

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)

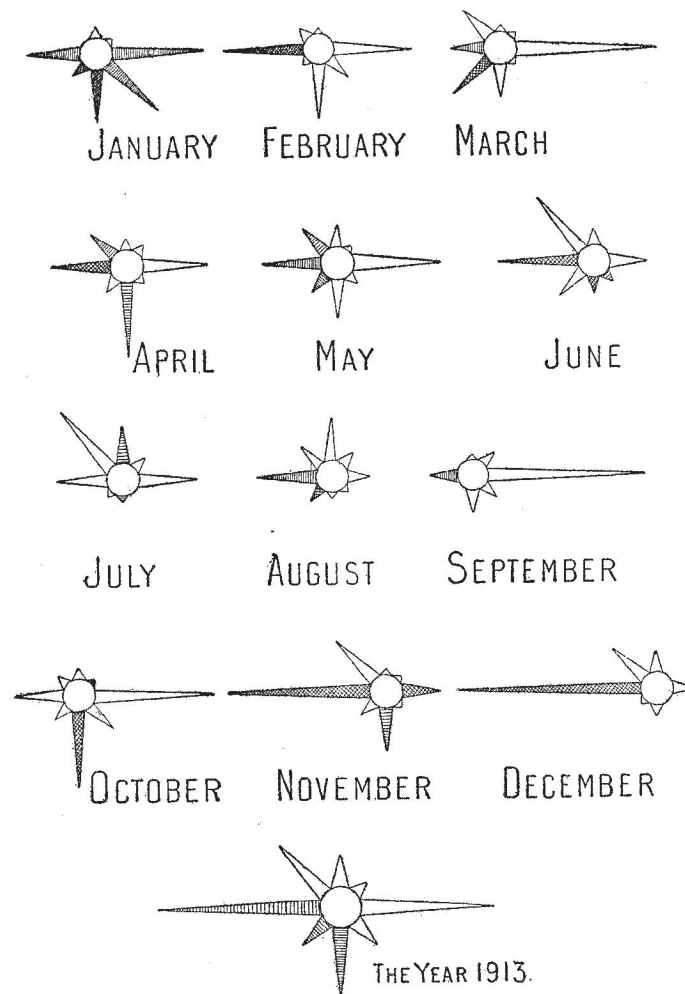
FOR THE

YEAR ENDING 31st DECEMBER, 1913.

	BAROMETER.				AIR TEMPERATURE.			
	RANGE.				ABSOLUTE MAXIMUM AND MINIMUM.			
	Daily Mean of Readings at 9 a.m. and 9 p.m.		Highest Reading during the Month.		Lowest Reading during the Month.		Difference from Mean of A. and B.	
	Maxima	Minima	Maxima	Minima	Maxima	Minima	Day of the Month.	Day of the Month.
January	29.552	30.202	29.110	36.3	39.5	0.0	8th and 9th	26th
February	29.979	30.590	28.882	37	41.3	+1.5	27th	21st
March	29.571	30.260	28.380	36.6	42.2	+0.8	30th	18th
April	29.712	30.408	29.030	38.6	46.0	+0.4	8th	7th
May	29.779	30.368	29.466	43.7	50.8	+0.8	30th	19th and 20th
June	29.912	30.368	29.324	48.5	55.7	-0.2	16th	12th and 13th
July	30.083	30.388	29.800	51.0	58.8	+1.1	23rd	7th
August	29.931	30.354	29.534	50.5	58.2	+0.9	2nd	6th, 10th and 19th
September	29.915	30.500	29.204	48.2	54.1	+0.2	24th	17th and 22nd
October	29.737	30.214	28.934	45.5	49.9	+2.1	3rd	23rd and 24th
November	29.602	30.222	29.008	49.9	45.7	+2.4	17th	8th
December	29.903	30.592	28.854	45.4	41.3	+1.3	8th and 9th	31st
					48.6			

	WEATHER.										WIND.									
	NUMBER OF DAYS OF										NUMBER OF OBSERVATIONS REDUCED TO A TOTAL OF THREE PER DAY.									
	PRECIPITATION.										DIRECTION.									
	Precipitation - 0.4 in.	Snow.	Snow Lying.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Ground Frost.	Calc.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.		
January	23	20	7	2	1	2	18	9	—	2	3	2	26	19	15	4	15	0		
February	15	13	1	0	1	0	16	14	—	2	2	0	21	7	15	2	22	3		
March	24	20	3	5	2	2	12	2	—	2	1	1	9	2	11	12	39	10		
April	19	17	1	1	0	6	12	6	—	1	3	3	16	3	17	9	16	9		
May	23	18	0	0	2	1	18	10	—	2	7	1	24	3	11	6	15	9		
June	19	14	0	0	1	2	17	3	—	3	3	0	10	3	4	11	20	22		
July	12	8	0	0	0	5	10	0	—	0	10	5	17	0	1	0	14	21		
August	14	9	0	0	0	5	9	3	—	0	11	4	6	2	1	5	16	8		
September	14	14	0	0	1	5	12	4	—	0	18	2	44	4	6	0	7	0		
October	21	18	0	0	0	4	13	3	1	1	32	5	33	9	21	5	13	3		
November	23	25	0	0	2	1	15	4	3	1	44	2	10	1	12	5	39	15		
December	21	20	4	1	1	4	19	3	10	2	33	0	6	0	3	3	47	16		

	HYGROMETER.				CLOUD. 0-10.		RAIN AND OTHER FORMS OF PRECIPITATION.								
	MEAN AT 9 A.M. AND 9 P.M.				MEAN AMOUNT.		Total Fall.	Difference from Average.	Most in a Day.						
	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Percentage of Humidity.	9 a.m.	9 p.m.			Amount.	Day.					
Underground Temperature 4 feet depth. Mean of Daily Readings.	42.7	38.5	39.2	1.5	2.2	.203	.197	87	82	7.7	7.3	6.81	+2.21	1.14	30th
	41.8	40.3	40.4	1.6	1.9	.217	.213	88	85	8.9	7.1	3.27	-0.37	0.81	7th
	42.1	41.3	40.0	2.5	2.5	.209	.198	81	80	7.0	5.9	5.43	+2.06	0.99	18th
	44.5	45.9	43.6	3.9	2.4	.226	.232	73	82	6.0	6.3	4.45	+1.81	0.72	29th
	43.0	49.6	47.3	3.1	2.3	.280	.271	81	84	7.9	6.8	4.02	+1.29	0.63	5th
	51.9	55.7	52.6	3.7	2.0	.343	.343	77	86	7.2	8.2	3.37	+0.13	0.66	2nd
	55.1	53.4	54.8	4.2	2.5	.367	.359	75	84	5.6	6.4	1.71	-2.30	0.42	6th
	56.0	53.4	55.1	3.4	2.3	.388	.369	79	85	6.2	5.0	2.14	-2.73	0.61	21st
	54.4	53.8	52.7	2.3	1.8	.351	.349	85	88	6.7	6.2	2.59	-1.90	0.53	13th
	51.9	49.8	49.4	2.2	2.1	.302	.300	85	86	7.1	6.1	3.36	-1.40	1.07	13th
	48.5	46.2	45.5	2.1	1.7	.265	.266	86	88	7.9	7.5	7.19	+2.24	0.76	15th
	46.1	41.9	41.6	2.0	1.9	.226	.224	86	86	7.6	7.0	5.08	+0.19	0.83	27th
42.5												49.42			



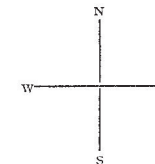
WIND AND RAIN STARS, 1913.

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.

Throughout the country the summer of 1913 was notable for its abnormal amount of sunshine and for its scarcity of rain.

The summer in Rothesay shared in the general character of the season in other parts of Great Britain, but, on account of our insular position, our weather did not go to such extremes as were experienced elsewhere.

We had a long bright dry summer, but we were never in great straits for want of moisture. It is true that in each of the four months, July to October, there was some shortage of rain (a shortage of over 8 inches in all) but the longest stretch of days in which less than .01 inches fell on a given day was the 14 days from 22nd July to 4th Aug. and this period was immediately preceded by a fall of nearly $\frac{1}{2}$ an inch on 21st July. From 5th Aug. to 31st Aug. rain fell to the amount of 2.14 inches and this was spread over no fewer than 14 days.

The total rainfall for the year was 49.42 inches and this, though less than the rainfall of any year since 1905, was a little in excess of the average of the 20 years preceding that date.

The mean temperature of the same four months, July to October, was no doubt a little above the average, but the heat was at no time uncomfortable. The greatest height the thermometer reached was 78°F. on 23rd July. The mean temperature of the whole year was 48.6°F. about one degree above the average, and it is to be noted that each month of the year with the exception of June was warmer than the average. At no time in the year did the thermometer fall very low. The lowest observation was 24°F. on 18th March. The utmost range therefore through which the thermometer moved was 54°F. When we think of the countries to which so many of our fellow-countrymen are migrating where the

thermometer ranges from 50°F. below zero to 100°F. above we have good cause to doubt whether the emigrants have the best of it.

The underground temperature (4 feet deep) reached 56°F. on 2nd Aug. and stood at that point for five weeks.

In the course of the whole year, no great storm occurred in Rothesay. On one occasion only was the strength of the wind noted as being greater than (6) on a scale (0-12). This occasion was on 18th Nov. when the wind's force is recorded as (8) a whole gale. In the morning the wind was from the south with force (2), in the evening it blew from the N.-W. with force (8). As may be seen by reference to the daily weather reports of the Meteorological Office, this sequence of events in our district was due to the passage of a very extensive depression whose centre travelled from the south of Iceland to the north of Scandinavia and whose influence was felt as far south as the English Channel.

Many years ago, if my memory is not at fault, the late Duke of Argyle, who was a close observer, wrote to one of the London newspapers, stating that in his experience, the movements of the mercury column in the West of Scotland were of very little, if any, use in interpreting the weather in the district. If we trust to the observations made at one station only, there is much truth in what the Duke said, and the gale of 18th Nov. well illustrates the fact.

At Rothesay on the evening of 17th Nov. the glass stood at 29.82 inches, on the morning of 18th Nov. it had fallen to 29.47 in., and by the evening it had again gone up to 29.738 no very marked movement for the strongest gale of the year. Indeed during the same month there were several larger fluctuations of the barometer with much less wind. All the same we must not lose faith in our barometer. Rather let us acknowledge our imperfect interpretation of its movements, and our failure to give due consideration to the behaviour of the thermometer and hygrometer in our attempts to form an opinion. Of course if we look at the daily weather reports, the whole of the apparently incoherent mass of observations of any one station at once falls into order and they become a part of a harmonious whole. Only by such collective observation as is carried on by the Meteorological Office can thoroughly reliable

forecasts and interpretations be made. The study of a series of these daily reports will do much to convince an enquirer as to the close relationship which exists between the barometer's movements and the other phenomena of the weather. Unfortunately, however, these reports are not always forthcoming when they are wanted; they are too late in reaching the provinces, and we cannot all be in telegraphic communication with the Meteorological Office. But let us go back for a little to the gale of 18th Nov. Left to our own resources, that is, with the guidance of our own local observations merely, could we have done anything towards forecasting the gale? We think the answer is in the affirmative. If besides observing the barometer we had noted the facts that the temperature rose to 50°F. in the evening of the 17th (the highest record for the month) and that the hygrometer showed that the percentage of humidity stood at 100 in the morning of the 18th we might have had some reason for expecting something of the nature of a storm.

The lowest point the barometer reached during the year was recorded on 19th March. Much wind and rain accompanied the fall in the mercury. The centre of a deep depression passed right over us on the occasion. Mr Penney's notes are:—

Evening of 18th March	Barometer	28.998	Wind S.E. (5)
Morning of 19th	"	28.380	" N.W. (6)
" " 19th	"	28.940	
Rain on 18th	"	Inches .99	
" " 19th	"	.33	
Dry bulb thermometer 9 a.m. on 18th		30°F.	
" " " " 19th		40°F.	

From the three pages of tabulated figures it can be gathered that generally speaking the weather in

January was stormy and wet. Rain 2.21 above the average.

February was dryer and somewhat dull throughout.

March was stormy and wet. Rain 2.01 above average.

April and May both dull and wetter than average.

June unsettled, cold and average rain. The only month in the year with temperature below the average.

July, Aug. and Sept. warm, dry and calm.

Oct. still warm and less than average rain, though over 1 inch fell on 13th.

Nov. stormy, wet and warm.

Dec. calmer and warm, about average rain.

Through the generosity of Lord Bute the set of meteorological instruments available for the observations of the Society has been rendered complete. A sunshine recorder, a thermometer screen and thermometers for use in the grass and one foot underground are among the valuable additions which have been made.

The sunshine recorder has been erected on the top of the tower at the County Buildings. This position is perhaps the most suitable that can be got, but it is not quite perfect. In the winter months on account of the high ground to the east and to the west of it, a small portion of the possible sunshine is unable to be recorded. After all, however, the drawback is comparatively slight, and in all other respects, the site is satisfactory.

The records for the three months during which the instrument has been at work are as under. The figures for Douglas, I. O. M. and Blackpool are also given and it may be assumed that the instruments in these towns are absolutely favourably situated.

	OCT.	NOV.	DEC.
Rothsay, Daily average in hours	2.95	1.36	0.94
Percentage of possible sunshine	29	17	14
Douglas, Daily average in hours	2.64	2.03	1.37
Percentage of possible sunshine	26	24	24
Blackpool, Daily average in hours	2.77	1.75	1.41
Percentage of possible sunshine	27	21	19

The comparison between the figures will be more interesting when we have the records for a full year.

COMPARISONS OF SOME CHANCE GROUPINGS WITH MENDEL'S LAWS.

By W. J. MILLAR, C.E.

[Read 25th November, 1913.]

At a meeting of this Society held on 13th January 1909, papers were read by Mr William Cuthbertson and Dr. Andrew Hall upon "Mendel's Laws of Heredity and their Application to Plants and Animals, with an Account of Some Experiments." During his remarks Dr. Hall used some draught men to illustrate the Mendelian principle of the 3 to 1 grouping found to exist in some organic elements of plants. Being interested in the chance groupings of the black and white draught men exhibited I have since then carried out a number of experiments with the chance relations of black and white balls which I will now summarize:—

The simplest arrangement is to take four pairs of draught men, or preferably four pairs of balls, one half of these being black and the other half white, place them in a bag, shake them up and draw out in pairs without looking at them; it will then be found that they will take two or three different groupings, but, if this is done two or three times a definite grouping will be noticed, viz.:—that we get one pair black, two pairs black and white, and one pair white. Further, if the drawing takes place up to say thirty times, it will be found that this grouping can be depended upon for 21 times out of 30. We may call this a 3 to 1 arrangement as, if we confine our attention say to the black elements, we find that the black enters