of hours in the month. This assumes, in effect, that the entries in the ranges $(b + 0.1)$ to $(b + 1)$, $(b + 1.1)$ to $(b + 2)$ etc. are concentrated at mid-point of the range $(b + 0.5)$, $(b + 1.5)$ etc.

Example. In May (number of hours 744) the average number of degree-hours above 15°C is (from table 14):

$$2.7 \times (1/2) \times (744/100) = 10.0$$

$$1.6 \times (3/2) \times (744/100) = 17.9$$

$$1.1 \times (5/2) \times (744/100) = 20.5$$

$$0.8 \times (7/2) \times (744/100) = 20.8$$

$$0.2 \times (9/2) \times (744/100) = 6.7$$

$$0.1 \times (11/2) \times (744/100) = 4.1$$

$$0.1 \times (13/2) \times (744/100) = 4.8$$

$$0^+ \times (15/2) \times (744/100) = 0.0$$

84.8

To obtain the number of degree-hours **below** base b °C the procedure is the same except that the percentages used are those for the temperature ranges **below and including** the range of temperature which has b °C as its upper limit.

This memorandum replaces No 39, now out of print; similar data for other stations in the United Kingdom are published in this series (see list inside the front cover).

Table 1 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

KINROSS

January 1960-74

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

T (DEG C)		T		T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
-11.9 TO -11.0	0.04	100.0	0.04								
-10.9 TO -10.0	0.14	100.0	0.14								
-9.9 TO -9.0	0.25	99.8	0.01								
-8.9 TO -8.0	0.19	99.6									
-7.9 TO -7.0	0.37	99.4	0.03								
-6.9 TO -6.0	0.47	99.0	0.03								
-5.9 TO -5.0	0.58	98.4	0.18								
-4.9 TO -4.0	0.65	97.8	0.15								
-3.9 TO -3.0	0.99	96.9	0.38	0.03							
-2.9 TO -2.0	1.36	94.9	0.65	0.01							
-1.9 TO -1.0	1.59	95.5	0.13								
-0.9 TO 0.0	5.36	84.5	0.18								
0.1 TO 1.0	7.36	84.1	0.36	0.03							
1.1 TO 2.0	4.44	78.7	2.53	0.06							
2.1 TO 3.0	3.43	67.3	1.65	0.15							
3.1 TO 4.0	7.10	43.6	2.18	0.06							
4.1 TO 5.0	1.46	21.0	5.65	0.34							
5.1 TO 6.0	0.76	4.95	2.04	0.21							

Table 1 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

January 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)										
DRY-BULB		T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
T (DEG C)										
-11.9 TO -11.0		0.04 100.0								
-10.9 TO -10.0		0.14 100.0								
- 9.9 TO - 9.0		0.22 99.8	0.01 99.8							
- 8.9 TO - 8.0		0.19 99.6								
- 7.9 TO - 7.0		0.37 99.4	0.03 99.4							
- 6.9 TO - 6.0		0.43 99.0	0.03 99.0							
- 5.9 TO - 5.0		0.58 98.4	0.18 98.5							
- 4.9 TO - 4.0		0.62 97.6	0.15 97.8							
- 3.9 TO - 3.0		0.99 96.7	0.28 97.0	0.03 97.0						
- 2.9 TO - 2.0		1.24 94.9	0.65 95.7	0.01 95.7						
- 1.9 TO - 1.0		1.59 92.5	1.00 93.7	0.13 93.8						
- 0.9 TO 0.0		2.36 89.2	1.32 90.9	0.18 91.1						
0.1 TO 1.0		3.36 82.1	3.30 86.8	0.36 87.2	0.03 87.3					
1.1 TO 2.0		4.44 71.7	5.23 78.7	1.28 80.1	0.06 80.2	0.01 80.2				
2.1 TO 3.0		3.43 57.4	7.39 67.3	1.65 69.0	0.15 69.2					
3.1 TO 4.0		3.10 43.6	7.36 53.9	2.18 56.5	0.06 56.6	0.02 56.6				
4.1 TO 5.0		1.46 31.0	6.24 40.5	2.62 43.5	0.34 43.8	0.01 43.9				
5.1 TO 6.0		0.76 20.8	4.92 29.5	3.04 32.8	0.31 33.2					

Table 1 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURE
(cont)

January 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
6.1 TO 7.0	0.49 12.9	3.23 20.0	3.41 23.8	0.28 24.1	0.01 24.1	0.02 24.2			
7.1 TO 8.0	0.13 7.5	1.91 12.5	3.15 16.3	0.38 16.7	0.01 16.7	0.01 16.7			
8.1 TO 9.0	0.04 4.1	1.11 7.4	2.46 10.4	0.66 11.1	0.03 11.1	0.01 11.1			
9.1 TO 10.0	0.01 1.7	0.61 4.1	1.76 6.2	0.53 6.8	0.02 6.8				
10.1 TO 11.0	0.0 0.3	0.35 1.7	1.13 3.4	0.39 3.9	0.03 3.9				
11.1 TO 12.0	0.0 0.1	0.03 0.3	0.77 1.4	0.53 2.0	0.02 2.0	0.01 2.0			
12.1 TO 13.0		0.0 0.1	0.04 0.3	0.30 0.6	0.07 0.6	0.02 0.7			
13.1 TO 14.0			0.02 0.1	0.15 0.2					
14.1 TO 15.0				0.05 0.1					

Table 2 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

February 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
-12.9 TO -12.0	0.03 100.0								
-11.9 TO -11.0	0.10 100.0								
-10.9 TO -10.0	0.04 99.9	0.01 99.9							
- 9.9 TO - 9.0	0.10 99.8								
- 8.9 TO - 8.0	0.24 99.7	0.01 99.7							
- 7.9 TO - 7.0	0.34 99.4	0.04 99.5							
- 6.9 TO - 6.0	0.49 98.9	0.18 99.1							
- 5.9 TO - 5.0	0.64 98.3	0.12 98.4							
- 4.9 TO - 4.0	0.85 97.3	0.31 97.7	0.01 97.7						
- 3.9 TO - 3.0	1.09 95.7	0.66 96.5	0.02 96.5						
- 2.9 TO - 2.0	1.55 93.4	0.98 94.6	0.12 94.7						
- 1.9 TO - 1.0	1.59 89.6	1.74 91.8	0.20 92.1						
- 0.9 TO 0.0	3.02 84.6	2.62 88.0	0.44 88.5	0.05 88.5					
0.1 TO 1.0	3.41 74.9	4.62 81.6	0.77 82.4	0.01 82.4					
1.1 TO 2.0	2.69 64.1	5.04 71.5	1.88 73.5	0.04 73.6	0.01 73.6				
2.1 TO 3.0	1.99 52.6	6.21 61.4	1.82 63.7	0.16 63.9	0.02 63.9				
3.1 TO 4.0	1.48 41.7	5.70 50.6	2.11 53.2	0.31 53.7	0.03 53.7				
4.1 TO 5.0	1.36 31.3	5.35 40.2	2.69 43.4	0.33 43.9	0.12 44.1				

Table 2 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

February 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
5.1 TO 6.0	1.14 20.8	4.85 30.0	2.76 33.5	0.42 34.0	0.12 34.2	0.04 34.3			
6.1 TO 7.0	0.60 12.8	3.28 19.7	3.30 24.0	0.69 24.7	0.12 24.9	0.06 24.9	0.01 24.9		
7.1 TO 8.0	0.23 6.9	2.17 12.2	2.84 15.8	0.91 16.8	0.03 16.9	0.01 16.9			
8.1 TO 9.0	0.04 3.4	0.82 6.7	2.24 9.8	0.65 10.5	0.08 10.6	0.04 10.7			
9.1 TO 10.0	0.02 1.0	0.82 3.3	1.80 5.8	0.78 6.7	0.08 6.8	0.02 6.8			
10.1 TO 11.0	0.0 0.1	0.37 1.0	1.03 2.5	0.64 3.2	0.10 3.3				
11.1 TO 12.0		0.02 0.1	0.39 0.6	0.38 1.1	0.06 1.1	0.02 1.2			
12.1 TO 13.0			0.06 0.1	0.08 0.2	0.06 0.3				
13.1 TO 14.0				0.01 0.0	0.04 0.1				
14.1 TO 15.0				0.02 0.0	0.02 0.0				

Table 3 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

March 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
- 9.9 TO - 9.0	0.01 100.0								
- 8.9 TO - 8.0	0.02 100.0	0.01 100.0							
- 7.9 TO - 7.0	0.03 100.0	0.01 100.0							
- 6.9 TO - 6.0	0.05 99.9	0.03 99.9							
- 5.9 TO - 5.0	0.05 99.8	0.07 99.8							
- 4.9 TO - 4.0	0.15 99.6	0.15 99.7							
- 3.9 TO - 3.0	0.30 99.1	0.31 99.4							
- 2.9 TO - 2.0	0.69 98.4	0.32 98.8	0.04 98.8						
- 1.9 TO - 1.0	1.09 96.7	0.73 97.7	0.08 97.8						
- 0.9 TO 0.0	1.30 93.4	1.51 95.6	0.19 95.9						
0.1 TO 1.0	1.82 87.7	2.63 92.1	0.54 92.8	0.08 92.8					
1.1 TO 2.0	2.32 79.9	3.52 85.9	1.34 87.7	0.09 87.8					
2.1 TO 3.0	2.37 69.3	4.96 77.5	2.03 80.0	0.33 80.5	0.01 80.5				
3.1 TO 4.0	1.74 57.6	5.46 67.0	2.47 70.2	0.38 70.6	0.15 70.8				
4.1 TO 5.0	1.51 44.0	6.28 55.9	3.01 59.8	0.65 60.5	0.06 60.6	0.01 60.6			
5.1 TO 6.0	1.24 31.6	4.54 42.5	3.71 48.1	0.66 49.0	0.10 49.1				
6.1 TO 7.0	0.78 21.5	3.53 30.3	4.42 36.7	1.33 38.6	0.15 38.8	0.01 38.8			
7.1 TO 8.0	0.22 13.2	2.65 20.7	3.26 26.0	1.57 28.0	0.36 28.5	0.05 28.6	0.02 28.6		

Table 3 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont)

March 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB

T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
8.1 TO 9.0	0.10 7.0	1.51 12.9	2.92 17.8	1.47 19.9	0.34 20.3	0.12 20.5	0.03 20.5		
9.1 TO 10.0	0.05 3.1	0.86 6.9	2.61 11.3	1.37 13.3	0.43 13.9	0.06 13.9	0.05 14.0		
10.1 TO 11.0	0.01 1.1	0.37 3.0	1.47 6.0	1.31 7.8	0.46 8.4	0.10 8.5	0.01 8.6	0.01 8.6	
11.1 TO 12.0	0.0 0.4	0.08 1.1	0.73 2.6	0.98 4.1	0.33 4.7	0.12 4.8	0.04 4.8	0.01 4.8	
12.1 TO 13.0	0.0 0.1	0.0 0.4	0.25 1.0	0.57 1.8	0.35 2.3	0.14 2.5	0.02 2.6		
13.1 TO 14.0		0.0 0.1	0.06 0.4	0.22 0.8	0.15 1.0	0.10 1.2	0.05 1.2		
14.1 TO 15.0			0.0 0.1	0.13 0.3	0.08 0.5	0.04 0.6	0.07 0.6		
15.1 TO 16.0				0.02 0.1	0.08 0.2	0.04 0.3	0.04 0.3		
16.1 TO 17.0					0.01 0.1	0.02 0.1	0.04 0.1	0.01 0.1	
17.1 TO 18.0						0.04 0.0	0.01 0.1	0.01 0.1	
18.1 TO 19.0							0.01 0.0		

Table 4 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

April 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
- 6.9 TO - 6.0	0.04 100.0								
- 5.9 TO - 5.0	0.06 100.0								
- 4.9 TO - 4.0	0.19 99.9	0.04 99.9							
- 3.9 TO - 3.0	0.31 99.6	0.09 99.7							
- 2.9 TO - 2.0	0.38 99.2	0.10 99.3							
- 1.9 TO - 1.0	0.06 98.3	0.43 98.8							
- 0.9 TO 0.0	0.72 96.8	0.72 97.7	0.04 97.7						
0.1 TO 1.0	1.08 94.4	1.14 96.1	0.19 96.3						
1.1 TO 2.0	1.21 90.1	2.14 93.3	0.45 93.9	0.01 93.9					
2.1 TO 3.0	1.40 83.8	2.85 88.9	0.84 90.0	0.05 90.0					
3.1 TO 4.0	1.63 75.9	3.37 82.4	1.48 84.6	0.24 84.9	0.01 84.9				
4.1 TO 5.0	1.77 65.6	4.41 74.3	2.08 77.4	0.64 78.1	0.06 78.2				
5.1 TO 6.0	1.47 53.7	5.08 63.8	2.75 68.1	0.82 69.2	0.06 69.2				
6.1 TO 7.0	1.81 41.3	5.01 52.2	3.44 57.3	1.25 58.8	0.21 59.0				
7.1 TO 8.0	1.07 29.0	4.16 39.5	3.80 45.4	1.22 47.0	0.21 47.3				
8.1 TO 9.0	0.44 18.2	3.07 27.9	3.44 34.3	1.34 36.4	0.33 36.8	0.05 36.8	0.01 36.8		
9.1 TO 10.0	0.22 10.3	1.95 17.8	3.34 24.4	1.92 27.3	0.62 28.1	0.06 28.1	0.01 28.1		
10.1 TO 11.0	0.04 4.5	1.11 10.1	1.98 15.6	2.04 18.9	0.72 19.9	0.12 20.0	0.01 20.0		

Table 4 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont.)

April 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
11.1 TO 12.0	0.01 1.5	0.46 4.5	1.69 8.9	2.13 12.5	0.85 13.7	0.23 14.0	0.01 14.0		
12.1 TO 13.0	0.0 0.3	0.10 1.5	0.81 4.0	1.28 6.8	1.07 8.2	0.30 8.6	0.06 8.6		
13.1 TO 14.0	0.0 0.1	0.02 0.3	0.20 1.4	0.80 3.1	0.82 4.6	0.27 4.9	0.06 5.0		
14.1 TO 15.0		0.0 0.1	0.08 0.3	0.34 1.2	0.49 2.1	0.39 2.7	0.06 2.8	0.02 2.8	
15.1 TO 16.0			0.02 0.1	0.06 0.2	0.22 0.7	0.15 1.2	0.22 1.4	0.01 1.5	
16.1 TO 17.0				0.01 0.0	0.04 0.1	0.21 0.4	0.21 0.7	0.02 0.8	
17.1 TO 18.0					0.04 0.0	0.01 0.1	0.07 0.2	0.05 0.3	0.02 0.3
18.1 TO 19.0								0.04 0.1	0.02 0.1
19.1 TO 20.0	T-9 0.01 0.0							0.01 0.0	0.02 0.0

Table 5 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

May 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
- 1.9 TO - 1.0	0.02 100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- 0.9 TO 0.0	0.03 100.0	0.01 100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1 TO 1.0	0.13 99.9	0.06 99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1 TO 2.0	0.27 99.5	0.22 99.7	0.02 99.7	0.0	0.0	0.0	0.0	0.0	0.0
2.1 TO 3.0	0.58 98.5	0.61 99.2	0.04 99.2	0.0	0.0	0.0	0.0	0.0	0.0
3.1 TO 4.0	0.69 96.3	1.08 97.9	0.12 98.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1 TO 5.0	0.82 92.3	1.71 95.6	0.44 96.1	0.01 96.1	0.0	0.0	0.0	0.0	0.0
5.1 TO 6.0	1.09 86.1	2.65 91.5	1.09 93.1	0.07 93.2	0.0	0.0	0.0	0.0	0.0
6.1 TO 7.0	1.56 75.9	4.45 85.0	2.16 87.8	0.49 88.2	0.0	0.0	0.0	0.0	0.0
7.1 TO 8.0	2.15 62.8	5.22 74.4	3.23 79.0	0.51 79.6	0.06 79.7	0.0	0.0	0.0	0.0
8.1 TO 9.0	2.33 47.2	5.59 60.6	4.10 67.0	1.07 68.4	0.12 68.5	0.01 68.5	0.0	0.0	0.0
9.1 TO 10.0	2.03 31.5	4.58 44.9	4.44 52.7	1.67 55.0	0.25 55.3	0.01 55.3	0.0	0.0	0.0
10.1 TO 11.0	0.81 17.7	2.81 29.5	3.74 38.3	2.21 41.6	0.47 42.2	0.05 42.3	0.0	0.0	0.0
11.1 TO 12.0	0.22 9.8	1.51 16.9	3.06 25.9	2.97 30.9	0.90 32.1	0.12 32.2	0.0	0.0	0.0
12.1 TO 13.0	0.10 4.7	0.80 9.6	1.75 15.2	3.15 21.1	1.40 23.2	0.22 23.4	0.01 23.4	0.0	0.0
13.1 TO 14.0	0.03 1.9	0.40 4.6	1.26 8.7	1.60 12.5	1.74 15.3	0.45 16.0	0.02 16.0	0.0	0.0
14.1 TO 15.0	0.0 0.7	0.10 1.9	0.57 4.1	1.09 7.0	1.29 9.2	0.69 10.3	0.12 10.5	0.0	0.0
15.1 TO 16.0	0.0 0.2	0.02 0.7	0.24 1.8	0.57 3.5	0.88 5.2	0.64 6.2	0.25 6.5	0.07 6.6	0.0

Table 5 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont.)

May 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB									
T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
16.1 TO 17.0		0.0 0.2	0.06 0.6	0.35 1.5	0.39 2.6	0.47 3.5	0.23 3.8	0.11 3.9	0.04 4.0
17.1 TO 18.0			0.02 0.2	0.13 0.6	0.21 1.1	0.40 1.8	0.25 2.2	0.05 2.3	0.01 2.3
18.1 TO 19.0				0.04 0.1	0.16 0.4	0.21 0.8	0.20 1.1	0.13 1.2	0.02 1.3
19.1 TO 20.0				0.01 0.0	0.0 0.1	0.08 0.2	0.07 0.4	0.07 0.5	0.01 0.5
20.1 TO 21.0						0.01 0.1	0.04 0.1	0.04 0.2	0.04 0.3
21.1 TO 22.0						0.03 0.0	0.03 0.1	0.01 0.1	0.03 0.1
22.1 TO 23.0							0.01 0.0	0.01 0.0	0.01 0.0
17.1 TO 18.0	T-9 0.01 2.3	10.0 0.88 50.0	75.0 0.88 1.02	24.5 5.88 20.2	58.2 2.48 4.22	10.1 7.47 22.5	0.01 10.0 1.0	0.1 TO 1.0	
18.1 TO 19.0	0.01 1.3	5.03 45.0	5.88 50.5	2.87 51.4	2.57 42.4	2.22 72.5	0.11 0.51	0.1 TO 1.11	
22.1 TO 23.0	0.01 0.1	15.1 45.4	50.5 4.04	52.5 30.0	54.5 1.22	12.0 7.21	0.41 1.21	0.1 TO 1.21	

Table 6 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

June 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)		T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
0.1 TO 1.0	0.0	0.01	100.0	100.0						
1.1 TO 2.0	0.08	0.02	100.0	100.0						
2.1 TO 3.0	0.10	0.06	99.8	99.9						
3.1 TO 4.0	0.12	0.08	99.6	99.7						
4.1 TO 5.0	0.13	0.12	99.4	99.5						
5.1 TO 6.0	0.19	0.59	98.6	99.2	0.03					
6.1 TO 7.0	0.46	0.67	97.2	98.5	0.15					
7.1 TO 8.0	0.79	1.84	93.2	96.7	0.49	0.04				
8.1 TO 9.0	1.15	3.00	85.7	92.4	1.33	0.13	0.02			
9.1 TO 10.0	1.81	3.83	74.7	84.5	2.46	0.27	0.01			
10.1 TO 11.0	2.56	4.39	59.5	72.9	3.05	1.02	0.02			
11.1 TO 12.0	2.67	4.59	42.2	56.9	4.12	2.02	0.24			
12.1 TO 13.0	1.46	4.07	25.6	39.6	3.86	2.76	0.71	0.04		
13.1 TO 14.0	0.31	2.42	15.7	25.1	3.52	3.02	1.47	0.21		
14.1 TO 15.0	0.07	1.50	8.6	15.3	2.49	2.37	2.06	0.52		
15.1 TO 16.0	0.03	0.57	4.2	8.5	1.56	2.02	1.93	0.89	0.13	
16.1 TO 17.0	0.0	0.20	2.2	4.2	1.07	1.57	1.38	0.78	0.22	0.02
					7.9	11.6	14.2	15.2	15.5	15.5

Table 6 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont.)

June 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB

T (DEG C)

	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
17.1 TO 18.0	0.0 0.6	0.07 2.2	0.38 4.0	1.13 6.6	1.19 8.7	0.73 9.9	0.21 10.2	0.04 10.3	
18.1 TO 19.0	0.0 0.2	0.0 0.6	0.23 2.1	0.65 3.6	0.65 5.0	0.47 6.0	0.25 6.4	0.07 6.5	0.01 6.5
19.1 TO 20.0		0.0 0.2	0.06 0.6	0.33 1.9	0.39 2.7	0.37 3.5	0.29 4.0	0.09 4.2	0.01 4.2
20.1 TO 21.0			0.01 0.2	0.06 0.6	0.31 1.5	0.21 1.9	0.16 2.3	0.07 2.5	0.04 2.6
21.1 TO 22.0				0.01 0.1	0.12 0.5	0.23 1.1	0.07 1.3	0.13 1.6	0.07 1.7
22.1 TO 23.0					0.03 0.1	0.04 0.4	0.19 0.7	0.07 0.9	0.07 1.0
23.1 TO 24.0					0.03 0.0	0.03 0.1	0.05 0.3	0.08 0.5	0.05 0.6
24.1 TO 25.0						0.01 0.0	0.04 0.1	0.11 0.2	0.07 0.3
25.1 TO 26.0							0.01 0.0		0.01 0.0
		T-9	T-10						
21.1 TO 22.0	0.06 1.8								
22.1 TO 23.0	0.06 1.1								
23.1 TO 24.0	0.07 0.6								
24.1 TO 25.0	0.03 0.3	0.01 0.3							
25.1 TO 26.0	0.02 0.1								
26.1 TO 27.0	0.02 0.0								
27.1 TO 28.0		0.01 0.0							

Table 7 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

July 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
1.1 TO 2.0	0.01 100.0								
2.1 TO 3.0	0.0 100.0								
3.1 TO 4.0	0.04 100.0	0.01 100.0							
4.1 TO 5.0	0.09 99.9	0.04 99.9							
5.1 TO 6.0	0.17 99.7	0.05 99.8							
6.1 TO 7.0	0.25 99.4	0.19 99.6							
7.1 TO 8.0	0.32 98.0	0.77 99.1	0.02 99.1						
8.1 TO 9.0	0.85 94.5	1.71 97.7	0.30 98.0						
9.1 TO 10.0	1.38 86.4	3.11 93.6	1.22 95.1	0.04 95.2					
10.1 TO 11.0	1.85 72.5	4.83 85.0	2.98 89.1	0.26 89.4					
11.1 TO 12.0	2.43 54.8	5.80 70.6	4.47 78.3	0.90 79.5	0.01 79.5				
12.1 TO 13.0	2.32 35.7	5.27 52.4	4.70 62.4	2.30 65.6	0.22 65.9				
13.1 TO 14.0	1.34 22.9	3.59 34.4	4.27 44.8	3.15 50.1	0.77 51.0	0.03 51.1			
14.1 TO 15.0	0.41 12.6	2.72 21.6	3.00 29.4	3.26 35.6	1.43 37.7	0.15 37.9			
15.1 TO 16.0	0.04 6.5	1.10 12.1	2.18 18.5	2.00 23.3	1.87 26.2	0.51 26.9	0.04 27.0		
16.1 TO 17.0	0.02 3.4	0.39 6.4	1.53 11.0	1.82 15.2	1.49 18.0	0.79 19.1	0.14 19.2		
17.1 TO 18.0	0.0 1.4	0.17 3.4	0.77 6.0	1.25 9.1	1.30 11.4	0.90 12.7	0.23 13.0	0.02 13.0	
18.1 TO 19.0	0.0 0.5	0.02 1.4	0.30 3.2	0.64 5.1	0.94 6.9	0.61 7.9	0.39 8.3	0.04 8.4	

Table 7 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont.)

July 1960-74

KINLOS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB

T (DEG C)

	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T
19.1 TO 20.0	0.0	0.0	0.07	0.60	0.57	0.50	0.29	0.06		
	0.1	0.5	1.4	2.9	4.1	5.0	5.4	5.5		
20.1 TO 21.0		0.0	0.0	0.23	0.49	0.29	0.16	0.11		
		0.1	0.5	1.3	2.2	2.9	3.2	3.4		
21.1 TO 22.0			0.0	0.08	0.22	0.22	0.18	0.08	0.04	
			0.1	0.5	1.1	1.5	1.9	2.0	2.1	
22.1 TO 23.0				0.0	0.08	0.13	0.11	0.10	0.06	
				0.1	0.4	0.8	1.0	1.2	1.3	
23.1 TO 24.0	T-9				0.0	0.08	0.09	0.10	0.05	
	0.02				0.0	0.3	0.6	0.7	0.8	
24.1 TO 25.0	0.8				1.0	0.1	0.2	0.4	0.4	
	0.04				0.01	0.03	0.10	0.06	0.01	
	0.4				0.0	0.1	0.2	0.4	0.4	
25.1 TO 26.0					0.01	0.01	0.01	0.06	0.07	
	0.01				0.0	0.0	0.1	0.2	0.2	
26.1 TO 27.0	0.2									
	0.02									
	0.0									

Table 8 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

August 1960-74

KINLOSS

(C DEG) ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
2.1 TO 3.0	0.07 100.0	0.02 100.0							
3.1 TO 4.0	0.12 99.9	0.03 99.9							
4.1 TO 5.0	0.13 99.7	0.06 99.8							
5.1 TO 6.0	0.13 99.3	0.22 99.6							
6.1 TO 7.0	0.36 98.7	0.39 99.2	0.02 99.2						
7.1 TO 8.0	0.53 97.3	0.82 98.4	0.08 98.5						
8.1 TO 9.0	1.01 93.8	1.93 96.7	0.25 97.0						
9.1 TO 10.0	1.68 87.1	3.01 92.8	0.73 93.8	0.04 93.9					
10.1 TO 11.0	2.41 74.9	4.36 85.4	2.00 88.1	0.19 88.4	0.01 88.4				
11.1 TO 12.0	3.06 58.9	5.64 72.5	3.46 78.6	0.54 79.4	0.05 79.4				
12.1 TO 13.0	3.12 41.7	5.39 55.8	4.29 63.8	1.85 66.5	0.17 66.7				
13.1 TO 14.0	1.78 27.0	4.01 38.5	4.09 47.3	2.35 51.0	0.61 51.8	0.03 51.9			
14.1 TO 15.0	1.20 16.3	3.00 25.2	3.27 32.7	2.72 37.4	1.07 38.8	0.17 29.0			
15.1 TO 16.0	0.21 8.8	1.66 15.1	2.41 21.0	2.23 25.3	1.41 27.2	0.29 27.5	0.01 27.6		
16.1 TO 17.0	0.11 4.4	0.92 8.6	1.66 13.2	1.73 16.7	1.33 18.8	0.41 19.3	0.01 19.3		
17.1 TO 18.0	0.03 1.7	0.52 4.2	1.25 7.6	1.56 10.5	1.16 12.3	0.63 13.0	0.15 13.2		
18.1 TO 19.0	0.01 0.8	0.07 1.7	0.55 3.7	1.05 5.8	0.86 7.2	0.38 7.8	0.11 7.9	0.01 7.9	
19.1 TO 20.0	0.01 0.3	0.04 0.8	0.19 1.6	0.66 3.1	0.65 4.1	0.36 4.6	0.15 4.9		

Table 8 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont.)

August 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
20.1 TO 21.0		0.0 0.3	0.06 0.8	0.18 1.4	0.40 2.2	0.30 2.6	0.07 2.7	0.07 2.8	
21.1 TO 22.0			0.02 0.3	0.15 0.7	0.16 1.2	0.20 1.5	0.11 1.6	0.05 1.7	0.01 0.7
22.1 TO 23.0				0.02 0.3	0.07 0.5	0.16 0.8	0.10 1.0	0.01 1.0	
23.1 TO 24.0				0.01 0.0	0.06 0.2	0.04 0.5	0.07 0.6	0.06 0.7	
24.1 TO 25.0						0.10 0.2	0.08 0.3	0.03 0.4	0.01 0.4
25.1 TO 26.0						0.01 0.0	0.03 0.1	0.04 0.2	0.03 0.2
26.1 TO 27.0							0.01 0.0	0.01 0.0	0.05 0.1
27.1 TO 28.0	0.01 0.0								0.01 0.0

Table 9 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

September 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
- 0.9 TO 0.0	0.04 100.0								
0.1 TO 1.0	0.07 99.9	0.03 100.0							
1.1 TO 2.0	0.15 99.8	0.05 99.9							
2.1 TO 3.0	0.19 99.6	0.10 99.7							
3.1 TO 4.0	0.51 99.1	0.26 99.4							
4.1 TO 5.0	0.52 98.1	0.45 98.6							
5.1 TO 6.0	0.52 96.4	0.85 97.6	0.02 97.6						
6.1 TO 7.0	0.76 94.2	1.11 95.9	0.24 96.2	0.04 96.2					
7.1 TO 8.0	0.95 89.1	2.22 93.4	0.53 94.1	0.03 94.1	0.01 94.1				
8.1 TO 9.0	1.31 81.9	3.24 88.2	1.47 90.2	0.11 90.4					
9.1 TO 10.0	1.78 70.9	4.67 80.6	2.04 83.6	0.52 84.2	0.01 84.2				
10.1 TO 11.0	2.51 56.5	5.27 69.1	3.10 74.1	0.77 75.1	0.06 75.2				
11.1 TO 12.0	2.92 40.1	5.81 54.0	4.11 61.3	1.34 63.2	0.19 63.4				
12.1 TO 13.0	2.12 25.3	4.36 37.2	4.54 45.2	2.35 48.5	0.44 49.0	0.06 49.0			
13.1 TO 14.0	0.68 14.2	2.83 23.2	3.56 30.7	2.44 24.2	0.75 35.1	0.02 35.2			
14.1 TO 15.0	0.26 6.7	2.00 13.6	2.81 19.7	2.50 23.7	0.89 24.7	0.14 24.9	0.01 24.9		
15.1 TO 16.0	0.08 3.0	0.84 6.5	1.64 11.3	1.93 14.6	1.10 16.1	0.14 16.3	0.02 16.3		

Table 9 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont.)

September 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
16.1 TO 17.0	0.03 1.1	0.19 3.0	1.11 5.6	1.81 8.7	1.11 10.1	0.28 10.5	0.04 10.5		
17.1 TO 18.0	0.0 0.2	0.07 1.0	0.56 2.7	0.69 4.2	0.90 5.6	0.26 5.9	0.07 6.0		
18.1 TO 19.0		0.01 0.2	0.29 1.0	0.51 2.1	0.56 2.9	0.38 3.4	0.02 3.4	0.01 3.4	
19.1 TO 20.0			0.04 0.2	0.22 0.7	0.37 1.3	0.20 1.5	0.07 1.6		
20.1 TO 21.0				0.07 0.2	0.12 0.4	0.14 0.7	0.03 0.7	0.01 0.7	
21.1 TO 22.0					0.01 0.1	0.03 0.2	0.07 0.3	0.02 0.4	
22.1 TO 23.0					0.01 0.0	0.03 0.1	0.07 0.2	0.02 0.2	
23.1 TO 24.0							0.04 0.0	0.01 0.1	0.02 0.1
24.1 TO 25.0	0.01 0.0						0.01 0.0		
25.1 TO 26.0	0.01 0.0								

Table 10 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

October 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
- 2.9 TO - 2.0	0.05 100.0	0.01 100.0							
- 1.9 TO - 1.0	0.22 99.9	0.04 99.9							
- 0.9 TO 0.0	0.25 99.6	0.08 99.7	0.02 99.7						
0.1 TO 1.0	0.35 99.2	0.13 99.3							
1.1 TO 2.0	0.57 98.4	0.39 98.8	0.01 98.8						
2.1 TO 3.0	0.83 96.9	0.64 97.8	0.05 97.9						
3.1 TO 4.0	1.07 94.1	1.30 96.1	0.22 96.3	0.01 96.3					
4.1 TO 5.0	1.23 90.3	1.66 93.0	0.53 93.7	0.04 93.7					
5.1 TO 6.0	1.10 84.1	2.55 89.1	0.87 90.2	0.13 90.3					
6.1 TO 7.0	1.82 75.3	4.01 83.0	1.87 85.4	0.22 85.6	0.01 85.6				
7.1 TO 8.0	1.96 64.0	4.22 73.5	3.06 77.2	0.49 77.7	0.02 77.7				
8.1 TO 9.0	2.15 51.5	5.06 62.1	3.98 67.3	0.62 68.0					
9.1 TO 10.0	2.26 37.9	4.96 49.4	3.88 54.1	1.16 56.1	0.04 56.1				
10.1 TO 11.0	1.41 26.3	3.66 35.6	4.11 42.2	1.36 43.8	0.04 43.8	0.01 43.9			
11.1 TO 12.0	1.10 15.9	3.51 24.9	3.61 30.6	1.80 33.0	0.24 33.2	0.03 33.3			
12.1 TO 13.0	0.52 7.9	2.62 14.8	3.03 20.3	1.66 22.4	0.56 22.9	0.02 23.0			
13.1 TO 14.0	0.11 3.6	1.08 7.4	2.42 11.6	1.88 14.2	0.35 14.5	0.03 14.6			
14.1 TO 15.0	0.01 1.3	0.49 3.5	0.25 6.2	1.25 8.0	0.53 8.7	0.02 8.7	0.01 8.7		

Table 10 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont)

October 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
15.1 TO 16.0	0.0 0.4	0.15 1.3	0.82 3.0	0.83 4.4	0.41 5.0	0.12 5.1	0.01 5.1		
16.1 TO 17.0	0.0 0.1	0.3 0.4	0.40 1.1	0.53 2.1	0.40 2.6	0.13 2.8			
17.1 TO 18.0		0.0 0.1	0.17 0.4	0.21 0.7	0.31 1.2	0.14 1.3	0.04 1.3		
18.1 TO 19.0			0.04 0.1	0.13 0.2	0.09 0.3	0.07 0.4	0.04 0.4		
19.1 TO 20.0			0.01 0.0	0.02 0.0	0.03 0.1	0.01 0.1	0.01 0.1		
20.1 TO 21.0				0.01 0.0					0.01 0.0

Table 11 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

November 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
- 6.9 TO - 6.0	0.06 100.0								
- 5.9 TO - 5.0	0.20 99.9								
- 4.9 TO - 4.0	0.22 99.7	0.02 99.7							
- 3.9 TO - 3.0	0.64 99.4	0.08 99.5							
- 2.9 TO - 2.0	0.97 98.4	0.32 98.8	0.01 98.8						
- 1.9 TO - 1.0	1.16 96.7	0.64 97.5							
- 0.9 TO 0.0	1.79 93.9	1.40 95.5	0.15 95.7	0.01 95.7					
0.1 TO 1.0	2.53 89.3	2.22 92.1	0.19 92.3						
1.1 TO 2.0	2.00 82.1	3.49 86.8	0.51 87.3	0.02 87.3					
2.1 TO 3.0	2.33 74.4	4.38 80.1	1.05 81.3	0.05 81.3					
3.1 TO 4.0	1.89 63.3	5.99 72.1	1.09 73.4	0.12 73.5					
4.1 TO 5.0	2.18 50.9	7.06 61.4	2.52 64.2	0.18 64.4					
5.1 TO 6.0	1.64 39.1	5.92 48.7	3.23 52.2	0.25 52.5	0.01 52.5	0.02 52.5			
6.1 TO 7.0	2.01 29.8	4.62 37.4	3.19 41.1	0.28 41.4	0.03 41.4				
7.1 TO 8.0	1.59 19.4	4.48 27.8	2.55 30.8	0.46 31.3					
8.1 TO 9.0	1.14 11.9	3.27 17.8	3.23 21.7	0.48 22.2	0.02 22.2				
9.0 TO 10.0	0.95 6.9	2.06 10.7	2.35 13.4	0.61 14.0	0.02 14.1				

Table 11 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont)

November 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB

T (DEG C)

	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
10.1 TO 11.0	0.19 3.2	1.31 6.0	1.43 7.7	0.31 8.0	0.02 8.1	0.01 8.1			
11.1 TO 12.0	0.03 1.3	0.79 3.1	1.19 4.5	0.32 4.8	0.01 4.8				
12.1 TO 13.0	0.0 0.5	0.27 1.3	0.72 2.2	0.25 2.5					
13.1 TO 14.0	0.0 0.2	0.09 0.5	0.44 1.0	0.21 1.2					
14.1 TO 15.0		0.04 0.2	0.15 0.4	0.11 0.5					
15.1 TO 16.0			0.06 0.1	0.08 0.2					
16.1 TO 17.0				0.06 0.1	0.01 0.1				

Table 12 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

December 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
-15.9 TO -15.0	0.04 100.0	1.8	0.8	7.7	0.2	3.3	0.11 TO 1.01		
-14.9 TO -14.0	0.01 100.0	8.8	8.8	4.3	2.1	1.3	0.11 TO 1.11		
-13.9 TO -13.0	0.04 100.0		2.5	2.5	1.3	0.2	0.11 TO 1.11		
-12.9 TO -12.0	0.03 99.9		1.8	1.0	0.2	0.2	0.11 TO 1.11		
-11.9 TO -11.0	0.04 99.9		0.2	0.4	0.0	0.0	0.11 TO 1.11		
-10.9 TO -10.0	0.04 99.8		0.0	0.0	0.0	0.0	0.11 TO 1.11		
- 9.9 TO - 9.0	0.04 99.8	0.01 99.8							
- 8.9 TO - 8.0	0.09 99.8								
- 7.9 TO - 7.0	0.08 99.7	0.03 99.7							
- 6.9 TO - 6.0	0.12 99.6	0.01 99.6							
- 5.9 TO - 5.0	0.30 99.4	0.08 99.4							
- 4.9 TO - 4.0	0.59 98.9	0.14 99.1							
- 3.9 TO - 3.0	0.98 98.0	0.32 98.3							
- 2.9 TO - 2.0	1.05 96.4	0.48 97.0	0.01 97.0						
- 1.9 TO - 1.0	1.72 93.9	1.12 95.4	0.05 95.5						
- 0.9 TO 0.0	2.32 90.1	1.68 92.2	0.26 92.5	0.04 92.6					
0.1 TO 1.0	3.55 83.2	3.75 87.8	0.43 88.2	0.03 88.3	0.01 88.3				

Table 12 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont)

December 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
T (DEG C)									
1.1 TO 2.0	3.44 72.9	5.10 73.6	0.76 80.5	0.02 80.5	0.03 80.5				
2.1 TO 3.0	2.83 60.6	6.61 69.4	1.45 71.1	0.09 71.2					
3.1 TO 4.0	2.15 47.4	7.39 57.8	2.02 60.0	0.17 60.2					
4.1 TO 5.0	1.77 35.5	6.80 45.3	2.74 48.2	0.19 48.4	0.02 48.5				
5.1 TO 6.0	1.34 25.7	4.70 33.7	2.67 36.7	0.20 36.9	0.01 36.9	0.01 36.9			
6.1 TO 7.0	0.53 17.8	3.43 24.4	2.75 27.7	0.27 28.0	0.02 28.0				
7.1 TO 8.0	0.46 12.2	2.65 17.3	2.77 20.4	0.46 20.9	0.06 21.0				
8.1 TO 9.0	0.11 6.8	2.25 11.7	2.08 14.2	0.29 14.6	0.02 14.6	0.01 14.6			
9.1 TO 10.0	0.04 3.5	0.98 6.7	20.8 9.4	0.38 9.8	0.04 9.8	0.03 9.9			
10.1 TO 11.0	0.0 1.2	0.69 3.5	1.41 5.6	0.49 6.3	0.03 6.3	0.04 6.3			
11.1 TO 12.0	0.0 0.1	0.48 1.2	1.23 2.8	0.58 3.5	0.10 3.7	0.02 3.7			
12.1 TO 13.0		0.0 0.1	0.51 0.7	0.37 1.1	0.12 1.3	0.03 1.3			
13.1 TO 14.0		0.01 0.0	0.07 0.1	0.08 0.2	0.02 0.2	0.03 0.3			
14.1 TO 15.0			0.03 0.0	0.03 0.1					

Table 13 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES

Annual 1960-74

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ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
-15.9 TO -15.0	0.00+ 100.0								
-14.9 TO -14.0	0.00+ 100.0								
-13.9 TO -13.0	0.00+ 100.0								
-12.9 TO -12.0	0.00+ 100.0								
-11.9 TO -11.0	0.01 100.0								
-10.9 TO -10.0	0.02 100.0	0.00+ 100.0							
- 9.9 TO - 9.0	0.03 100.0	0.00+ 100.0							
- 8.9 TO - 8.0	0.04 99.9	0.00+ 99.9							
- 7.9 TO - 7.0	0.07 99.9	0.01 99.9							
- 6.9 TO - 6.0	0.10 99.8	0.02 99.8							
- 5.9 TO - 5.0	0.15 99.6	0.04 99.7							
- 4.9 TO - 4.0	0.22 99.4	0.07 99.5	0.00+ 99.5						
- 3.9 TO - 3.0	0.36 99.0	0.15 99.2	0.00+ 99.2						
- 2.9 TO - 2.0	0.49 98.4	0.24 98.7	0.02 98.7						
- 1.9 TO - 1.0	0.67 97.3	0.47 97.9	0.04 97.9						
- 0.9 TO 0.0	0.98 95.6	0.78 96.6	0.11 96.8	0.01 96.8					
0.1 TO 1.0	1.36 92.5	1.49 94.6	0.21 94.9	0.01 94.9	0.00+ 94.9				
1.1 TO 2.0	1.43 88.2	2.10 91.2	0.52 91.8	0.02 91.8	0.00+ 91.8				

Table 13 - PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont)

Annual 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB

T (DEG C)

	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
2.1 TO 3.0	1.35 82.7	2.82 86.8	0.74 87.6	0.07 87.7	0.00+ 87.7				
3.1 TO 4.0	1.21 76.5	3.17 81.4	0.97 82.6	0.11 82.7	0.02 82.8				
4.1 TO 5.0	1.08 69.8	3.35 75.3	1.39 77.0	0.20 77.2	0.02 77.3	0.00+ 77.3			
5.1 TO 6.0	0.90 63.0	3.06 68.7	1.68 70.9	0.24 71.2	0.02 71.2	0.01 71.2			
6.1 TO 7.0	0.95 56.4	2.83 62.1	2.08 64.8	0.40 65.3	0.05 65.3	0.01 65.3	0.00+ 65.3		
7.1 TO 8.0	0.87 49.4	2.76 55.4	2.15 58.3	0.51 58.9	0.06 59.0	0.01 59.0	0.00+ 59.0		
8.1 TO 9.0	0.89 42.2	2.71 48.5	2.32 51.8	0.57 52.5	0.08 52.6	0.02 52.7	0.00+ 52.7		
9.1 TO 10.0	1.02 34.6	2.62 41.3	2.39 44.9	0.77 45.9	0.13 46.1	0.01 46.1	0.01 46.1		
10.1 TO 11.0	0.98 26.5	2.46 33.6	2.29 37.6	0.91 38.9	0.16 39.1	0.03 39.1	0.00+ 39.1	0.00+ 39.1	
11.1 TO 12.0	1.04 18.8	2.39 25.5	2.40 30.1	1.21 31.9	0.25 32.2	0.04 32.3	0.00+ 32.3	0.00+ 32.3	
12.1 TO 13.0	0.80 12.0	1.91 17.7	2.05 22.1	1.41 24.3	0.43 24.9	0.07 24.9	0.01 24.9		
13.1 TO 14.0	0.35 7.1	1.21 11.2	1.66 15.0	1.33 17.3	0.56 18.1	0.10 18.3	0.01 18.3		
14.1 TO 15.0	0.16 3.8	0.82 6.8	1.14 9.6	1.16 11.8	0.66 12.8	0.18 13.0	0.02 13.1	0.00+ 13.1	
15.1 TO 16.0	0.03 1.9	0.36 3.7	0.74 5.8	0.81 7.5	0.66 8.5	0.23 8.8	0.06 8.9	0.01 8.9	
16.1 TO 17.0	0.01 0.9	0.15 1.9	0.49 3.3	0.66 4.7	0.51 5.5	0.26 5.9	0.07 6.0	0.01 6.0	0.00+ 6.0
17.1 TO 18.0	0.00+ 0.3	0.07 0.9	0.26 1.7	0.41 2.6	0.43 3.4	0.26 3.7	0.09 3.8	0.01 3.9	0.00+ 3.9
18.1 TO 19.0	0.00+ 0.1	0.01 0.3	0.12 0.8	0.25 1.4	0.27 1.9	0.18 2.2	0.08 2.3	0.03 2.3	0.00+ 2.3

Table 13 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont)

Annual 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)

DRY-BULB T (DEG C)	T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
19.1 TO 20.0	0.00+ 0.0	0.00+ 0.1	0.03 0.3	0.15 0.7	0.17 1.0	0.13 1.2	0.07 1.4	0.02 1.4	0.00+ 1.4
20.1 TO 21.0			0.01 0.1	0.05 0.3	0.11 0.5	0.08 0.7	0.04 0.8	0.03 0.8	0.01 0.8
21.1 TO 22.0			0.00+ 0.0	0.02 0.1	0.04 0.2	0.06 0.4	0.04 0.4	0.02 0.5	0.01 0.5
22.1 TO 23.0				0.00+ 0.0	0.02 0.1	0.03 0.2	0.04 0.2	0.02 0.3	0.01 0.3
23.1 TO 24.0				0.00+ 0.0	0.01 0.0	0.01 0.1	0.02 0.1	0.02 0.2	0.01 0.2
24.1 TO 25.0					0.00+ 0.0	0.01 0.0	0.02 0.1	0.02 0.1	0.01 0.1
25.1 TO 26.0						0.00+ 0.0	0.00+ 0.0	0.01 0.0	0.01 0.0
26.1 TO 27.0							0.00+ 0.0	0.00+ 0.0	0.01 0.0
27.1 TO 28.0									0.00+ 0.0

Table 13 PERCENTAGE FREQUENCIES OF DRY-BULB AND ASSOCIATED WET-BULB TEMPERATURES
(cont)

Annual 1960-74

KINLOSS

ASSOCIATED WET-BULB TEMPERATURE (DEG C)	
DRY-BULB T (DEG C)	T-9 T-10
17.1 TO 18.0	0.00+ 3.9
18.1 TO 19.0	0.00+ 2.3
19.1 TO 20.0	0.00+ 1.4
20.0 TO 21.0	
21.1 TO 22.0	0.01 0.5
22.1 TO 23.0	0.00+ 0.3
23.1 TO 24.0	0.01 0.2
24.1 TO 25.0	0.01 0.00+ 0.1 0.1
25.1 TO 26.0	0.00+ 0.0
26.1 TO 27.0	0.00+ 0.0
27.1 TO 28.0	0.00+ 0.00+ 0.0 0.0

Table 14 PERCENTAGE FREQUENCY OF HOURLY DRY-BULB TEMPERATURES KINLOSS 1960-74

DRY BULB TEMPERATURE (0.1C)	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Year
-150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+
-140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+
-130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+
-120	0.0	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+
-110	0.0+	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+
-100	0.1	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+
-90	0.2	0.1	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+
-80	0.2	0.2	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-70	0.4	0.4	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-60	0.5	0.7	0.1	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0+
-50	0.8	0.8	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
-40	0.8	1.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2
-30	1.3	1.8	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.3
-20	1.9	2.7	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.1	1.3	1.5	0.7
-10	2.7	3.5	1.9	1.0	0.0+	0.0	0.0	0.0	0.0	0.3	2.9	2.9	1.2
0	3.9	6.1	3.0	1.5	0.0+	0.0	0.0	0.0	0.0+	0.5	3.3	4.3	1.9
10	7.0	8.8	5.1	2.4	0.2	0.0+	0.0	0.0	0.1	1.0	5.0	7.8	3.0
20	11.0	9.7	7.3	3.8	0.5	0.1	0.0+	0.0	0.2	1.5	6.0	9.3	4.1
30	12.6	10.2	9.7	5.1	1.2	0.2	0.0	0.1	0.3	2.6	7.8	11.0	5.0
40	12.7	9.6	10.2	6.7	1.9	0.2	0.1	0.1	0.3	3.5	9.1	11.7	5.5
50	10.7	9.3	10.3	9.0	3.0	0.6	0.2	0.2	1.0	4.7	11.9	11.5	6.0
60	9.0	8.1	10.3	10.2	4.9	1.3	0.4	0.3	1.4	7.9	11.1	8.2	5.9
70	7.4	6.2	8.1	10.5	8.6	3.2	1.1	0.8	2.1	9.7	10.1	7.0	6.3
80	5.6	3.9	6.5	8.7	11.2	5.6	2.9	1.4	3.7	11.8	9.1	6.4	6.4
90	4.3	3.5	5.4	8.1	13.0	8.4	5.8	3.2	6.1	12.3	8.1	4.7	6.6
100	2.9	2.1	3.7	6.0	10.1	11.0	9.9	9.0	9.0	10.0	6.0	3.5	7.0
110	1.9	0.9	2.3	5.4	8.8	13.6	13.6	12.7	11.9	10.0	3.2	2.7	6.9
120	1.4	0.2	1.3	3.6	7.4	12.9	14.8	14.8	14.4	10.3	2.3	2.4	7.4
130	0.4	0.0	0.6	2.2	5.5	11.0	13.1	12.9	10.3	8.4	1.2	1.0	6.7
140	0.2	0.0+	0.3	1.4	3.9	9.0	11.0	11.4	8.6	5.9	0.7	0.2	5.2
150	0.1	0.0	0.2	0.7	2.7	7.1	7.7	8.2	5.7	3.6	0.3	0.1	4.2
160	0.0	0.0	0.1	0.5	1.6	5.2	6.2	6.2	4.6	2.3	0.1	0.0	2.9
170	0.0	0.0	0.1	0.2	1.1	3.7	4.6	5.3	2.5	1.5	0.1	0.0	2.2
180	0.0	0.0	0.1	0.1	0.8	2.3	2.9	3.6	1.8	0.9	0.0	0.0	1.5
190	0.0	0.0	0.0	0.0	0.2	1.5	2.1	2.1	0.9	0.1	0.0	0.0	0.9
200	0.0	0.0	0.0	0.0	0.2	1.5	2.1	2.1	0.9	0.1	0.0	0.0	0.9

Table 14 (cont) PERCENTAGE FREQUENCY OF HOURLY DRY-BULB TEMPERATURES KINLOSS 1960-74

BULB TEMPERATURE (°C)	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
201 TO 210	0.0	0.0	0.0	0.0	0.1	0.9	1.3	1.1	0.4	0.0+	0.0	0.0	0.3
211 TO 220	0.0	0.0	0.0	0.0	0.1	0.7	0.8	0.7	0.1	0.0	0.0	0.0	0.2
221 TO 230	0.0	0.0	0.0	0.0	0.0+	0.5	0.5	0.4	0.1	0.0	0.0	0.0	0.1
231 TO 240	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.1
241 TO 250	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.0+	0.0	0.0	0.0	0.1
251 TO 260	0.0	0.0	0.0	0.0	0.0	0.0+	0.2	0.1	0.0+	0.0	0.0	0.0	0.0+
261 TO 270	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+	0.1	0.0	0.0	0.0	0.0	0.0+
271 TO 280	0.0	0.0	0.0	0.0	0.0	0.0+	0.0	0.0+	0.0	0.0	0.0	0.0	0.0+

MEI 6000 TEMPERATURE (°C)

0+ = less than 0.05 percent

WET BULB TEMPERATURE (C. IC)	MONTH											
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
-159 TO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-149 TO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-139 TO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-129 TO	0.0	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-119 TO	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-109 TO	0.1	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-99 TO	0.2	0.1	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0+
-89 TO	0.2	0.3	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
-79 TO	0.4	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
-69 TO	0.6	0.6	0.1	0.0+	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
-59 TO	0.8	1.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
-49 TO	0.9	1.6	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4
-39 TO	1.3	2.3	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.6
-29 TO	2.5	3.8	1.7	0.8	0.0	0.0	0.0	0.0	0.0	0.1	1.8	1.1
-19 TO	3.3	5.0	3.2	1.5	0.0+	0.0	0.0	0.0	0.0	0.3	2.8	1.7
0	7.1	9.7	5.8	2.4	0.1	0.0+	0.0	0.0	0.1	0.4	4.6	3.0
1	10.3	10.8	7.8	4.4	0.4	0.0+	0.0	0.0	0.1	0.8	7.3	4.3
11	14.4	11.5	10.5	6.3	1.0	0.1	0.0+	0.0	0.2	1.5	7.7	5.4
21	13.7	10.9	11.7	7.9	2.2	0.2	0.0+	0.1	0.5	2.8	11.1	6.2
31	12.7	10.3	13.6	10.3	4.0	0.3	0.1	0.2	1.0	3.8	12.5	7.7
41	10.2	10.5	12.5	11.9	6.3	0.7	0.1	0.4	1.5	6.1	11.3	6.8
51	7.9	8.0	10.1	12.4	10.2	1.5	0.4	0.6	2.3	8.8	9.3	6.6
61	5.4	5.9	8.3	12.3	13.2	3.9	1.4	1.5	5.0	11.3	10.4	7.0
71	3.4	3.5	6.2	10.7	15.5	7.5	3.5	3.4	7.2	12.5	7.5	7.2
81	2.4	2.3	3.9	7.9	15.7	11.0	8.1	6.8	11.0	13.6	5.0	7.6
91	1.4	0.9	2.0	5.8	13.9	15.2	13.9	12.2	14.4	11.6	3.7	8.1
101	0.2	0.1	0.7	3.0	7.9	17.3	17.6	16.0	16.4	10.5	1.9	7.6
111	0.1	0.0+	0.3	1.2	5.1	15.6	18.2	17.2	14.3	8.0	0.3	6.3
121	0.0	0.0	0.1	0.2	2.8	10.9	13.7	14.7	11.1	4.3	0.3	4.9
131	0.0	0.0	0.0	0.1	1.3	7.1	10.4	10.7	7.5	2.3	0.2	3.3
141	0.0	0.0	0.0	0.0	0.5	4.3	6.1	7.4	3.7	0.9	0.0	1.9
151	0.0	0.0	0.0	0.0	0.1	2.1	3.1	4.5	2.0	0.3	0.0	1.0
161	0.0	0.0	0.0	0.0	0.0+	1.5	2.0	2.6	0.9	0.1	0.0	0.6
171	0.0	0.0	0.0	0.0	0.0	0.5	0.9	0.9	0.2	0.0+	0.0	0.2
181	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.6	0.0	0.0	0.0	0.1
191	0.0	0.0	0.0	0.0	0.0	0.0+	0.0+	0.3	0.0	0.0	0.0	0.0+
201	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0+ = less than 0.05 percent.

