ABSTRACT

OF

METEOROLOGICAL OBSERVATIONS

MADE AT

GLENBURN, ROTHESAY

(Latitude 55° 50′ 30″ N.; Longitude, 5° 2· 50″ W.; Height above Mean Sea Level, 86 feet)

From 1st JANUARY to 10th DECEMBER 1914

AND MADE AT

ARDENCRAIG, ROTHESAY

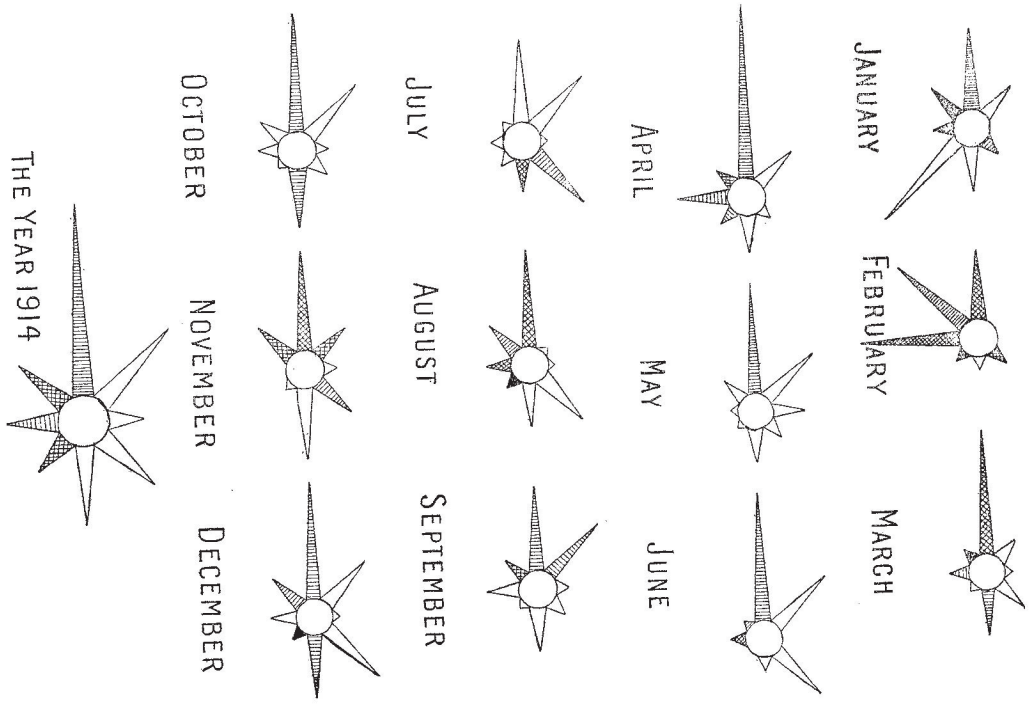
(Latitude 55° 50′ 25″ N.; Longitude, 5° 2′ 0″ W.; Height above Mean Sea Level; Barometer 186 feet; Rain Gauge, 206 feet)

From 11th to 31st DECEMBER 1914.

	BAROMETER.			AIR TEMPERATURE.							
		Range.		Mean of				Absolute Maximum and Minimum.			
	Daily Mean of Readings at 9 a.m. and 9 p.m. millibars.	Highest Reading during the Month. inches.	Lowest Reading during the Month. inches.	Maxima = A.	Maxima = B	Mean of A. and B. Mean Temperature.	Difference from Average.	Maximum.	Day of the Month.	Minimum.	Day of the Month.
January	1014·9	30·646	29·188	43·8	36·2	40·0	+0·5	55°	25th	25°	16th
February	994·4	29·976	28·196	47·4	37·8	42·6	+2·8	53°	15th	31°	25th and 27th
March	996·3	29·972	28·814	46·7	35·4	41·1	−0·3	55°	31st	27°	9th
April	1012·3	30·522	29·042	55·4	40·8	48·1	+2·5	67°	19th and 21st	33°	15th
May	1015·4	30·432	29·312	55·1	42·7	48·9	−1·1	67°	15th	33°	10th
June	1015·7	30·356	29·708	64·1	48·2	56·2	+0·3	76°	17th	41°	7th
July	1007·5	30·236	29·460	64·4	50·3	57·4	−0·3	76°	21st	39°	27th
August	1011·7	30·812	29·468	65·2	51·2	58·2	+0·9	78°	14th	47°	8th and 31st
September	1013·6	30·384	29·184	60·5	47·9	54·2	+0·3	76°	2nd	35°	21st
October	1014·2	30·316	29·442	54·7	44·2	49·5	+1·7	66°	6th	35°	19th and 28th
November	1005·7	30·592	28·908	48·5	39·1	43·8	+0·5	57°	9th	30°	14th, 18th and 21st
December	993·6	29·986	28·552	43·7	35·8	39·8	−0·2	51°	2nd	31°	24th, 28th and 29th

	WEATHER. Number of Days of											WIND. Number of Observations Reduced to a Total of Three per Day.								
												Force 0—12.		Direction.						
	Precipitation.	Precipitation —·04 in.	Snow.	Snow Lying.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Ground Frost.	Gale.	4—7. Force	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January	18	18	1	3	1	0	1	21	2	12	2	23	9	0	6	9	27	3	12	18	9
February	26	22	1	0	2	0	0	21	0	8	2	42	12	0	4	3	3	23	23	13	3
March	23	20	6	0	3	1	4	11	1	15	1	23	29	1	8	10	2	4	3	30	6
April	16	13	0	0	0	1	7	8	0	4	1	23	6	0	3	9	4	9	8	39	12
May	16	10	0	0	1	0	2	14	0	0	0	23	24	8	5	7	1	1	6	23	18
June	10	9	0	0	0	0	5	8	1	0	0	20	21	0	15	3	0	3	1	27	20
July	13	10	0	0	0	1	4	15	3	0	1	16	24	0	18	8	3	3	1	15	21
August	18	14	0	0	0	2	9	13	0	0	0	17	26	1	15	9	3	6	9	21	3
September	13	10	0	0	0	0	5	14	4	0	1	32	21	3	4	11	1	7	6	20	17
October	15	12	0	0	0	0	4	15	5	3	0	14	29	3	6	13	3	3	3	27	6
November	21	20	2	0	1	0	2	15	3	3	2	29	15	1	11	17	1	0	11	25	9
December	22	18	2	0	4	0	2	11	6	13	1	33	1	0	20	14	3	4	16	20	15

	Underground Temperature. Mean of Daily Readings.		HYGROMETER. Mean at 9 A.M. (A) and 9 P.M. (B).								CLOUD 1—10. Mean Amount.		RAIN and other forms of precipitation.				Bright Sunshine. — Hours per Day.
			Dry Bulb		Depression of Wet Bulb.		Vapour Pressure.		Percentage of Humidity.						Most in a Day.		
	1 foot.	4 feet.	A	B	A	B	A Millibars.	B Millibars.	A Percentage.	B Percentage.	9 A.M.	9 P.M.	Total Fall.	Difference from Average.	Amount.	Day.	Daily Mean.
January	37·2	42·9	39·5	40·2	1·8	2·0	7·0	7·1	86	85	8·5	7·8	4·75	+0·15	0·91	8th	0·68
February	41·7	43·5	41·9	43·3	1·6	1·7	7·9	8·3	88	87	9·0	8·5	7·17	+3·53	0·91	20th	0·79
March	40·7	43·0	40·7	40·2	2·2	1·6	7·1	7·3	83	88	6·5	5·2	5·83	+2·46	0·75	13th	3·30
April	47·3	45·5	48·3	45·9	3·1	2·7	9·0	8·3	78	79	6·4	4·0	3·05	+0·41	0·61	12th	5·76
May	51·4	48·8	49·4	47·1	3·7	2·5	9·0	9·0	75	82	7·4	7·6	1·68	−1·05	0·48	6th	5·03
June	57·5	52·7	58·0	53·7	4·9	2·9	11·7	11·4	72	81	6·0	5·0	1·17	−2·07	0·42	20th	6·50
July	60·1	55·4	57·9	55·8	3·0	2·3	13·3	12·9	81	85	7·1	6·2	2·37	−1·64	0·71	31st	5·03
August	59·8	56·0	59·1	55·6	3·1	1·7	13·7	13·3	81	88	6·0	5·4	5·91	+1·04	1·30	8th	5·24
September	55·4	55·2	54·9	52·1	2·9	2·0	11·9	11·4	81	86	6·6	5·4	3·49	−1·0	0·90	23rd	4·36
October	50·6	52·4	49·4	49·2	1·8	1·5	10·4	10·6	88	90	7·4	6·4	3·07	−1·69	0·99	27th	2·05
November	45·0	48·7	44·6	44·1	1·8	1·8	8·6	8·4	86	85	7·2	7·2	5·81	+0·86	0·69	28th	1·23
December	39·4	44·5	40·0	40·0	1·9	2·4	7·1	6·8	85	81	7·4	6·3	7·48	+2·59	1·50	2nd	0·99
													51·78				



Wind and Rain Stars, 1914.

The wind stars are intended to show the amount of rain and wind which belong to each point of the compass in each month of the year.

The length of the ray indicates the number of times that the wind has been blowing from that quarter, the observations being taken twice daily.

The shading indicates the raininess of the wind, under ·06 being white; ·25 and over, black.

J. N. M.

WEATHER NOTES.

A word of explanation must be given for the unwanted appearance presented by the first column of the foregoing abstract.

In past years the barometric pressure has always been expressed in this country in terms of the length of the column of mercury which balanced it, and any change from this mode of expression must come with something of a shock to those of us who are past middle life. We are all naturally conservative and do not like the unfamiliar. It is true that an innovation unless it is a real improvement is to be avoided; but if we do not wish to become insular, or in the narrow sense provincial, we must be ready to accept any change which is at the same time an improvement on our past methods of working.

In its wisdom the Meteorological Office has adopted a new mode of stating the results of the barometric readings. Very probably it has published its reasons for so doing, but if it has done so we have been unable to find its "Apologia."

We think, however, that in a few words we can more than justify the change.

To state that the barometer stands at 29·5 inches is quite informing to any meteorological observer who is familiar with our system of British Weights and Measures, but the statement, standing by itself, falls short of conveying to the mind, the relation which the atmospheric pressure bears to other forces.

The new method of statement adopted by the Meteorological Office is in terms of the "international absolute unit of force," and as a consequence can be understood not only by all Britons but also by all who know anything of the Metric System.

Further the statement of the degree of pressure or force can readily be compared with other statements of force in any other circumstances.

The absolute unit of force based on the Metric System is "that force which produces in one second, in a mass of one gramme, a velocity of one centimetre per second. The unit is called a "dyne."

1,000 dynes acting over a square centimetre (cm^2) is equal to the pressure of a column of mercury of equal area and ·029531 inches in length. To this force of 1,000 dynes is given the name "millibar."

It is obvious that a force of 1,000 millibars is equal to a mercury column of 29·531 inches, and this brings us back to familiar ground.

If we subtract 1 millibar = ·029531 inches from 1,000 millibars=29·531 inches, we get 999 millibars=29,501 inches. We find, then, that when an aneroid is standing at "Change," *i.e.*, when the finger is pointing vertically upwards there are 999 millibars or 29·5 inches of pressure.

A little study of the following equations will soon enable us rapidly to convert a statement in millibars into inches of mercury and vice versa and so in a short time we shall all be thinking in millibars.

Inches.		
1,000 mb.	=	29·531.
100 mb.	=	2·953 roughly 3.
10 mb.	=	0·295 ,, ·3.
1 mb.	=	0·029 ,, ·03.
34 mb.	=	1·004 ,, 1·0.
17 mb.	=	0·502 ,, 0·5.

Inches.		
1,050 mb.	=	31·0.
1,033 mb.	=	30·5.
1,016 mb.	=	30·0.
999 mb.	=	29·5.
982 mb.	=	29·0.
965 mb.	=	28·5.
948 mb.	=	28·0.

The weather of the year 1914 was on the whole propitious. Throughout the six months April to September there was a large amount of sunshine, a great deal of genial heat and an absence

of unseasonable rain. After months of comparative drought, abundant rains fell in the first week of August, which were welcomed by the standing crops.

During the first three months and the last two months of the year, especially in February and December rain fell in abnormal quantity. The total rainfall throughout the year was 51·78 inches, a quantity somewhat above the average.

The temperature of the air never reached an excessive height, 78° registered on 14th August being the highest reading; nor did it in the course of the year descend very low. The lowest reading 25° (7° of frost) was recorded on 16th January. January, February, November, and December each had some very stormy weather, but no very notable storm occurred during the year.

The underground temperature (4 ft. depth), reached 56° daily between 16th July and 28th July and again between 17th August and 15th September.

ANDREW J. HALL.