

## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Hammerfield, Culinston Road*, County of *Aberdeen*, in Lat. *57° 8' 3" N*, Long. *2° 7' 25" W*, Distance from Sea *2 1/2* miles.Height of Cistern of the Barometer above Mean Sea-level *139 1/2* feet, above Ground *15 1/2* feet.During the MONTH of *January* 187*5*.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	37. BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. 2237				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.				SEA.	OZONE.	GENERAL REMARKS.  As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc.  Mention the hour at which Storms, including Thunder and Lightning, began and ended.		Days of Month.	
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulb.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.									
		Barometer. No. 236	Attach- ed Ther- mometer	Barometer. No. 236	Attach- ed Ther- mometer	Max. No. 353	Min. No. 107	Max. in Sun's rays No. 2252	Min. on Grass. No. 2252	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	Velocity (0-10). and Direction.	Amount (0-10). and Species.	Velocity (0-10). and Direction.	Amount (0-10). and Species.	No. 3 inches.	No. 12 inches.	No. 22 inches.	No. 3 inches.	No. 12 inches.	No. 22 inches.						
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°						°
	1	29.944	41.8	29.550	40.0	38.0	15.6	12.7	34.6	34.5	34.9	34.9	S	2	SW	3.5	SSW 4	13	0.450													1	
	2	29.280	41.0	29.528	42.3	40.8	33.0	30.9	36.1	36.0	37.3	36.9	SW	1	W	0.5	SSW 5-6	5	0.145													2	
	3	29.182	43.8	29.590	45.7	44.2	36.0	32.9	38.1	37.6	40.8	37.9	SW	1.5	W	0.5	WSW 4	1	0.005													3	
	4	29.538	46.1	29.334	47.2	41.6	34.0	28.8	39.1	39.1	40.5	40.5	SW	1	SW	1	SW 1.5	6	0.120													4	
	5	29.564	47.4	29.638	47.8	43.0	36.0	31.4	37.0	36.1	43.0	42.0	SW	1	W	2	WSW 3	2	0.015													5	
	6	29.650	49.0	29.706	49.7	44.7	40.2	31.8	42.7	42.1	43.5	43.5	SW	1.5	S	1.5	SW 2	8	0.065													6	
	7	29.870	49.1	29.962	49.5	44.8	39.7	39.8	42.6	42.6	41.3	41.2	S	1	SW	0.5	SW 2.5	4	0.025													7	
	8	30.012	48.0	29.920	48.4	41.8	31.2	26.9	33.0	33.0	40.0	38.9	SW	0.5	SE	1	SE 1.5	3	0.010													8	
	9	29.788	50.6	29.588	46.4	42.2	37.5	30.0	41.0	40.5	42.0	41.8	S	1.5	S	2	SW 2.5	10	0.355													9	
	10	29.610	49.1	29.626	48.8	44.0	39.6	39.3	42.0	41.8	41.0	41.0	SW	0.5	SW	0.5	WSW 1	3	0.020													10	
	11	29.682	49.8	29.752	50.3	43.3	35.9	33.3	38.0	38.0	42.7	42.7	SW	0.5	S	1	SW 1	6	0.010													11	
	12	29.760	51.0	29.752	51.5	43.0	38.3	33.4	41.9	41.8	40.3	40.1	SW	1	SW	0.5	SSW 1.5	6	0.120													12	
	13	29.828	50.8	29.822	50.8	45.3	35.6	31.3	40.3	40.1	43.3	43.0	SW	0.5	SW	0.5	WSW 1	3	0.010													13	
	14	29.674	51.4	29.770	51.8	48.3	39.3	38.1	43.0	43.0	42.0	40.7	SW	1	SW	0.5	SSW 1	4	0.065													14	
	15	29.556	51.2	29.210	53.4	48.4	35.6	31.6	44.4	44.2	47.0	45.1	SE	1.5	SW	1.5	SSW 3.5	7	0.235													15	
	16	29.280	50.8	29.750	52.0	47.3	40.6	39.4	42.7	42.1	41.7	40.2	SW	1	SW	0.5	SSW 2.5	0	0.050													16	
	17	29.388	52.7	29.426	51.0	46.4	33.0	29.8	38.4	37.1	39.0	38.5	W	0.5	W	0.5	WSW 1	6	0.250													17	
	18	29.230	51.3	29.184	52.9	49.7	38.1	31.2	43.2	43.2	43.7	41.0	SE	0.5	W	1.5	SE 2.5	4	0.125													18	
	19	29.086	51.2	28.960	53.2	52.2	40.0	35.9	44.8	43.6	46.1	43.0	SW	1	W	2	WSW 3.5	3	0.020													19	
	20	29.064	52.4	29.032	49.9	46.3	34.5	37.1	39.7	39.4	35.7	35.0	NE	0.5	NE	2	NE 3	7	0.285													20	
	21	29.218	44.8	29.264	47.4	36.8	28.4	25.8	30.1	28.6	32.0	31.3	NE	1	NE	1	NE 2	6	0.150													21	
	22	29.308	43.4	29.670	44.0	38.3	28.2	27.0	32.1	31.6	29.7	28.7	NE	1	NE	1	NE 3	3	0.020													22	
	23	29.368	43.0	29.198	44.5	37.6	26.7	21.2	34.9	34.9	31.0	30.8	S	1	NE	0.5	SW 1.5	8	0.205													23	
	24	28.596	44.7	28.600	44.9	43.8	28.8	24.4	41.8	41.8	32.9	32.6	SE	3	SW	0.5	SE 4	4	0.265													24	
	25	28.990	43.1	29.608	44.0	38.9	29.7	26.6	36.5	36.3	32.7	31.7	NE	1	NE	1	NE 2	2	0.010													25	
	26	29.960	43.7	29.752	41.8	38.7	26.1	23.4	27.4	27.2	35.0	35.0	SW	0.5	SW	4	SSW 4.5	6	0.153													26	
	27	29.714	45.3	29.560	48.8	48.8	34.0	26.3	45.7	44.7	48.7	47.0	SW	2.5	SW	3.5	SW 4.5	1	0.005													27	
	28	29.662	48.3	29.680	50.0	51.0	40.0	41.9	45.3	44.6	41.3	40.0	SW	1	SW	2	WSW 3	1	0.005													28	
	29	30.122	47.5	30.256	48.0	42.5	31.5	32.2	36.7	35.2	32.1	31.4	SW	0.5	SE	0.5	NE 1	0	0													29	
	30	30.392	45.3	30.164	43.0	36.9	26.2	23.0	32.6	31.4	36.7	36.7	SW	0.5	SW	2.5	SW 3.5	4	0.205													30	
	31	30.070	46.0	29.952	48.1	52.9	35.5	31.3	45.0	44.1	46.0	45.0	S	0.5	W	1.5	WSW 2.5	0	0													31	
	Sums.	916.586	1473.6	916.806	1487.1	1361.0	1018.8	948.7	1210.7	1196.2	1233.9	1198.1		32.0	415		314.8																
	Means.	29.567	47.5	29.574	48.0	43.9	32.8	30.6	39.0	38.6	39.7	38.6		1.03	1.34		8.0																
	† Total Corrections for Instrumental Errors.	-0.013	-	-0.013	-	+0.2	+0.1	-0.2	0	0	0	0		0.6	0.6																		
	† Corrections for Diurnal Range.																																
	† Corrected Means.	29.554	47.5	29.561	48.0	44.1	33.9	30.4	39.1	38.6	39.5	38.7		1.03	1.34		8.0																
	No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.504  
for Temp. (Col. 2), = 2.9.5.5.4... - 0.050."Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.509  
for Temp. (Col. 4), = 2.9.5.6.1... - 0.052.

Mean at Station, corrected, and at 32°, = 29.507 29.549

Correction for height, 139 1/2 feet above Mean Sea-level, = +0.156 +0.114

Mean, reduced to 32°, and Sea-level, = 29.663 29.663

Highest Reading, corrected for Index error, on the 30th, = 30.379 30.422

Lowest Do. Do. on the 24th, = 28.583 28.625

Difference, or Monthly Range, = 1.796 1.797

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 31st, = 53.1

Lowest in Month, corrected for Index errors, on the 1st, = 15.7

Difference, or Monthly Range, = 37.4

"Corrected Mean" of all the Highest, (Col. 5), = 44.1

"Corrected Mean" of all the Lowest, (Col. 6), = 33.9

Difference, or Mean Daily Range, = 10.2

\*\* Calculated Mean Temperature of Month, = 39.0

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 31st, = 12.5

"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 30.4

Lowest at Night, Black Bulb, (corrected for Index errors), on the 1st, = 12.5

"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 30.4

Difference of above Means or Range ("exposed"), =

Evaporation = 1.018 in.  
N.B. Omitted in December Return.  
Evaporation for Dec. = 0.595

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 39.3

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 38.6

† Computed Temperature of Dew-Point, = 37.7

† Do. Elastic Force of Vapour, = 0.227 in.

† Do. Weight of Vapour in a Cubic Foot of Air, = 2.65 grs

† Relative Humidity, (Saturation = 100), = 94.4

RAIN fell on 28 Days; Amount in Inches, = 3.148

Rose 3.360

WIND. SUMMARY.

Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.	0	2	0	3	5	16	1	2	2	1.03	
P.M.	2	3	0	1	3	10	7	3	2	1.34	
Mean.	1	2	0	2	4	13	4	3	2	1.185	1.40

\* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S." and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.  
† Embracing corrections for both capillarity and Index Errors.  
†† The Diurnal Range for Scotland is as yet unknown.  
‡ Practically, though not absolutely a minus correction.  
‡‡ These "Hygrometric Reductions" are calculated from Glaisher's Hygrometric Tables, Second Edition only.  
‡‡‡ While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 5 and 6 will be entered as the "Calculated Mean Temperature." Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the top of each column, must be marked as such by the observer, in each Schedule. See over.Observations made and Return verified by *Alexander Beverley, assisted by Mr. A. Omickstank*19th at 1.40 P.M.  
Bar. 28.944, 52.2.  
20th at 1 A.M. Bar. 28.896, 53.  
24th at noon Bar. (min.) 28.496, 44.9  
N.B. hence these readings, corrected in any way







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Hammerfeld, Luffield Road*, County of *Aberdeen*, in Lat. *57° 8' 3" N*, Long. *2° 7' 35" W*, Distance from Sea *2 1/2* miles.  
Height of Cistern of the Barometer above Mean Sea-level *139 1/2* feet, above Ground *15 1/4* feet. During the MONTH of *February* 187*6*.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	13. J. BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. 2227				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS.  As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc.  Mention the hour at which Storms, including Thunder and Lightning, began and ended.		Days of Month.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 A.M.		P.M.		9 h. A.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Barometer. No. 236	Attach- ed Ther- mometer	Barometer. No. 236	Attach- ed Ther- mometer	No. 352	Max. No. 107	No. 352	Min. No. 107	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	No. of hours in which it fell.	Amount in inches.	Velocity (0-10), and Direction.	Amount (0-10), and Direction.	Velocity (0-10), and Direction.	No. 1	No. 2	No. 3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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	1	29.856	49.6	29.878	50.8	51.2	37.0	37.0	44.0	42.0	37.9	37.0	SW	1.5	W	1	W	1.5	W	1	W	1.5	W	1	W	1.5	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1	W	1

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.933  
for Temp. (Col. 2), = 2.9.9.8.0... - 0.041...  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.938  
for Temp. (Col. 4), = 2.9.9.8.0... - 0.041...  
Mean at Station, corrected, and at 32° = 29.935 29.978  
Correction for height, 139 1/2 feet above Mean Sea-level, = +0.158 +0.115  
Mean, reduced to 32°, and Sea-level, = 30.093 30.093  
Highest Reading, corrected for Index error, on the 21st, = 30.415 30.457  
Lowest Do. Do., on the 14th, = 29.507 29.549  
Difference, or Monthly Range, = 0.908 0.908

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 14th, = 52.1  
Lowest in Month, corrected for Index errors, on the 6th, = 18.8  
Difference, or Monthly Range, = 33.3  
"Corrected Mean" of all the Highest, (Col. 5), = 41.2  
"Corrected Mean" of all the Lowest, (Col. 6), = 32.2  
Difference, or Mean Daily Range, = 9.0  
\*\* Calculated Mean Temperature of Month, = 36.7  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 14th, = 16.9  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 6th, = 29.4  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 29.4  
Difference of above Means or Range ("exposed"), = 1.432 Inches.

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 35.8  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 34.7  
† Computed Temperature of Dew-Point, = 33.0  
† Do. Elastic Force of Vapour, = 0.769 in. 1.90  
† Do. Weight of Vapour in a Cubic Foot of Air, = 2.14  
† Relative Humidity, (Saturation = 100), = 89.8 90  
RAIN fell on 18 Days; Amount in Inches, = 1.742  
Rose 1.600

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.		0	2	4	3	2	8	2	5	2	1.09
P.M.		1	4	5	2	1	8	3	3	1	1.05
Mean.		0	3	5	2	2	8	2	4	2	1.07

Observations made and Return verified by Alex. Beverley assisted by Janitor of Grammar School and Mr. A. Brunchbank

(Signed) Alex. Beverley

Greatest daily range 18.3 on the 6th

H







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Hammerfield, Cuparstone Road, County of Aberdeen*, in Lat.  $57^{\circ}8'3''N$ , Long.  $2^{\circ}7'35''W$ , Distance from Sea  $2\frac{1}{2}$  miles.  
Height of Cistern of the Barometer above Mean Sea-level  $139\frac{1}{2}$  feet, above Ground  $15\frac{1}{2}$  feet. During the MONTH of *March* 187*5*.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	B.T. BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. 2237				WIND.				RAIN.		CLOUDS.				SUNSHINE. Hours.	THERMOMETERS under Ground.			SEA. Temperature at 1 fathom, and Density.	OZONE. ..... 0-10.	GENERAL REMARKS.  As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc.  Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.			
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 A.M.		P.M.		9 h. A.M.												
		Barometer.	Attached Thermometer.	Barometer.	Attached Thermometer.	Max. No.	Min. No.	Max. in Sun's rays No.	Min. in Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	Readings of this H. Exp. Anemometer. No. 2238 9 h. A.M. By day.	No. of hours in which it fell.	Amount in inches. No. 2239 By day.	Velocity (0-10), and Direction.	Amount (0-10), and Species. By day.	No. 1. inches.		No. 2. inches.	No. 3. inches.								
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°		°	°	°					°	°	°
	1	29.976	42.0	30.046	42.0	37.8	32.8			32.0	35.0	33.6	37.5	35.0	E	1	NE	1	8.4	2	2	0.035		10	CS	0					Snow	1		
	2	30.046	43.0	30.090	45.1	41.3	33.0			31.3	36.3	36.0	36.9	34.9	NE	1	E	1	8.4	15	1	0.007		7	CS	4					steel, hail	2		
	3	30.100	44.0	30.124	44.2	38.5	35.0			34.0	37.0	35.4	35.3	34.0	SE	1	E	0.5	ESE	15	0	0		9	CS	3						3		
	4	30.094	46.0	30.030	47.1	42.0	33.9			30.3	38.9	37.0	35.0	34.3	SE	1	SE	0.5	SSE	15	0	0		7	CS	6						4		
	5	29.978	45.0	29.870	44.9	40.0	34.0			29.6	37.0	35.6	36.0	34.7	S	1	SW	1.5	SW	25	0	0		9	CS	3					Snow	5		
	6	29.690	43.7	29.498	44.6	40.3	34.6			33.3	39.2	38.2	39.7	39.7	S	2	E	2	8.4	4	17	0.703		10	Sh	0						6		
	7	29.322	46.7	29.438	49.1	50.3	38.2			36.3	42.3	42.2	47.0	45.3	SW	1	W	1.5	SW	3	1	0.005		8	St	5					Fog Am	7		
	8	29.556	52.7	29.694	57.7	58.0	39.4			35.6	49.4	45.3	45.5	44.0	SW	1.5	Var	0.5	WSW	2	13	1.420		3	CS	8					Fog	8		
	9	29.248	49.0	30.088	48.9	46.0	34.4			33.0	36.2	35.9	38.7	37.3	NE	4	NW	1	ENE	5-6	2	0.095		7	h	5					steel, snow	9		
	10	30.336	50.1	30.378	50.6	50.3	32.9			28.2	40.7	38.1	39.7	39.7	NW	0.5	SE	1	SSE	15	1	0.007		5	CS	7						10		
	11	30.352	49.3	30.370	49.1	43.7	34.6			31.2	40.9	38.7	38.3	35.7	SE	1	SE	1.5	SSE	25	0	0		5	CS	6						11		
	12	30.272	47.0	30.180	46.3	41.0	35.7			32.7	39.2	36.7	38.3	36.9	SE	1.5	E	1	ESE	2	0	0		9	CS	2						12		
	13	30.168	45.7	30.202	45.0	39.0	36.3			35.4	38.0	36.4	37.3	35.3	SE	1	E	1	8.4	15	2	0.010		10	CS	0						Snow, steel	13	
	14	30.216	47.4	30.212	45.0	39.5	36.1			35.0	39.2	37.8	37.0	35.7	E	1	E	1	8.4	15	0	0		10	CS	0						14		
	15	30.196	45.3	30.154	46.8	41.5	35.2			34.1	38.9	36.4	37.3	36.0	S	1	SW	0.5	SW	2	1	0	0		9	CS	1						15	
	16	30.110	45.9	30.188	47.2	41.8	29.7			26.8	34.9	33.9	38.2	37.2	E	0.5	NE	1	ENE	15	1	0.010		9	CS	1						Hoarfrost	16	
	17	30.494	45.0	30.592	45.3	39.0	34.0			34.0	36.3	33.4	35.0	32.3	NE	1	NE	0.5	NE	25	0	0		10	CS	0						Hail	17	
	18	30.378	44.1	29.968	47.0	47.8	31.4			29.9	34.1	32.0	45.9	44.3	SW	1.5	NW	2	W	3	1	0.010		9	CS	2						Snow	18	
	19	30.024	43.9	30.020	45.3	46.0	34.2			32.0	36.0	33.3	35.3	32.7	NW	1.5	NW	1.5	NW	35	0	0		7	CS	5							19	
	20	30.060	45.1	30.034	45.0	41.3	34.0			32.6	36.5	33.8	34.5	34.0	NW	1	N	1	NW	25	0	0		9	CS	4							20	
	21	30.024	47.6	29.930	49.0	51.3	33.8			31.6	39.0	38.0	47.0	45.0	W	1	NW	1.5	NW	2	2	0.010		9	CS	4							21	
	22	30.000	50.0	30.140	51.3	49.7	36.9			39.1	45.2	44.8	38.7	38.0	N	1.5	NE	0.5	NW	2	3	0.065		8	CS	1							22	
	23	30.184	51.9	30.210	53.3	53.0	37.7			31.8	47.0	44.8	46.0	44.5	NW	1	NW	0.5	NW	15	0	0		10	CS	3							23	
	24	30.130	53.1	30.060	54.2	54.7	36.2			32.4	48.3	44.6	44.1	42.8	W	1	SW	1	WSW	15	2	0.010		7	CS	10							24	
	25	29.918	54.3	29.750	54.0	53.0	39.8			34.4	51.4	49.0	49.0	48.0	SW	1.5	W	2	W	3	3	0.035		7	h	6							25	
	26	29.784	55.4	29.670	53.3	53.3	37.3			39.4	50.0	46.2	40.0	38.3	SW	1.5	W	2	W	25	0	0		7	CS	9							26	
	27	29.608	52.0	29.798	50.3	50.5	36.0			31.4	45.4	41.6	38.0	37.3	NW	1	NW	2	NW	25	5	0.065		7	CS	6							Hail, steel	27
	28	30.006	48.0	30.134	48.8	48.7	32.6			30.3	40.1	38.6	43.0	41.7	NW	2	NW	1	NW	3	0	0		8	CS	6							Snow	28
	29	30.198	49.7	30.228	53.3	53.7	40.3			36.9	48.0	44.7	46.9	44.9	NW	0.5	NW	1	NW	15	1	0.010		6	CS	6								29
	30	30.300	53.6	30.392	55.1	58.0	42.9			38.7	51.9	48.0	47.7	46.0	NW	1	NW	1	NW	15	0	0		8	CS	7								30
	31	30.430	55.0	30.456	57.0	56.2	43.0			40.7	52.3	48.2	47.5	46.0	NW	1	NW	0.5	NW	15	0	0		5	CS	8								31
	Sums.	431.198	1493.5	432.004	1574.8	1482.1	1085.9			1034.0	1284.6	1213.2	1254.3	1214.5	33.0	345			57	2579			241	128										
	Means.	30.036	48.2	30.066	48.9	46.7	35.3			33.3	41.4	39.3	40.5	39.2	1.23	1.11			1.8	0.081			7.8	4.1										
	† Total Corrections for Instru- mental Errors.	-0.013	-	-0.013	-	+0.2	+0.1			-0.2	0	0	0	0	0-6	0-6																		
	‡ Corrections for Diurnal Range.																																	
	“Cor- rected Means.”	30.026	48.2	30.052	48.9	46.9	35.8			33.2	41.4	39.3	40.5	39.1	1.23	1.11			1.8	0.081			7.8	4.1										
	No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			

BAROMETER, “corrected Mean” at 9 A.M., minus the Correction†† = 29.973  
for Temp. (Col. 2), =  $29.973 - 0.025$  = 29.948  
“Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = 29.997  
for Temp. (Col. 4), =  $29.997 - 0.025$  = 29.972  
Mean at Station, corrected, and at 32°, = 29.985 30.027  
Correction for height,  $139\frac{1}{2}$  feet above Mean Sea-level, = +0.156 +0.114  
Mean, reduced to 32°, and Sea-level, = 30.141 30.141  
Highest Reading, corrected for Index error, on the 17 th, = 30.579 30.622  
Lowest Do. Do., on the 9 th, = 29.236 29.277  
Difference, or Monthly Range, = 1.344 1.345

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 8 th,  $29.30$  = 38.2  
Lowest in Month, corrected for Index errors, on the 16 th, = 29.8  
Difference, or Monthly Range, = 28.4  
“Corrected Mean” of all the Highest, (Col. 5), = 46.9  
“Corrected Mean” of all the Lowest, (Col. 6), = 33.8  
Difference, or Mean Daily Range, = 11.1  
\*\* Calculated Mean Temperature of Month, = 41.8  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =  
“Corrected Mean,” (Col. 7), of Black Bulb, Max. in Sun, =  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 16 th, = 26.6  
“Corrected Mean,” (Col. 8), of Black Bulb, Min. on grass, = 33.2  
Difference of above Means or Range (“exposed”), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 41.0  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 39.2  
†† Computed Temperature of Dew-Point, = 36.9  
†† Do. Elastic Force of Vapour, = 0.219 In.  
†† Do. Weight of Vapour in a Cubic Foot of Air, = 2.374 Grs.  
†† Relative Humidity, (Saturation = 100), = 86.5 86  
RAIN fell on 16 Days; Amount in Inches,  $2.519$  = 2.519

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.	1	3	3	5	3	5	2	9	0	1.23	
P.M.	1	4	6	3	0	3	3	10	1	1.11	
Mean.	1	3	5	4	1	4	2	10	1	1.17	1.3766

Evaporation = 2.879 In.

Observations made and Return verified by *Alex. Beverley, assisted by Wm. Dawson, Janitor of Grammar School, Aberdeen*

(Signed) *Alex. Beverley*  
Greatest daily range 18.4 on the 8th



Abbeville  
Paris 1873

The Council of the Society recommend that the Self-Registering Thermometers, and the Dry and Wet Bulb Hygrometers, kept in Stevenson's Louvre-boarded Box for Thermometers, painted white inside and outside, and served to four stout posts, also painted white, firmly fixed in the ground. The posts must be of such a length that when the Thermometers are hung in position the Bulbs of the Minimum Thermometer, and of the Dry and Wet Bulb Thermometers, will be exactly at the same height of four feet above the ground, the Minimum Thermometer being hung immediately above the Minimum Thermometer. The Thermometer Box is to be placed over a plot of ground, and in a free open space to which the sun's rays have free access, so that the thermometer may be exposed to the sun, during as much of the day as surrounding conditions enable the Observer to secure. The Thermometers are suspended on cross-slats in the centre of the Box, and face the door, which should open to the north.

The Council regard the question of UNIFORMITY OF HEIGHT ABOVE GROUND, as one of the most important, and the only one, in the Observatory system of Meteorological Observation, since without it Observations made at different Stations are incomparable, thus rendering it impossible to compare the climates of places with each other as regards their most important features.

Professor Phillip's, and Negretti and Zambet's Maximum Thermometers, and Rubenford's Minimum Thermometer that these are recommended. It is recommended that these Thermometers be graduated on the glass stem. The Minimum Thermometer is liable to two demeritments—viz, the loss of spirit breaking, and part of the spirit distilling by high temperature and lodging at the top of the tube. This demeritment may be occasionally occurrence with Protected Thermometers, but of frequent occurrence with Exposed Thermometers. Hence a systematic examination of Minimum Thermometers ought to be a regular part of the work carried on by each Observer.

The Barometer in which the error arising from the fluctuating surface of the mercury in the cistern is entirely got rid of is Perrin's surface of the mercury in the cistern is entirely got rid of is Perrin's Barometer, the arrangement consisting in applying pressure by means of a screw to the bottom of the cistern, which is made of flexible leather, thus raising or depressing the surface till it just meets the very point which forms the zero point of the fixed scale. The Barometer originally constructed by Mr. Aitken of London,

It is absolutely necessary that the Barometer which is to be used, shall have been compared with a Standard Barometer. The Barometer should be suspended in as good a light as can be secured, and to facilitate the reading a piece of white paper may be put behind the tube. It must be hung truly perpendicular, and exposed to neither the sun's direct rays nor the heat of a fire, and must not be hung against a wall heated by a fire. The object being to secure that the whole instrument, including the brass tubing, the confined mercury, and the attached Thermeter, shall be at the same temperature.

The errors most frequently made in reading the Barometer are those which result from the use of the wrong scale. The scales in contact with the glass tube, must carefully be noted. The errors most frequently made in reading the Barometer are those which result from the use of the wrong scale. The scales in contact with the glass tube, must carefully be noted.

slowly inverted the instrument, place the top of it on a yielding substance, such as the foot, and gently tap on the stem with the palm of the hand, so as to induce the air to ascend through the column to the stem, whence it may escape. Since there is the weight of two atmospheres—the pressing on the air that may be in the tube, and the air outside—the pressing on any air that may be inside the tube, it is usually of no importance to get it wholly expelled. After repeated trials, however, gently accomplished; and the clear air that is driven out, when gently struck with the palm of the hand, will show when the whole of the air has been expelled. On bending up the Barometer, care must be taken to screw down the mercury in the tube before unscrewing the foot of the stem, for if this be not attended to, the mercury will flow out, and the instrument be seriously damaged.



Fortunately, Spirit Thermometers may be easily set right by any one, and the column of spirit can be made to stand straight, when the column of spirit chances to separate. Let the Thermometer be taken in the hand by the end farthest from the bulb, and rotated above the head and then forcibly swung down towards the object being on the principle of centrifugal force, to send the spirit down the stem, and the column of spirit will unite with the column. A few new throws, or swinging strokes, will generally be sufficient for the purpose; after which the Thermometer should be placed in a position to allow the rest of the spirit still adhering to a

The Hygrometer in use at the Society's Stations consists of two Thermometers usually, but not necessarily, mounted on one frame. As apparently slight deviations from the approved form of this apparatus seriously vibrate the Hygrometrical Observations, Observers are specially requested to use only one of these methods.

bringing the eye exactly opposite the tip of the index or column of mercury. The reading ought to be taken to tenths of a degree, and noted in decimals. Thus the thermometer will be read— $39^{\circ}.4$ ,  $40^{\circ}.0$ , or  $40^{\circ}.1$ ; or again,  $40^{\circ}.5$ ,  $40^{\circ}.6$ , or  $40^{\circ}.6$ , according as it indicates a little under, an exact coincidence with, or a little over  $40^{\circ}$ , or  $40^{\circ}.5$ , respectively.  $40^{\circ}.5$  more or less must be registered  $40^{\circ}.2$ , or  $40^{\circ}.8$ , or  $40^{\circ}.7$ , or  $40^{\circ}.8$  respectively. In reading Rutherford's thermometer, the indication of that end and the index

10. No instrument ought to be used for meteorological purposes until it has been carefully tested by a competent person. When such Thermometers, aneroid Barometers, or aneroid Altimeters are used, they ought to be attached to the stem, but merely on the outside, and ought to be moved up and down the stem, so as to give the observer an opportunity of testing their position on the Scale and ought never afterwards to be moved, unless they are so constructed, that they are very liable to be moved, and without being re-tested. The Self-Registering, especially the minimum thermometers, ought frequently to be compared with a dry bulb of the Hygrometer. The freezing-point of each Thermometer, marked by a scratch on the tube, ought to be tested once or twice, in snow or melting ice.

11. In selecting instruments, the following points require attention:—  
1. The divisions of the vernier of Barometers in reference to their scales, and the divisions of the vernier of Thermometers in reference to the perfect freedom of the Barometer from air; the correct num-

Abbeville  
Paris 1873

Very great care should be bestowed on the Observations of the Wind, the accuracy of which, both as regards Direction and Force, is so essential towards the right conclusion of many of the more important problems of the science.

A Wind-Vane ought to be elevated at least 12 feet above surrounding objects. When it oscillates incontinently, the

system of simultaneous observation, pursued at different Stations, is likely to give highly valuable and important results, particularly in connection with the system of thickly-planted Stations over a stated district round Edinburgh called STORM STATIONS, in the course of being established by the Society for the systematic investigation of the relation of the force of the wind to barometric

observations may be obtained. For indicating the force of the Wind at any particular hour of observation, the Pressure barometer is used. The observations of the Force of the Wind, the barometer, and the Thermometer, are made by the barometer and thermometer recently brought under the notice of the Society by T. Stevenson, the Honorary Secretary, and Mr R. Ballingall, the Observer at Fallabus, are recommended as likely to secure conformity in making observations on the Force of the Wind.

secure for it. As it is often uncut to obtain a position free and unobstructed by surrounding objects as is desirable, it should be taken to place it at some distance from shrubs, buildings, or other obstructions, at least as many feet from its base as they are in height. The more important directions, in which it is most desirable to have a free exposure, are in the

lead, it being found that a steep projecting above the rim of the Gauge seriously interferes with the proper measurement of the Rain-gauge. When a measuring glass is used, care should be taken to hold the Gauge quite perpendicular. The Rain Gauge ought to be read daily at 11 A.M., and the reading entered in the Returns of the previous day. The Gauge is read once a month, the reading is to be made on the

drift is observed, and registered in addition to, and as a check upon, the indications of the Rain-Gauge. For wind, rain, and snow, indeed in every column, the Observer cannot be too careful to register observations only; and nothing that partakes of the nature of deduction or inference.

Convenient abbreviations for the nomenclature of Clouds will be

Changes may be noted among the Remarks. The amount of Clouds is entered from a scale of 0 to 10; thus, when the sky overcast is entered 10, it is free from Clouds it is entered 0, when half covered by Clouds, 5, and so on.

and column, an entry of  $\frac{4}{4}$ , will indicate that the higher 2, cu-st, ions are covered to the amount of 4-tenths with stratus Clouds; the other, further observed to the extent of 2-tenths by

As the germination and growth of crops and plants generally, depend greatly on the temperature of the soil,—its amount and constancy,—the Council recommend that attention be given to this important factor, and that the under-  
ground

A knowledge of the Temperature of the Sea is not only important in itself, but in its relations to that of our island, a most important branch of Meteorology. The Council therefore recommend that the Temperature of the Sea be carefully taken by a properly constructed apparatus, from boats, or from the ends of piers and rocks round the coast, as this be impracticable, from the ends of piers and rocks round the coast.

100

Mention what Test-Papers are used, Schönbein's or Mofitt's, etc. The paper is affixed by a pin to a board in the thermometer Box, and the indications registered at 9 a.m. It is desired that these indications be registered in connection with the force and direction of the wind at the time of observation, in the following manner—thus  $3\frac{1}{2}$ , as an Ozone entry on the schedule, will indicate that the Ozone Paper is tinted as 3 on the scale, that the wind is from the N.W., and that its force on the 0—5 is 4, or blowing fresh.

ity advantage of, and a list of such as are in general use are given at the foot of the column. Besides special and extraordinary Observations, great prominence ought to be given in this column to Prevalent Diseases, differences in character, colour, velocity, and direction between the Lower and Upper Strata of Clouds; the Colour of the Remarks ought to be made on the occurrence of *Meteors*, v. c. 5, etc. Remarks concerning depressions, elevations and fluctuations of the Barometer, Thunder Storms, and remarkable falls of Snow, Hail, &c. The names of the several Winds accompanying their effects.

of considerable importance in collections of the Society. The Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summaries may fairly represent the whole of Scotland. Observations ought to be confined to individual trees and shrubs; particular species of birds; and, in the case of crops, to specified areas of land. The results of the observations should be sent to the Secretary of the Society by the 1st of January, and should be accompanied by a photograph of the ground or farm, and a sketch of the crop, if any, and a description of the ground or farm. The results of the observations should be sent to the Secretary of the Society by the 1st of January, and should be accompanied by a photograph of the ground or farm, and a sketch of the crop, if any, and a description of the ground or farm.

EDDINGBURGH, *Dequeler*, 1874.

[illegible][illegible]

Alder,	1
Ash,	1
Beech,	1
Birch,	1
Elm,	1
Larch,	1
Time,	1
Oak,	1
Sycamore or Pl	1

[illegible]

	Fruit in Blossom.	Fruits.	Fruit in Blossom.	Fruit Ripening Generally.	MICROBATORY BRIDS.	Fruit Arrival.	Departure.
Harperry,	.	Apple,	.	Cuckoo,	.	.	.
Boutree or Elder,	.	Black Currant.	.	Gutw.,	.	.	.
Hazel,	.	Cherry.	.	House-swallow,	.	.	.
Broom,	.	Gear.	.	Lapwing,	.	.	.
Hawthorn,	.	Groseberry.	.	Plover,	.	.	.
Holly,	.	Peach,	.	Sand-Martin,	.	.	.
Laburnum,	.	Pear,	.	Starling,	.	.	.
Mezerion,	.	Plum,	.	Swan,	.	.	.
Red Flowering Currant,	.	Strawberry,	.	Nail or Corn Crake,	.	.	.
Rhododendron Fonceau,	.	.	.	.	.	.	.
Vibn,	.	.	.	.	.	.	.

*Secretary of the Meteorological Society of Scotland.*

EDINBURGH.

BOOK POST.

(By Order) A. B.  
EDINBURGH December 1874.



# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Hammerfell, Capenhurst Road, County of Aberdeen, in Lat. 57° 3' N, Long 2° 35' W, Distance from Sea 2 1/2 miles.  
 Height of Cistern of the Barometer above Mean Sea-level 139 1/2 feet, above Ground 15 1/2 feet. During the MONTH of April 1875.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	B. J. BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. 2227				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.				SEA.	OZONE.	GENERAL REMARKS.  As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc.  Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.					
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulb, 4 feet above Ground.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 A.M.		P.M.		9 h. A.M.		9 h. P.M.												
		Barometer, No. 236	Attached Thermometer	Barometer, No. 236	Attached Thermometer	Max. No. 235	Min. No. 237	Max. No. 235	Min. No. 237	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	No. of hours in which it fell.	Amount in inches. No. 235	Velocity (0-10), and Direction.	Amount (0-10), and Species.	Velocity (0-10), and Species.	Amount (0-10), and Species.	No. 22	No. 23	No. 24										
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°					°				
	1	30.412	53.7	30.340	55.8	55.3	40.6	35.7	48.8	44.7	45.5	43.5	NW	1	NW	0.5	NW	1.5	0	0	7	GS	4										1			
	2	30.138	53.7	29.844	57.7	57.3	40.2	37.1	48.0	45.4	48.3	45.5	NW	0.5	NW	1	NW	1.5	1	0.010	8	GS	4										2			
	3	29.476	55.4	29.066	57.8	53.5	43.1	40.9	48.7	46.9	45.0	44.0	SW	2	NW	1	WSW	3	2	0.017	6	GS	5										3			
	4	29.220	52.1	29.452	52.3	48.0	38.3	38.4	42.0	41.0	39.3	39.0	N	2	NE	0.5	NW	2.5	15	0.350	9	N	3										4			
	5	29.048	49.0	28.850	49.1	43.0	36.0	34.9	38.6	38.1	39.3	38.5	E	1.5	SW	1	ENE	2	12	0.635	10	N	0										5			
	6	29.046	48.8	29.164	50.6	49.3	36.0	34.0	44.6	42.6	40.0	39.9	SW	2	NW	0.5	WSW	2.5	1	0.007	4	GS	8											6		
	7	29.258	49.0	29.580	50.8	46.0	37.1	32.4	42.1	41.6	41.0	41.0	SE	1.5	SE	0.5	ESE	2	2	0.015	7	GS	5											7		
	8	29.872	52.2	30.080	51.7	51.0	39.1	36.2	47.6	45.2	43.0	42.5	NE	1.5	NE	1	ENE	2	0	0	6	GS	6											8		
	9	30.204	50.1	30.320	51.9	49.0	39.5	38.9	43.7	41.8	40.3	39.7	NE	1.5	NE	1	NNE	2	1	0.003	9	GS	3												9	
	10	30.384	53.0	30.360	52.8	52.0	36.7	33.6	48.0	45.2	44.3	43.9	NE	1	NW	1	ENE	1.5	0	0	4	GS	10												10	
	11	30.302	52.1	30.280	52.1	50.9	39.9	39.9	45.0	44.0	41.0	40.5	NE	1	NE	1	NNE	1.5	1	0.003	7	GS	4												11	
	12	30.272	51.1	30.280	52.8	52.8	39.0	36.7	43.9	43.5	40.8	40.3	NE	1	NE	1	NNE	1.5	0	0	5	GS	7												12	
	13	30.270	53.2	30.198	52.5	49.7	36.1	32.9	44.9	41.5	40.0	39.0	NE	0.5	SW	1	SW	1	0	0	4	GS	9												13	
	14	30.214	55.0	30.290	55.1	52.3	39.0	38.1	51.5	48.4	46.0	45.7	NW	1	NE	0.5	NW	1	0	0	8	GS	1												14	
	15	30.302	57.0	30.220	54.7	51.5	41.2	39.3	51.4	48.6	42.6	41.7	SW	1	SW	0.5	SSW	2	1	0.003	4	GS	9												15	
	16	30.208	56.1	30.162	57.0	58.3	35.7	30.9	52.7	50.1	43.5	42.3	SW	0.5	SE	0.5	WSW	1	0	0	3	GS	10												16	
	17	30.104	55.1	30.022	59.5	65.7	33.0	31.2	52.6	48.2	45.0	44.7	SW	0.5	SW	1	SW	1.5	0	0	2	GS	12												17	
	18	30.006	59.7	30.020	59.1	66.5	37.8	31.4	59.8	57.9	49.0	44.7	SW	0.5	SE	0.5	SSW	1	0	0	1	GS	14												18	
	19	30.026	60.4	30.026	61.7	71.0	36.6	31.6	57.9	52.8	47.0	45.7	SW	0.5	NE	0.5	WSW	1	0	0	2	GS	12												19	
	20	30.000	62.7	29.888	64.3	76.0	39.0	32.2	60.7	54.6	51.3	49.0	SW	0.5	NE	1	ENE	1	1	0.010	1	GS	14												20	
	21	29.948	57.0	29.988	54.2	51.7	38.0	39.2	42.3	39.0	39.0	36.5	NE	1.5	NE	1	NNE	2	0	0	9	GS	2												21	
	22	29.858	51.8	29.778	52.3	51.0	34.7	30.6	47.0	41.4	39.0	36.9	NW	1.5	NW	1	NW	2.5	1	0.003	5	GS	6												22	
	23	29.898	49.7	30.016	50.0	45.1	36.3	33.2	40.6	36.3	39.9	37.3	N	1	NW	0.5	NW	1	0	0	9	GS	2												23	
	24	30.034	52.3	30.102	53.9	55.3	36.1	36.2	47.0	42.8	46.9	44.7	SW	1	NW	1	NW	1.5	0	0	9	GS	2												24	
	25	30.144	55.6	30.126	55.4	53.5	42.7	40.7	49.5	43.4	46.2	43.8	NW	1	NW	0.5	NW	1	0	0	9	GS	1												25	
	26	30.044	56.0	29.890	54.7	55.0	41.0	36.1	51.7	46.7	44.5	43.5	SW	1	SW	1	SSW	1.5	6	0.140	10	GS	10												26	
	27	29.772	62.6	29.820	59.0	65.0	43.3	38.8	55.6	53.1	48.3	46.0	SW	1	NW	1	WSW	1.5	3	0.145	7	GS	5												27	
	28	29.910	57.5	29.866	59.9	58.0	41.4	35.6	53.7	50.6	53.7	57.0	SW	0.5	SW	1	WSW	1	6	0.210	9	GS	1												28	
	29	29.850	62.1	29.932	63.3	66.9	49.1	45.4	62.4	57.0	52.0	48.9	NW	1.5	NW	1	NW	2	0	0	3	GS	14												29	
	30	30.014	60.6	30.004	59.6	54.0	43.0	38.7	50.8	47.9	44.3	43.7	E	0.5	S	1	SW	1	0	0	6	GS	5												30	
	31																																			31
Sums.		898.234	1644.5	897.964	1658.7	1656.6	1169.5	1080.8	1473.1	1374.3	1376.0	1282.4	32.0		24.5		53	1.531			183	188														
Means.		29.941	54.8	29.932	55.3	55.2	39.0	36.0	49.1	45.8	44.2	42.8	1.0		0.82		1.76	0.51			6.1	6.2														
† Total Corrections for Instru- mental Errors.		-0.013	-	-0.013	-	+0.2	+0.1	-0.2	0	0	0	0																								
† Corrections for Diurnal Range.																																				
"Cor- rected Means."		29.928	54.8	29.919	55.3	55.4	39.1	35.8	49.1	45.8	44.2	42.8	1.0		0.82		1.8	0.51			6.1	6.2														
No. of		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					

**BAROMETER**, "corrected Mean" at 9 A.M., minus the Correction for Temp. (Col. 2), = 29.858  
 "Corrected Mean" of Barometer at 9 P.M., minus the Correction for Temp. (Col. 4), = 29.847  
**Mean at Station, corrected, and at 32°**, = 29.853 29.844  
 Correction for height, 139 1/2 feet above Mean Sea-level, = +0.154 +0.113  
**Mean, reduced to 32°, and Sea-level**, = 30.007 30.007  
 Highest Reading, corrected for Index error, on the 1<sup>st</sup>, = 30.393 30.434  
 Lowest Do. Do., on the 5<sup>th</sup>, = 28.837 28.879  
 Difference, or **Monthly Range**, = 1.556 1.555

**S.-R. THERMOMETER**, (in shade, etc.), **Highest in Month**, (corrected for Index Errors), on the 20<sup>th</sup>, = 76.2  
**Lowest in Month**, corrected for Index errors, on the 17<sup>th</sup>, = 33.1  
 Difference, or **Monthly Range**, = 43.1  
**"Corrected Mean" of all the Highest**, (Col. 5), = 55.4  
**"Corrected Mean" of all the Lowest**, (Col. 6), = 39.1  
 Difference, or **Mean Daily Range**, = 16.3  
**\*\* Calculated Mean Temperature of Month**, = 47.3  
**S.-R. THERMOMETER**, **Black Bulb in Sun**, **Highest**, (corrected for Index Errors), on the 1<sup>st</sup>, = 30.4  
**Lowest at Night**, Black Bulb, (corrected for Index errors), on the 22<sup>nd</sup>, = 35.8  
**"Corrected Mean" (Col. 8), of Black Bulb, Min. on grass**, = 35.8  
 Difference of above Means or Range ("exposed"), = 3.423

**HYGROMETER**, **Mean** (corrected) A.M. and P.M. Reading of **Dry Bulb**, (Cols. 9 and 11), = 46.7  
**Mean** (corrected) A.M. and P.M. Reading of **Wet Bulb**, (Cols. 10 and 12), = 44.3  
**Computed Temperature of Dew-Point**, = 41.6  
**Do. Elastic Force of Vapour**, = 0.263  
**Do. Weight of Vapour in a Cubic Foot of Air**, = 3.02  
**Relative Humidity**, (Saturation = 100), = 83.8  
**RAIN** fell on 14 Days; Amount in Inches, = 1.551  
 Rose 14<sup>th</sup>, = 1.390

WIND.												SUMMARY.			
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.				
A.M.	2	7	2	1	0	12	1	5	0	1.04					
P.M.	0	9	0	3	1	6	3	8	0	0.82					
Mean.	1	8	1	2	1	9	2	6	0	0.94	= 0.88				

Observations made and Return verified by Alex. Beveridge assisted by Wm. Davison  
Sanitor Grammar School, Aberdeen

(Signed) Alex. Beveridge

Greatest Daily Range 37.1 on the 20<sup>th</sup>







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Hammerfield, Lhanbryne Road, County of Aberdeen, in Lat. 57°3'N, Long. 2°35'W, Distance from Sea 2½ miles.  
Height of Cistern of the Barometer above Mean Sea-level 139½ feet, above Ground 15½ feet. During the MONTH of May 1875.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	13. J. BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. 2287				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.				SEA.	OZONE.	GENERAL REMARKS.				Days of Month.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs. 4 ft. in Sun.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer. No. —		No. of hours in which it fell.	Amount in inches. No. 2822	9 A.M.		P.M.		9 h. A.M.				Temperature of WET at depth of feet. No. —	Temperature at 1 fathom, and Density.	0—10.			As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		Barometer. No. 226	Attach- ed Ther- mometer	Barometer. No. 226	Attach- ed Ther- mometer	Max. No. 355	Min. No. 07	Max. in Sun- rays No. 212	Min. on Grass. No. 212	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direc- tion.	Force in m.p.h.	Direc- tion.	Force in m.p.h.	No. —	9 h. A.M. No. 2822			Velocity (0—5), and Dirrec- tion.	Amount (0—10), and Dirrec- tion.	Velocity (0—5), and Dirrec- tion.	Amount (0—10), and Dirrec- tion.	No. —	3 inches.					12 inches.	23 inches.		Mention the hour at which Storms, including Thunder and Lightning, began and ended.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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## NOTATION USED IN GENERAL REMARKS.

a.	aurora.	m.	meteor.
ci.	cirrus.	ms.	meteors.
ci-cu.	cirrus-accumulus.	n.	nimbus.
ci-s.	cirrus-stratus.	r.	rain.
cu.	cumulus.	h.r.	heavy rain.
cu-s.	cumulo-stratus.	c. h. r.	continued heavy rain.
d.	dew.	s.	stratus.
f.	fog.	sc.	scud.
fr.	frost.	s.	sleet.
h-fr.	hoar-frost.	s.	snow.
h.	haze.	sol. h.	solar halo.
h. d.	heavy dew.	sq.	squall.
h. l.	hail.	sq. s.	squalls.
li.	lightning.	t.	thunder.
li. cl.	light clouds.	t. s.	thunder storm.
li. sh.	light showers.	w.	wind.
lu. co.	lunar coronae.	w.	wind.
lu. h.	lunar halo.	g.	gale of wind.

## TABLE FOR ESTIMATING FORCE OF WIND.

Estimated Force, 0-6.	Common Designation.	Estimated Force, 0-6.	Common Designation.	Estimated Force, 0-6.	Common Designation.
0	Calm	1.5	Light breeze	4	Blowing hard
0.5	Very light air	2	Fresh breeze	5	Blowing a gale
1	Light air	3	Very fresh	6	Violent gale

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction for Temp. (Col. 2), = 29.704  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction for Temp. (Col. 4), = 29.702  
Mean at Station, corrected, and at 32° = 29.703 29.744  
Correction for height, 139½ feet above Mean Sea-level, = +0.153 +0.172  
Mean, reduced to 32°, and Sea-level, = 29.856 29.856  
Highest Reading, corrected for Index error, on the 26 th, = 30.193 30.134  
Lowest Do. Do., on the 21 th, = 29.201 29.242  
Difference, or Monthly Range, = 0.992 0.992

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 14 th, = 73.8  
Lowest in Month, corrected for Index errors, on the 24 th, = 38.8  
Difference, or Monthly Range, = 35.0  
"Corrected Mean" of all the Highest, (Col. 5), = 59.7  
"Corrected Mean" of all the Lowest, (Col. 6), = 43.7  
Difference, or Mean Daily Range, = 16.0  
\*\* Calculated Mean Temperature of Month, = 51.7  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, =  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 24 th, = 30.5  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 39.1  
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 51.6  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 49.1  
# Computed Temperature of Dew-Point, = 46.6  
# Do. Elastic Force of Vapour, = 0.318 in.  
# Do. Weight of Vapour in a Cubic Foot of Air, = 3.57 grs  
# Relative Humidity, (Saturation = 100), = 83.8  
RAIN fell on 19 Days; Amount in Inches, = 1.656 1.70  
WIND. SUMMARY.  
Direction. N NE E SE S SW W NW Calm or Variable. Mean Force. Mean Velocity in miles per day.  
A.M. 1 2 1 4 1 14 2 3 0 134  
P.M. 2 3 0 4 1 10 7 3 1 0.89  
Mean. 1 2 1 4 1 11 5 3 1 1.11 = 1.236

Observations made and Return verified by { Alexander Beveridge, assisted by Wm. Dawson  
Janitor, Grammar-school, Aberdeen

(Signed) Alex. Beveridge

Greatest daily range 28.8 on the 14 th

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H















# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Hammerfjell, Culharstone Row, County of Aberdeen

, in Lat. 57° 3' N, Long. 2° 7' 35" W, Distance from Sea 2 1/2 miles.

Height of Cistern of the Barometer above Mean Sea-level 139 $\frac{1}{4}$  feet, above Ground 15 $\frac{1}{2}$  feet.

During the MONTH of August July 1875-

The Hours of Observation are of Greenwich Time.

[illegible]

<b>BAROMETER</b> , "corrected Mean" at 9 A.M., minus the Correction++) for Temp. (Col. 2), = <u>29.8106</u> ..... - <u>0.095</u>	= <u>29.811</u>	<i>at level trans. school</i>
"Corrected Mean" of Barometer at 9 P.M., minus the Correction++) for Temp. (Col. 4), = <u>29.820</u> ..... - <u>0.096</u>	= <u>29.824</u>	
<b>Mean at Station, corrected, and at 32°</b> ,.....	= <u>29.818</u>	<b>29.858</b>
Correction for height, <u>139½</u> feet above Mean Sea-level,..... <u>101½</u>	= + <u>0.151</u>	+ <u>0.111</u>
<b>Mean, reduced to 32°, and Sea-level</b> ,.....	= <u>29.969</u>	<b>29.969</b>
Highest Reading, corrected for Index error, on the 5 <sup>th</sup> ,.....	= <u>30.331</u>	<b>30.372</b>
Lowest     Do.                 Do.,                 on the 11 <sup>th</sup> ,.....	= <u>29.287</u>	<b>29.328</b>
Difference, or <b>Monthly Range</b> ,.....	= <u>1.044</u>	<b>1.044</b>

<b>S.-R. THERMOMETER</b> , (in shade, etc.), <b>Highest in Month</b> , (corrected for Index Errors), on the 5 <sup>th</sup> , .....	=	71.6
<b>Lowest in Month</b> , corrected for Index errors, on the 13 <sup>th</sup> , .....	=	38.5
Difference, or <b>Monthly Range</b> , .....	=	33.1
" <b>Corrected Mean</b> " of all the <b>Highest</b> , (Col. 5), .....	=	64.0
" <b>Corrected Mean</b> " of all the <b>Lowest</b> , (Col. 6), .....	=	49.8
Difference, or <b>Mean Daily Range</b> , .....	=	14.2
** Calculated <b>Mean Temperature</b> of Month, .....	=	56.9

**S.-R. THERMOMETER, Black Bulb in Sun, Highest,** (corrected for Index Errors), on the th..... =

**“Corrected Mean,”** (Col. 7), **of Black Bulb, Max. in Sun**..... =

**Lowest at Night,** Black Bulb, (corrected for Index errors), on the 13 th..... = 24.5

**“Corrected Mean,”** (Col. 8), **of Black Bulb, Min.** on grass, ..... = 45.8

Difference of above Means or Range (“exposed”), ..... = 24.5 + 45.8 = 70.3

<b>HYGROMETER, Mean</b> (corrected) A.M. and P.M. Reading of <b>Dry Bulb</b> , (Cols. 9 and 11), .....		=	57.2
<b>Mean</b> (corrected) A.M. and P.M. Reading of <b>Wet Bulb</b> , (Cols. 10 and 12), .....		=	54.5
†† Computed <b>Temperature of Dew-Point</b> , .....		=	52.0
†† Do. <b>Elastic Force of Vapour</b> , .....		=	0.389 in
†† Do. <b>Weight of Vapour in a Cubic Foot of Air</b> , ...		=	4.33 grs
†† <b>Relative Humidity</b> , (Saturation = 100), .....		=	83. <del>11</del>
<b>RAIN</b> fell on <u>20</u> Days; Amount in Inches, .....	=		3.685
			3.720 at Green Sea
<b>WIND</b>		<b>SUMMARY</b>	

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S.	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.	3	12	1	2	4	5	0	4	0	1.02	
P.M.	1	12	2	0	5	3	1	3	4	0.81	
Mean.	2	12	2	1	4	4	1	3	2	0.91	= 0.83

Evaporation = 3.793 inches

Observations made and  
Return verified by { Thos. Beverly, assisted by several others  
on this occasion

(Signed) Shey Bavel

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# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Hammerhead, Loughstone Road, County of Aberdeen, in Lat. 57° 3' N, Long. 2° 1' 35" W, Distance from Sea 2 1/2 miles.  
Height of Cistern of the Barometer above Mean Sea-level 139 1/4 feet, above Ground 15 1/2 feet. During the MONTH of August 1876.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	B.T. BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 4 P.M.				HYGROMETER. No. 2237				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS.  As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc.  Mention the hour at which Storms, including Thunder and Lightning, began and ended.		Days of Month.				
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulb, 9 ft. on Grass.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 A.M.		P.M.		SUNSHINE.													
		Barometer. No. 236	Attach- ed Ther- mometer	Barometer. No. 236	Attach- ed Ther- mometer	Max. No. 233	Min. No. 207	Max. in Sun's rays No. 235	Min. on Grass. No. 232	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	No. of hours in which it fell.	Amount in inches.	Velocity (0-10), and Direction.	Amount (0-10), and Direction.	Mean Amount (0-10), and Direction.	Hours.	Inches.	Inches.	Inches.									
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°						°	°	°	
1		30.161	65.0	30.178	65.0	63.8	48.0	47.0	57.0	52.0	51.6	49.9	N	0.5	SE	0.5	2	0.1														1			
2		30.159	65.0	30.119	66.0	65.5	51.0	45.5	58.7	55.8	56.5	55.0	S	0.5	Var	0.5	2	0.1														2			
3		30.131	66.0	30.174	64.0	59.3	51.2	45.0	56.2	55.1	52.4	51.7	Var	0.5	NE	0.5	1/2	0.1															3		
4		30.148	65.0	30.128	63.0	58.9	52.0	42.0	54.0	50.0	53.8	51.5	N	1	NW	1	0	0.1															4		
5		30.158	64.0	30.180	64.0	60.0	52.7	51.0	54.4	51.2	53.5	52.7	N	1	N	1	0	0.1															5		
6		30.179	64.0	30.176	65.0	60.3	53.1	48.0	55.1	53.8	54.6	53.0	N	0.5	N	0.5	0	0.1															6		
7		30.179	65.0	30.179	64.0	60.2	53.8	52.0	55.9	53.0	55.7	52.8	N	0.5	NE	0.5	1/2	0.1															7		
8		30.150	63.0	30.075	63.0	57.4	54.1	52.0	54.6	51.3	55.0	53.0	NE	0.5	E	0.5	2	0.1															8		
9		29.951	63.0	29.745	64.0	60.3	56.0	53.0	56.7	54.8	56.3	56.0	NE	0.5	NE	0.5	3	0.355															9		
10		29.677	65.0	29.646	64.8	64.4	56.0	53.2	60.0	59.0	58.7	57.3	Var	0.5	SW	0.5	1	0.010															10		
11		29.622	65.0	29.706	65.4	67.5	54.6	56.8	63.0	60.3	58.1	57.2	NW	0.5	SW	0.5	3	0.085																11	
12		29.778	65.3	29.760	64.0	59.9	54.5	55.3	59.1	57.3	56.2	55.4	NE	0.5	NE	1	6	0.235																12	
13		29.802	62.8	29.896	62.7	59.9	51.9	51.2	56.3	52.6	54.2	51.9	NE	1	NE	0.5	3	0.007																13	
14		29.882	62.4	29.876	63.8	63.7	51.9	49.7	56.0	54.9	59.6	58.1	SE	0.5	NE	0.5	0	0.0																14	
15		29.960	66.4	30.014	66.8	72.9	53.6	51.0	70.0	62.9	59.7	57.9	NW	0.5	SW	0.5	2	0.025																15	
16		29.828	65.3	29.726	67.1	67.2	57.1	52.6	61.6	59.9	64.9	63.0	SW	1.5	SW	1.5	2	0.015																16	
17		29.658	66.4	29.670	68.0	73.0	57.0	59.1	64.0	61.8	58.7	57.0	SW	1	SW	1	2	0.030																17	
18		29.746	66.3	29.976	67.0	69.9	55.1	52.5	63.4	58.5	57.1	56.0	NW	1	SW	1	4	0.075																18	
19		30.080	66.4	30.102	66.4	65.0	50.0	47.4	61.5	58.0	57.3	55.9	Var	0.5	NW	0.5	1	0.010																19	
20		30.084	67.3	30.052	63.7	67.5	45.8	42.4	64.6	58.6	57.0	54.5	SW	0.5	NW	0.5	4	0.260																20	
21		29.984	63.8	30.164	62.9	61.4	49.0	51.0	56.7	55.9	50.0	48.8	SW	1	SW	0.5	1	0.010																21	
22		30.074	63.9	29.860	67.2	65.4	47.1	42.1	61.1	57.3	59.2	57.6	SW	0.5	NE	0.5	12	0.550																22	
23		29.796	64.4	29.724	65.0	68.4	56.1	55.4	59.3	58.5	60.0	57.4	SW	1	SW	1	6	0.330																	23
24		29.604	65.2	29.740	65.6	70.0	54.2	53.8	63.0	60.8	56.1	54.9	SW	1	SW	1	0	0.0																	24
25		29.546	64.0	29.460	62.4	64.9	52.1	46.8	56.8	55.9	57.5	55.9	S	1.5	NE	0.5	1	0.025																25	
26		29.540	63.7	29.646	64.0	67.0	52.1	49.1	60.1	55.9	57.3	52.5	SW	1.5	SW	1.5	1	0.015																	26
27		29.794	63.0	29.948	65.0	68.8	50.1	43.3	59.2	54.2	56.1	52.5	SW	2	SW	2	0	0.0																	27
28		29.964	65.7	29.906	65.7	70.9	47.1	40.7	63.3	56.8	58.0	57.0	SW	1	N	1	0	0.0																	28
29		29.842	66.0	29.776	65.2	67.8	50.9	45.0	59.1	57.0	56.2	55.1	Var	0.5	SW	0.5	1	0.013																	29
30		29.782	63.8	29.630	62.0	60.3	49.1	45.5	57.0	53.7	50.5	49.7	SW	1	SE	0.5	10	0.285																	30
31		29.710	64.4	30.042	58.8	57.8	46.7	42.9	53.7	52.5	51.9	48.1	NW	2.5	NW	0.5	2	0.010																	31
Sums.		27.16 1.10	15.8	26.15 1.13	14.1	15.8	16.13	15.22 3	18.31 4	17.24 3	17.43 1	16.89 3	27.0	23.0			72	2.345																	
Means.		29.902	64.6	29.912	64.6	64.7	52.1	49.1	59.8	56.1	56.2	54.5	0.87	0.74			2.3	0.076																	
† Total Corrections for Instrumental Errors.		-0.013	-	-0.013	-	+0.2	+0.1	-0.2	-0.1	-0.1	-0.1	-0.1	0.6	0.6																					
† Corrections for Diurnal Range.																																			
† Corrected Means.		29.889	64.6	29.899	64.6	64.9	52.2	48.9	59.0	56.0	56.2	54.4	0.87	0.74			2.3	0.076																	
No. of Column.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				

**BAROMETER**, "corrected Mean" at 9 A.M., minus the Correction†† = 29.793  
for Temp. (Col. 2), = 29.889... = 0.096...  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.803  
for Temp. (Col. 4), = 29.899... = 0.096...  
**Mean at Station, corrected, and at 32°**, = 29.798 29.838  
Correction for height, 139 1/4 feet above Mean Sea-level, = +0.151 +0.111  
**Mean, reduced to 32°, and Sea-level**, = 29.949 29.949  
Highest Reading, corrected for Index error, on the 6<sup>th</sup>, = 30.167 30.208  
Lowest Do. Do., on the 25<sup>th</sup>, = 29.447 29.487  
Difference, or **Monthly Range**, = 0.720 0.721

**S.-R. THERMOMETER**, (in shade, etc.), **Highest in Month**, (corrected for Index Errors), on the 17<sup>th</sup>, = 73.2  
**Lowest in Month**, corrected for Index errors, on the 20<sup>th</sup>, = 45.9  
Difference, or **Monthly Range**, = 27.3  
"Corrected Mean" of all the Highest, (Col. 5), = 64.9  
"Corrected Mean" of all the Lowest, (Col. 6), = 52.2  
Difference, or **Mean Daily Range**, = 12.7  
\* Calculated **Mean Temperature** of Month, = 58.6  
**S.-R. THERMOMETER**, **Black Bulb in Sun**, **Highest**, (corrected for Index Errors), on the 17<sup>th</sup>, = 73.2  
"Corrected Mean," (Col. 7), of **Black Bulb, Max. in Sun**, = 73.2  
**Lowest at Night**, **Black Bulb**, (corrected for Index errors), on the 28<sup>th</sup>, = 40.5  
"Corrected Mean," (Col. 8), of **Black Bulb, Min. on grass**, = 48.9  
Difference of above Means or Range ("exposed"), = 3.652

**HYGROMETER**, **Mean** (corrected) A.M. and P.M. Reading of **Dry Bulb**, (Cols. 9 and 11), = 57.6  
**Mean** (corrected) A.M. and P.M. Reading of **Wet Bulb**, (Cols. 10 and 12), = 53.2  
†† Computed **Temperature of Dew-Point**, = 53.0  
†† Do. **Elastic Force of Vapour**, = 0.404 in.  
†† Do. **Weight of Vapour in a Cubic Foot of Air**, = 4.50 grs.  
†† **Relative Humidity**, (Saturation = 100), = 84.6 %  
**RAIN** fell on 24 Days; **Amount in Inches**, = 2.348  
**WIND**, **Summary**,  
Direction: N NE E SE S SW W NW  
A.M. 5 4 0 1 2 11 0 4 4 0.87  
P.M. 2 8 1 2 0 10 3 4 1 0.74  
Mean. 3 6 0 1 1 10 2 4 3 0.80 = 0.44 ft.

Observations made and Return verified by Alexander Beverly, assisted by Wm. Dawson, David, Grammar School Aberdeen

(Signed) Alex. Beverly

Greatest Daily Range = 23.8 on the 28<sup>th</sup>

24







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Hammerfeld, (Luhanshove Row), County of <sup>Aberdeen</sup> Aberdeen, in Lat. 57° 8' 3" N, Long. 2° 7' 35" W, Distance from Sea 2 1/4 miles.  
Height of Cistern of the Barometer above Mean Sea-level 139 1/2 feet, above Ground 15 1/4 feet. During the MONTH of September

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS.				HYGROMETER.				WIND.				RAIN.				CLOUDS.				THERMOMETERS under Ground.				SRA.		OZONE.		GENERAL REMARKS.		Days of Month.
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed on Grass.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.		Amount in inches.		9 A.M.		P.M.		9 h. A.M.		Temperature of Air and Surface.		0-10.						
		Barometer.	Attached Thermometer.	Barometer.	Attached Thermometer.	Max. No.	Min. No.	Max. No.	Min. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	9 h. A.M.	No. of hours in which it fell.	Amount in inches.	Velocity (0-10) and Direction.	Amount (0-10) and Direction.	Velocity (0-10) and Direction.	Amount (0-10) and Direction.	No. 3 inches.	No. 12 inches.	No. 22 inches.	Temperature of Air and Surface.	0-10.							
		No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236	No. 236				
		inches.	inches.	inches.	inches.																															
	1	30.146	59.7	30.072	60.3	62.0	38.9	32.3	56.8	51.7	52.3	51.0	Bar.	0.5	SW	1	SSW 1.5	0	0					3	Ci	12						So. ha. 11 Am. fog evening	1			
	2	29.928	61.4	29.718	63.0	64.1	50.5	47.8	60.0	59.0	62.0	61.4	SW	1	SW	1	SW 2.5	10	0.355					7	CS	3						Fog	2			
	3	29.560	63.8	29.724	62.3	62.7	51.7	56.8	58.7	58.7	53.3	52.0	SW	0.5	NW	1	WNW 1	10	0.650					9	N	1							3			
	4	29.762	60.8	29.860	62.1	63.4	47.7	41.6	53.9	52.9	53.3	52.0	SW	1	NW	0.5	SSW 2	2	0.115					7	Ci	2							4			
	5	30.054	63.0	30.096	63.5	65.9	47.2	41.8	63.3	57.2	53.4	52.7	NW	1	SW	0.5	SE 1.5	10	0.010					3	Ci	12							5			
	6	30.106	64.7	30.066	66.3	68.0	46.5	41.9	63.4	60.0	60.6	57.9	SW	0.5	SW	1	WSW 2	0	0					4	St	8							6			
	7	29.958	64.7	29.838	65.7	67.9	52.4	47.3	60.3	58.2	57.5	57.0	SW	1	SE	0.5	SSW 1.5	10	0.005					4	CS	6							7			
	8	29.822	63.6	29.812	66.3	68.0	53.9	50.9	67.1	63.0	58.4	57.3	SW	1	S	0.5	SSW 1	10	1.295					7	CS	8							8			
	9	29.610	65.5	29.802	65.0	67.6	49.7	55.2	58.7	58.6	51.0	49.1	SE	1	SW	0.5	SSE 1	10	0.010					7	Ci	7							9			
	10	29.930	62.9	30.006	64.0	64.5	41.6	36.2	53.1	51.7	53.6	53.0	Bar.	0.5	SW	0.5	SSW 1.5	10	0.010					6	CS	10							10			
	11	30.114	65.6	30.216	66.0	69.9	45.0	40.9	60.6	57.3	55.6	53.0	SW	0.5	SW	1	WSW 1.5	0	0					5	Ci	11							11			
	12	30.304	66.3	30.320	66.4	70.7	44.6	39.0	63.0	58.4	54.3	52.7	SW	0.5	SE	1	SE 1.5	10	0.007	1	Ci	1	St	12									12			
	13	30.322	66.5	30.354	67.3	68.6	43.1	34.0	61.1	58.1	54.8	54.6	Bar.	0.5	SE	0.5	SE 1	3	0.010					1	St	7	St	10					Fog	13		
	14	30.382	64.0	30.388	64.4	59.2	44.3	42.6	51.4	50.7	53.0	52.7	NW	0.5	NW	0.5	NW 1	2	0.015					7	St	10	St	2					Fog	14		
	15	30.356	63.1	30.338	63.3	58.7	50.2	50.3	56.7	55.3	55.0	52.7	NW	0.5	NW	1	NW 1	6	0.030					10	St	10	CS	0					Fog	15		
	16	30.308	63.4	30.244	61.9	58.3	51.0	47.9	55.9	53.1	57.4	57.0	NW	1	SE	0.5	ENE 1	1	0.005					10	CS	2							16			
	17	30.168	63.7	30.120	65.0	65.9	54.7	52.9	59.7	58.3	56.0	53.2	SW	1	SW	0.5	SSW 1.5	10	0.003					7	Ci	7								17		
	18	30.174	62.4	30.174	62.8	59.0	44.7	39.1	57.4	53.6	55.0	53.4	NW	0.5	SE	0.5	SSE 1	0	0					10	CS	0							18			
	19	30.118	62.1	30.016	62.8	59.9	44.6	39.1	56.1	54.3	55.0	54.7	S	0.5	SW	0.5	SSW 1	1	0.010					8	CS	3							19			
	20	29.920	61.1	29.896	59.0	55.5	46.4	50.0	52.3	50.7	47.7	46.1	NW	0.5	NW	0.5	NW 1	3	0.020					9	CS	0							thunder lightning - much; much s.c.	20		
	21	29.880	58.7	29.834	58.7	54.5	45.8	42.1	50.3	47.9	49.0	47.7	N	0.5	NW	1	NW 1.5	5	0.180					9	CS	1							Fog Am	21		
	22	29.858	58.4	30.090	56.0	56.0	42.3	40.9	52.3	48.2	45.5	42.7	NW	0.5	NW	1	NW 1.5	1	0.005					7	Ci	7								22		
	23	30.178	58.9	30.212	56.3	54.7	37.2	31.4	51.0	47.0	49.0	44.5	NW	1	SE	1.5	SSE 1.5	0					6	CS	10								Lochnagar, which at 7 am	23		
	24	30.132	55.8	29.960	57.1	55.4	47.3	44.2	52.9	48.2	54.6	53.0	SE	2	S	2.5	SSE 4	15	0.830					10	St	2								24		
	25	29.598	57.2	29.696	58.7	60.9	48.3	50.4	55.3	53.0	49.3	47.0	S	4	SW	1	SSE 4.5	12	0.053					8	St	3							Fog	25		
	26	29.454	57.7	29.144	60.0	59.9	45.4	39.7	53.6	53.0	56.6	56.1	SE	2	SW	1	SW 3.5	21	1.745					10	N	0							Fog - 6/10 of rain, fell after 9 Pm	26		
	27	28.808	56.3	29.236	56.1	56.9	45.0	45.5	48.6	46.8	46.0	43.8	NW	4.5	NW	0.5	WNW 5.6	2	0.070					8	CS	5							th. v. li 4-5 am - terrible gale	27		
	28	29.244	56.5	29.402	56.0	59.8	39.1	34.4	54.8	49.6	47.3	45.9	NW	1	NW	1	NNW 2.5	1	0.010					3	CS	9								28		
	29	29.504	56.5	29.552	55.0	54.0	42.0	37.3	50.7	47.7	47.0	47.0	NW	1	NW	1	NNW 1.5	4	0.130					9	CS	4								29		
	30	29.806	56.2	29.774	56.3	57.8	40.7	35.3	54.0	50.2	50.0	49.2	NW	0.5	SW	0.5	NNW 1	3	0.055					7	CS	9								30		
	31																																		31	
Sums.		397.574	1847.1	897.960	1848.5	1849.1	1387.8	1288.8	1689.2	1664.4	1573.5	1532.4		21.0		24.5		102	56.32					2.02		166										
Means.		29.9168	61.4	29.932	61.6	61.6	46.1	42.46	56.3	53.8	52.1	51.7		1.03		0.82		3.4	0.435					6.7		56										
+ Total Corrections for Instrumental Errors.		-0.013	-	-0.013	-	+0.2	+0.1	-0.2	-0.1	-0.1	-0.1	-0.1																								
+ Corrections for Diurnal Range.																																				
"Corrected Means."		29.904	61.4	29.919	61.6	61.8	46.2	42.8	56.2	53.7	53.0	51.7		1.03		0.82		3.4	0.435					6.7		56										
No. of Column.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					
NOTATION USED IN GENERAL REMARKS.																																				
a. denotes aurora.																m. denotes meteor.																				
ci. cirrus.																ms. meteors.																				
ci.-cu. cirro-cumulus.																n. nimbus.																				
ci.-s. cirro-stratus.																r. rain.																				
cu. cumulus.																h. r. heavy rain.																				
cu.-s. cumulo-stratus.																c. h. r. continued heavy rain.																				
d. dew.																s. stratus.																				
f. fog.																sc. squall.																				
fr. frost.																s. sleet.																				
h.-fr. hoar-frost.																s. snow.																				
h. haze.																so. ha. solar halo.																				
h.-d. heavy dew.																sq. squall.																				
hl. hail.																sgs. squalls.																				
l. lightning.																t. thunder.																				
li. cl. light clouds.																t. s. thunder storm.																				
li. sh. light showers.																w. wind.																				
lu. co. lunar corona.																g. gale of wind.																				
lu. ha. lunar halo.																																				
TABLE FOR ESTIMATING FORCE OF WIND.																																				
Estimated Force, 0-6.		Common Designation.		Estimated Force, 0-6.		Common Designation.		Estimated Force, 0-6.		Common Designation.		Estimated Force, 0-6.		Common Designation.																						
0	0.5	Calm	Very light air	1	1.5	2	2.5	3	4	5	6	7	8	9	10																					
1	1	Light air	Fresh breeze	2	2	3	3	4	4	5	5	6	6	7	7																					
			Very fresh																																	

<b>BAROMETER,</b> "corrected Mean" at 9 A.M., <i>minus</i> the Correction $\uparrow \uparrow$ for Temp. (Col. 2), = $29.924$ ..... - $0.088$ .....	=	$29.836$	<i>29.836</i>
"Corrected Mean" of Barometer at 9 P.M., <i>minus</i> the Correction $\uparrow \uparrow$ for Temp. (Col. 4), = $29.919$ ..... - $0.089$ .....	=	$29.830$	<i>29.830</i>
<b>Mean at Station, corrected, and at 32°,</b> .....	=	$29.823$	$29.864$
Correction for height, $139\frac{1}{2}$ feet above Mean Sea-level,..... <i>1012</i>	=	$+0.152$	$+0.111$
<b>Mean, reduced to 32°, and Sea-level,</b> .....	=	$29.975$	$29.975$
Highest Reading, corrected for Index error, on the 14 th,.....	=	$30.375$	$30.416$
Lowest Do. Do. on the 27 th,.....	=	$28.795$	$28.836$
Difference, or <b>Monthly Range,</b> .....	=	$1.580$	$1.580$

<b>S.-R. THERMOMETER,</b> (in shade, etc.), <b>Highest in Month,</b> (corrected for Index Errors), on the <u>12</u> th,.....	=	<u>70.9</u> <sup>0</sup>
<b>Lowest in Month,</b> corrected for Index errors, on the <u>23</u> <sup>0</sup> th, .....	=	<u>37.3</u>
Difference, or <b>Monthly Range,</b> .....	=	<u>33.6</u>
"Corrected <b>Mean</b> " of all the <b>Highest,</b> (Col. 5), .....	=	<u>61.8</u>
"Corrected <b>Mean</b> " of all the <b>Lowest,</b> (Col. 6), .....	=	<u>46.2</u>
Difference, or <b>Mean Daily Range,</b> .....	=	<u>15.6</u>
** Calculated <b>Mean Temperature</b> of Month, .....	=	<u>54.0</u>
<b>S.-R. THERMOMETER, Black Bulb in Sun, Highest,</b> (corrected for Index Errors), on the th,.....	=	
"Corrected <b>Mean,</b> " (Col. 7), of <b>Black Bulb, Max. in Sun,</b> .....	=	<u>0</u>
<b>Lowest at Night,</b> Black Bulb, (corrected for Index errors), on the <u>25</u> <sup>0</sup> th, .....	=	<u>31.2</u>
"Corrected <b>Mean,</b> " (Col. 8), of <b>Black Bulb, Min.</b> on grass, .....	=	<u>42.8</u>
Difference of above Means or Range ("exposed"), .....	=	

<b>HYGROMETER, Mean</b> (corrected) A.M. and P.M. Reading of <b>Dry Bulb</b> , (Cols. 9 and 11), .....	=	54.6
<b>Mean</b> (corrected) A.M. and P.M. Reading of <b>Wet Bulb</b> , (Cols. 10 and 12), .....	=	52.7
‡ Computed <b>Temperature of Dew-Point</b> , .....	=	50.9
‡ Do. <b>Elastic Force of Vapour</b> , .....	=	372 <del>372.4</del>
‡ Do. <b>Weight of Vapour in a Cubic Foot of Air</b> , ...	=	4.19 grs.
‡ <b>Relative Humidity</b> , (Saturation = 100), .....	=	87.8
<b>RAIN</b> fell on 25 Days; Amount in Inches, <i>Rose Street</i>	=	56.38 5.98

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.	0	7	0	3	2	9	1	5	3	1.03	
P.M.	0	4	0	6	2	12	0	6	0	0.82	
Mean.	0	6	0	4	2	10	1	5	2	0.93	= 0.86

Evaporation = 2.110 inches

Observations made and  
Return verified by

{ Alexander Benedict, assisted by  
Wm. Dawson, Janitor, Grammar School

(Signed) Alex. Beverly

Greatest Daily Range = 26.1 on the 12<sup>th</sup>

\* 27<sup>th</sup> at 27 30 Am  
Bar. 28.744; 58.



H.



WITH REMARKS ON THE USE OF INSTRUMENTS.

*Hour of Observation.*—The Council recommend that observations be made precisely at 9 o'clock (Greenwich or Railway Time) twice a day for some, and once (morning or evening) for other instruments, as specified, in the following remarks, or at the top of the schedule. It is hoped that the utmost punctuality in the time of reading the instruments will be observed. Observers, in some few cases, may find this impossible; in such instances, they are specially requested to mark opposite every reading at what time it was taken, if not at 9 o'clock.

Two moderate-priced Barometers have been approved by the Council; if properly tested and attended to, they are both well adapted to Meteorological purposes.

*inches* are not true inches but so much shorter as to *compensate* the error that would otherwise arise from the fluctuations of the surface of mercury in the cistern. This form of instrument has

When a Barometer having adjustable surfaces has to be removed from its fastenings, the ivory peg must be screwed down as far as possible, and the instrument then turned round as to form a right plug to the cistern. Then *sew up* the mercury to within a quarter of an inch of the top of the tube, and take down the instrument; it should then be carried with the cistern upmost. Before suspending the Barometer for use, it must be ascertained whether the space above the mercury in the tube is a complete vacuum; this is the case when, on inclining the instrument so that the mercury strikes the top of the tube, a *sharp tap* is produced. If this is prevented by air, it may be removed to the cistern, and got rid of, by inverting the Barometer (care being taken to prevent the loss of mercury) by tightening the ivory peg, and gently tapping it; and if this plan fails, the instrument must be repaired.

**Protection of Thermometers.**—The Council of the Society recommends that Self-registering Thermometers and Hygrometers be enclosed in a Box, painted white outside and insulated, and fixed 4 feet above grass in an exposed position, free from shade and merely local influences. The laths forming the sides and doors of the Boxes are arranged so as to allow of the removal of the Thermometers, and to give good ventilation of the interior. The centre of the Box, and face of the thermometer, is placed at the centre of the Box, and face the door opening to the north. To accommodate a duplicate set of instruments, which is most desirable, doors may also be made to open to the south.

The above remarks apply equally to the Thermometers for registering the greatest heat from the sun's rays, and the least from radiation during night. Their bulbs have a black coating, which may easily be made, or mended, by the application of a mixture of lamp black and printer's ink. They are placed in shallow blackened boxes, whose sides protect the bulbs from the wind. The "*Maximum*" should be freely exposed to the sun, and the "*Minimum*" should rest on wooden supports a few inches from the surface of the grass, in an open situation. Snow must not be allowed to cover either of these Thermometers; nor the sun's heat to affect the *Minimum* Thermometer by distillation.

The *Hygrometer* consists of two Thermometers usually, but on the tube ought to be placed every year, increasing the length of the tube, if necessary, to prevent the water from freezing.

**Reading of the Thermometer**—Great care must be taken to avoid the effects of refraction, by bringing the eye exactly opposite the tip of the index or *column* of mercury. The reading ought to be taken to tenths of a degree, and noted in decimals. Thus the Thermometer will be read  $-39.9, 39.9, 40.3$ , or  $40.7$ ; or again,  $40.4, 40.3$ , or  $40.6$ , according as it indicates a little under, an exact coincidence with, or a little over  $40^{\circ}$ , or  $40.5^{\circ}$ , respectively. So also  $40.1^{\circ}$ , and  $40.3^{\circ}$ , more or less must be registered  $40.2^{\circ}$  and  $40.4^{\circ}$ , and  $40.7^{\circ}$  and  $40.8^{\circ}$  respectively. In reading Rutherford's "*Max.*" and "*Min.*" Thermometers, the indication of that end of the *index* which is next to the surface of the mercury or alcohol is alone noted. Readings of the Thermometers, especially of the wet and dry *bulbs*, must be rapidly taken, being so readily affected by heat from the person of the observer.

Careful observations ought to be made on the changes in the direction of the wind; and during storms, extra observations ought to be made at every hour of Greenwich time. Such a system of simultaneous observation, pursued at different Stations, would be likely to give highly interesting and important results.

**Rain-gauges.**—Many causes conspire to produce anomalies in rain returns. They arise, partly, from unfavourable situations for observations and partly from the defective nature of the instruments used. It is, indeed, difficult to obtain an unexpected position for the rain-gauge; but in all cases the gauge must be sunk in the ground till its edges are on a level with the close cut grass around its mouth. The rain-gauge ought to be read daily at 9 a.m., and the readings entered in the returns of the day previous.

*Clouds.*—Convenient abbreviations for Luke Howard's nomenclature of clouds will be found on the other side. The amount of cloud in the atmosphere ought to be estimated from

Observations of the clouds are made at 9 A.M. and at sunset, thus illustrating the condition and currents of the upper and lower regions of the atmosphere. The entries in the schedule are to be made in the following manner;—In the column "Velocity

column, an entry of —, (e.g.) will indicate that the higher  
2, east,

regions are covered to the "amount" of 4-tenths with *stratus*  
clouds; and that the sky is further obscured to the extent of  
2-tenths by lower clouds of the *cumulo-stratus* kind.

*Temperature of the Sea.*—A knowledge of the temperature of the sea is not only in itself, but in its relations to that of our

*Ozone.*—Mention whether Selkabin's or Molal's papers are used. The paper is affixed by a pin to a board in the thermometer box, and the indications registered at 9 A.M. and 9 P.M. It is desired that these indications be registered in connection with the force and direction of the wind at the time of observation, in the following manner:—Thus *ozone* entry in the schedule, will indicate that the ozone paper is tinted as "3" on the scale, 0—6 is from the N.W., and that its force on the scale 0—6 is "4", *i.e.*, that it is *blowing fresh*.

*Remarks.*—The “Remarks” column is too narrow, but unavoidably so. Some of the most valuable observations that can be taken are those for which no rules can be given nor hours

By the use of abbreviations, the state of the weather at 9 A.M. and 9 P.M. should be registered, either in two columns, otherwise unoccupied, or in two ruled off for the purpose, from the heading "Remarks." It is intended that observations by the electrometer should be entered in this manner on the side margin. Additional remarks may be made on the margin.

The Council recommend observers, before purchasing the instruments, to communicate with the Meteorological Secretary, and they consider it desirable that he should have full power to reject any instrument which, on being presented for comparison, does not afford him satisfaction.

EDINBURGH, November 1879.

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

[illegible]

Barberry, . . . . .	Plum, . . . . .	Apple, . . . . .
SHRUBS, &c.	Black Currant, . . . . .	FRUITS.
Cherry, . . . . .	Gooseberry, . . . . .	Plum, . . . . .
Hawthorn, . . . . .	Pear, . . . . .	Apple, . . . . .
Holly, . . . . .	Peach, . . . . .	Black Currant, . . . . .
Lilac, . . . . .	Rail or Corn Crake, . . . . .	House-Swallow, . . . . .
Mezerion, . . . . .	Swan, . . . . .	Cuckoo, . . . . .
Red Flowering Currant, . . . . .	Starling, . . . . .	House-Swallow, . . . . .
Rhododendron Ponticum, . . . . .	Sand-Martin, . . . . .	Lapwing, . . . . .
Whin, . . . . .		Plowey, . . . . .

Have the goodness also to state any information you may be able to collect relative to the Crops of Grain, Hay, Potatoes, Turnips, Fruits, etc., whether plentiful, or in perfection; whether any have suffered from blight, disease, etc. Whether Epizootic disease prevails among cattle; and the Agricultural condition of the district generally.

BOOK POST.

EDINBURGH.

*Secretary of the Meteorological Society of Scotland*

MR. ALEXANDER BUCHAN

Overdun,  
Sept. 1875-



# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Hammerfelds Lappstene Road, County of Aberdeen, in Lat. 57° 3' 4", Long. 2° 7' 35" W, Distance from Sea 2 1/4 miles.  
Height of Cistern of the Barometer above Mean Sea-level 139 1/4 feet, above Ground 15 1/4 feet. During the MONTH of October

The Hours of Observation are of Greenwich Time.

[illegible]

<b>BAROMETER</b> , “corrected Mean” at 9 A.M., <i>minus</i> the Correction ++			
for Temp. (Col. 2), = 29.677.....	0.067	= 29.610	<i>at level Grammar School</i>
“Corrected Mean” of Barometer at 9 P.M., <i>minus</i> the Correction ++			
for Temp. (Col. 4), = 29.677.....	0.067	= 29.610	
<b>Mean at Station, corrected, and at 32°</b> , 29.610.....		= 29.610	29.654
(Correction for height, 139 ft. above Mean Sea-level).....		= +0.153	40.112
<b>Mean, reduced to 32°, and Sea-level</b> , 29.763.....		= 29.763	29.763
Highest Reading, corrected for Index error, on the 29 th,.....		= 30.129	30.170
Lowest Do. Do., on the 11 th,.....		= 28.871	28.912
Difference, or <b>Monthly Range</b> ,.....		= 1.258	1.258

<b>S.-R. THERMOMETER,</b> (in shade, etc.), <b>Highest in Month,</b> (corrected for Index Errors), on the 4 <sup>th</sup> .....	=	62.5
<b>Lowest in Month,</b> corrected for Index errors, on the 12 <sup>th</sup> , .....	31.3	= 31.3
Difference, or <b>Monthly Range,</b> .....		31.2
"Corrected <b>Mean</b> " of all the <b>Highest,</b> (Col. 5), .....		53.6
"Corrected <b>Mean</b> " of all the <b>Lowest,</b> (Col. 6), .....		42.5
Difference, or <b>Mean Daily Range,</b> .....		11.1
** Calculated <b>Mean Temperature</b> of Month, .....		48.0

  

<b>S.-R. THERMOMETER, Black Bulb in Sun, Highest,</b> (corrected for Index Errors), on the 4 <sup>th</sup> , .....	=	
"Corrected <b>Mean,</b> " (Col. 7), of <b>Black Bulb, Max. in Sun,</b> .....	=	
<b>Lowest at Night,</b> Black Bulb, (corrected for Index errors), on the 13 <sup>th</sup> th, ...		28.0
"Corrected <b>Mean,</b> " (Col. 8), of <b>Black Bulb, Min.</b> on grass, .....		39.4
Difference of above Means or Range ("exposed"), .....	=	

<b>HYGROMETER, Mean</b> (corrected) A.M. and P.M. Reading of <b>Dry</b>											
<b>Bulb,</b> (Cols. 9 and 11), .....										=	47.9
<b>Mean</b> (corrected) A.M. and P.M. Reading of <b>Wet Bulb,</b> (Cols. 10 and 12), .....											
										=	46.0
‡ Computed <b>Temperature of Dew-Point,</b> .....											
										=	44.0
‡ Do. <b>Elastic Force of Vapour,</b> .....											
										=	0.289 In.
‡ Do. <b>Weight of Vapour in a Cubic Foot of Air,</b> ...											
										=	3.25 Grs.
‡ <b>Relative Humidity,</b> (Saturation = 100), .....											
										=	87. <del>XX</del>
RAIN fell on <sup>27</sup> Days; Amount in Inches, .....											
										=	4.0 <del>0.065</del> 4.00
<div style="display: flex; justify-content: space-between; align-items: center;"> <span><i>Rose Hill</i></span> <span>3.820</span> </div> <b>SUMMARY.</b>											
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.	0	0	4	10	4	9	1	3	0	1.38	
P.M.	0	2	<del>3</del> 10	10	2	10	2	1	1	1.60	240 lbs
Mean.	0	1	4	10	3	9	1	2	1	1.53	<del>240</del> lbs

$$\text{Evaporation} = 2.087$$

Excluding the heavy dew, 27

Observations made and  
Return verified by } Alex. Beverly assisted by Wm. Dawson  
Dawson, Grammar School, Aberdeen

(Signed) Alex. Beverly

Greatest Daily <sup>Range</sup>  $\bar{r}$  26.2 on the 12<sup>th</sup>



WITH REMARKS ON THE USE OF INSTRUMENTS.

*Self Registering Thermometers.*—Professor Phillips, of Nelliga and Zambra's Patent "*Maximum*" Thermometers are recommended; printed directions for their use may be obtained with each instrument. The "*Maximum*" Thermometer of Rutherford is recommended and should be affixed to a frame separate from the "*Maximum*." It is recommended that these Thermometers be graduated on the glass stem. The "*Minimum*" Thermometer is liable to two derangements, both of which must be guarded against, and may be easily remedied by an observer. When the *voluma* of spirit breaks, it may be renewed by striking the instrument repeatedly against the palm of the hand; when part of the spirit distils by high temperature, it will be found in the upper lobe, and must be

*Clouds.*—Convenient abbreviations for Luke Howard's nomenclature of clouds will be found on the other side. The amount of cloud in the atmosphere ought to be estimated from

EDINBURGH, November 1879.  
(By Order) A. B.

EDINBURGH, November 1879.  
(By Order) A. B.

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

FOREST TREES.								
Alder . . . . .	Beech,	Birch,	Elm,	Larch,	Pines,	Rye Grass,		
Sycamore or Plane,								
In flower.								
Treat buds first appear.								
In leaf.								
Dressed leaves.								
CROPS.								
Barley,	Oats, or Rye,	Wheat,	Beans,	Peas,	Potatoes,	Turnips,		
Growing or above ground.								
In ear.								
First Out sown, or raised.								

[illegible]

Have the goodman also to raise any introduction you may be able to connect relative to the crops of grain, hay, potatoes, turnips, fruit, etc., whether plentiful, or in perfection; whether any have suffered from blight, disease, etc. Whether Epizootic disease prevails among cattle; and the Agricultural condition of the district generally.

BOOK POST.

*Secretary of the Meteorological Society of Scotland.*

EDINBURGH.

(By Order) A. B.

EDINBURGH. November 1873.



# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Hammerfield, Leith Road* County of *Aberdeen*, in Lat.  $57^{\circ}8'34''$  N, Long.  $2^{\circ}7'35''$  W, Distance from Sea  $2\frac{1}{4}$  miles.

Height of Cistern of the Barometer above Mean Sea-level  $139\frac{1}{2}$  feet, above Ground  $15\frac{1}{2}$  feet.

During the MONTH of *November* 1875

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS.				HYGROMETER.				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.				SEA.	OZONE.	GENERAL REMARKS.	Days of Month.				
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulb, 4 ft. on Sun-dial.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.	Amount in inches.	9 A.M.		P.M.		9 h. A.M.		9 h. P.M.									
		Barometer, No. 236	Attached Thermometer, No. 236	Barometer, No. 236	Attached Thermometer, No. 236	Max. No. 353	Min. No. 107	Max. No. 407	Min. No. 259	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.			Velocity (0-10), and Direction.	Amount (0-10), and Species.	Velocity (0-10), and Direction.	Amount (0-10), and Species.	No. 3	No. 12	No. 22	No. 22								
	1	29.892	49.3	29.804	48.0	45.3	41.7	39.2	43.9	40.8	44.9	42.0	SE	1	S	2	SW	2.5	0.003			10	LS	0							1				
	2	29.738	48.5	29.612	47.8	47.8	42.9	39.9	46.0	43.0	47.5	47.1	SW	2	S	3	SW	4	2	0.210			10	SH	0						2				
	3	29.578	52.4	29.518	53.7	52.8	46.9	43.2	50.5	50.4	51.8	51.5	S	1	S	1.5	SW	2.5	3	0.050			10	SH	1						3				
	4	29.480	55.4	29.680	57.7	59.0	45.9	46.4	51.9	50.9	47.3	47.0	SW	1	SW	0.5	SW	1.5	2	0.085			4	LS	8						4				
	5	29.428	55.8	29.140	56.5	56.0	45.1	39.2	49.6	49.0	47.7	45.7	SW	1.5	SW	1	SSW	2	3	0.097			7	SH	3						5				
	6	28.956	55.1	29.036	53.8	50.0	41.9	38.0	45.7	44.7	44.0	42.3	Var	0.5	NE	1	NE	1.5	6	0.145			8	SH	1						6				
	7	29.036	49.6	29.012	49.9	44.3	35.2	31.4	37.1	36.9	36.0	35.8	N	1	NW	1.5	NW	2	10	0.465			8	SH	1						7				
	8	29.116	45.3	29.180	45.0	40.9	32.0	30.7	36.0	34.9	33.1	32.0	NW	1.5	NW	1.5	NW	2	1	0.005			3	SH	5						8				
	9	29.108	45.0	29.102	45.3	41.3	28.0	24.3	33.8	31.4	30.7	29.0	N	1	N	1	NW	1.5	0	0			2	SH	8						9				
	10	28.964	43.0	29.012	44.0	39.9	23.5	21.3	24.9	24.6	30.0	29.0	SW	0.5	NW	0.5	NW	1	0	0			4	SH	8						10				
	11	28.976	42.1	29.176	43.0	43.7	22.0	16.9	29.9	28.4	38.4	36.6	N	0.5	NW	1.5	NW	2	3	0.035			6	SH	8						11				
	12	29.558	43.9	29.820	43.3	40.3	32.0	29.2	37.5	37.0	33.3	33.0	NW	1.5	NW	1	NW	2.5	5	0.325			8	SH	3						12				
	13	29.796	43.3	29.468	43.9	42.0	27.2	24.9	29.0	28.7	41.7	40.3	SW	0.5	E	3	E	3.5	6	0.185			10	SH	0						13				
	14	29.268	46.0	29.620	48.2	43.5	35.0	28.0	42.9	40.6	35.6	34.8	NE	2	NE	0.5	ENE	3.5	2	0.015			9	SH	2						14				
	15	29.876	45.8	29.976	47.3	47.4	33.9	30.1	38.9	36.9	35.0	34.0	SW	0.5	NW	0.5	NW	1	0	0			2	SH	8						15				
	16	29.788	48.0	29.564	49.9	46.9	34.3	28.9	44.5	43.0	46.0	45.6	SW	2	SW	0.5	SW	3	7	0.425			10	SH	1						16				
	17	29.628	50.0	29.536	50.2	47.0	40.0	36.0	45.0	44.4	44.0	44.0	SW	1.5	SW	0.5	WSW	2	6	0.095			9	SH	4						17				
	18	29.726	51.1	29.476	51.0	48.1	39.9	37.7	41.8	41.6	47.9	47.6	NW	0.5	SW	0.5	WSW	1.5	12	0.420			10	SH	0						18				
	19	29.290	51.8	29.916	47.1	51.2	36.2	39.9	47.7	47.0	37.6	35.6	NE	2	NE	2.5	NE	4	6	0.110			10	SH	0						19				
	20	30.030	44.6	29.978	42.7	38.0	32.2	29.9	34.9	34.2	38.0	37.5	N	1.5	NW	2	NW	3	6	0.155			9	SH	2						20				
	21	30.118	44.8	30.270	45.5	43.1	36.9	32.1	37.8	36.6	38.6	37.1	NE	0.5	NE	0.5	ENE	1	4	0.095			9	SH	2						21				
	22	30.316	45.8	30.332	47.1	41.0	34.2	34.0	37.9	37.4	35.0	34.3	NE	0.5	NE	0.5	ENE	1	2	0.010			9	SH	0						22				
	23	30.352	45.6	30.342	47.3	39.0	28.1	25.9	30.0	29.8	37.3	35.7	SW	0.5	NE	0.5	ENE	1	1	0.010			3	SH	7						23				
	24	30.340	46.6	30.260	47.0	39.3	32.2	27.4	31.4	33.7	38.6	36.6	NE	0.5	NE	1	ENE	1	2	0.030			7	SH	5						24				
	25	30.210	46.4	30.140	47.0	39.3	33.0	29.2	36.1	35.8	34.0	34.0	E	1	E	0.5	ENE	1	4	0.115			8	SH	3						25				
	26	30.060	46.0	30.124	45.0	38.8	33.2	30.2	36.0	35.4	38.0	37.0	E	1	E	1.5	ENE	3	10	0.370			9	SH	1						26				
	27	30.254	45.0	30.330	47.1	40.3	35.5	30.7	38.9	38.0	37.2	36.7	E	2	E	1.5	ENE	2.5	4	0.090			9	SH	1						27				
	28	30.340	44.8	30.230	47.1	39.4	33.2	30.2	34.8	33.4	37.2	37.0	NE	1	N	0.5	NW	1	5	0.107			9	SH	3						28				
	29	30.158	46.0	30.194	46.0	40.0	35.1	31.8	37.3	36.4	38.3	36.8	NE	0.5	NE	1	ENE	2	6	0.190			9	SH	1						29				
	30	30.176	44.7	30.140	44.4	38.9	33.8	31.6	38.0	36.0	37.7	34.0	SE	1.5	SE	1	ESE	3	6	0.105			8	SH	2						30				
	31																															31			
Sums.		891.556	47.1	891.498	47.9	44.4	35.0	32.0	39.1	38.0	39.4	38.3	1.08	1.15					132.3947	27			229	86											
Means.		29.713	47.1	29.733	47.9	44.4	35.0	32.0	39.1	38.0	39.4	38.3	1.08	1.15					4.4	0.121			7.6												
Total Corrections for Instrumental Errors.		-0.013	-	-0.013	-	+0.2	+0.1	-0.2	0	0	0	0																							
Corrected Means.		29.706	47.1	29.720	47.8	44.4	35.1	31.8	39.1	38.0	39.4	38.3	1.08	1.15					4.4	0.132			7.6												
No. of Column.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				

**BAROMETER**, "corrected Mean" at 9 A.M., minus the Correction<sup>††</sup> for Temp. (Col. 2), =  $29.654$  *Miles*  
 "Corrected Mean" of Barometer at 9 P.M., minus the Correction<sup>††</sup> for Temp. (Col. 4), =  $29.720$  *Miles*  
**Mean at Station, corrected, and at 32°**, =  $29.668$  *Miles*  
 Correction for height,  $139\frac{1}{2}$  feet above Mean Sea-level, =  $+0.156$  *Miles*  
**Mean, reduced to 32°, and Sea-level**, =  $29.818$  *Miles*  
 Highest Reading, corrected for Index error, on the 23<sup>rd</sup>, =  $30.339$  *Miles*  
 Lowest Do., on the 6<sup>th</sup>, =  $28.943$  *Miles*  
 Difference, or **Monthly Range**, =  $1.396$  *Miles*

**S.-R. THERMOMETER**, (in shade, etc.), **Highest in Month**, (corrected for Index Errors), on the 4<sup>th</sup>, =  $59.2$   
**Lowest in Month**, corrected for Index errors, on the 11<sup>th</sup>, =  $22.1$   
 Difference, or **Monthly Range**, =  $37.1$   
**"Corrected Mean" of all the Highest**, (Col. 5), =  $44.4$   
**"Corrected Mean" of all the Lowest**, (Col. 6), =  $35.1$   
 Difference, or **Mean Daily Range**, =  $9.3$   
 \* Calculated **Mean Temperature** of Month, =  $39.8$   
**S.-R. THERMOMETER**, Black Bulb in Sun, **Highest**, (corrected for Index Errors), on the 11<sup>th</sup>, =  $16.7$   
**Lowest at Night**, Black Bulb, (corrected for Index errors), on the 11<sup>th</sup>, =  $31.8$   
**"Corrected Mean" (Col. 7), of Black Bulb, Max. in Sun**, =  $31.8$   
 Difference of above Means or Range ("exposed"), =  $16.7$

**HYGROMETER**, Mean (corrected) A.M. and P.M. Reading of **Dry Bulb**, (Cols. 9 and 11), =  $39.3$   
**Mean** (corrected) A.M. and P.M. Reading of **Wet Bulb**, (Cols. 10 and 12), =  $38.2$   
 \* Computed **Temperature of Dew-Point**, =  $36.8$   
 \* Do. **Elastic Force of Vapour**, =  $0.219$  in.  
 \* Do. **Weight of Vapour in a Cubic Foot of Air**, =  $2.53$  grs.  
 \* **Relative Humidity**, (Saturation = 100), =  $91.5$   
**RAIN** fell on 27 Days; Amount in Inches, =  $3.690$   
**WIND**, SUMMARY.  

Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.	2	7	3	2	4	4	2	3	1	1.08	
P.M.	0	8	4	1	3	5	2	7	0	1.15	
Mean.	1	7	3	2	2	7	2	5	1	1.12	1.25

\* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.," and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.  
 † Embarking corrections for both capillary and Index Errors.  
 ‡ The Diurnal Range for Scotland is as yet unknown.  
 § These "Hygrometrical Deductions" are calculated from Glaisher's Hygrometrical Tables, Second Edition only.  
 ¶ While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 5 and 6 will be entered as the "Calculated Mean Temperature."  
 Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

Observations made and Return verified by *Alex. Beverley, assisted by Wm. Dawson, Janitor, Grammar School, Aberdeen.*

(Signed) *Alex. Beverley*

Greatest Daily Range 21.7 on the 11<sup>th</sup>

#



Abbees  
Nov. 1875.

 $T_0$ 

*Mr ALEXANDER BUCHAN.*

*Secretary of the Meteorological Society of Scotland.*

EDINBURGH.

[illegible]

FOREST TREES.					
Alder,	Beech,	Hireh,	Elm,	Lime,	Oak,
Sycamore or Plane,					
In flower.					
Leaf buds first appear.					
In leaf.					
Dressed of leaves.					
Rye Grass,	Oats,	Wheat,	Beans,	Potatoes,	Ternips,
GROSS,	Barley,	Bere or Bigg,			
sowing or monthlong variety.					
Flourish-					
ing or above ground.					
Appearing in ear					
or flower.					
First Cut					
or raised.					

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

EDINBURGH, D.

A. B.



SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Hammerfield, Buffalo River, County of Aberdeen, in Lat. 57° 8' 3" N, Long. 2° 7' 35" W, Distance from Sea 2 1/2 miles.

Height of Cistern of the Barometer above Mean Sea-level 139½ feet, above Ground 15½ feet.

During the MONTH of December 1875

The Hours of Observation are of Greenwich Time.

[illegible]

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction<sup>††</sup> } = 29.763

"Corrected Mean" of Barometer at 9 P.M., minus the Correction  $\left. \begin{array}{l} 29.805 \\ - 0.050 \end{array} \right\} = 29.755$  19.

for Temp. (Col. 4), =  $29.809$  —  $29.759$  )  
**Mean at Station, corrected, and at 32°,** ..... =  $29.759$   $29.801$

Correction for height,  $\frac{134\frac{1}{2}}{101\frac{1}{2}}$  feet above Mean Sea-level,..... =  $+0.156$   $+0.114$

Mean, reduced to 32°, and Sea-level,..... = 29.915 29.915

Final Reading, corrected for Index error, on the 6<sup>th</sup>,..... = 30.439 30.481

Lowest Do. Do., on the 20 th, ..... = 28.967 29.009

Difference, or **Monthly Range**,..... = 1.472 1.472

Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.;" and a number to be entered in the heading; or the Number and Initials of the Maker may be here given.  
Embracing corrections for both capillarity and Index Errors.  
The Diurnal Range for Scotland is as yet unknown.  
It must absolutely be a *minus* correction.

Practically, though not absolutely minus correction. These "Hygrometrical Deductions" are calculated from Glaisher's Hygrometrical Tables, Second Edition only. While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 5 and 6 will be entered as the "Calculated Mean Temperature." Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 24 th, ..... = 52.2

**Lowest in Month**, corrected for Index errors, on the 5<sup>th</sup>, .....  $25.5 = 25.5$

"Corrected **Mean**" of all the Highest, (Col. 5), ..... = 43.6

"Corrected Mean" of all the Lowest, (Col. 6), ..... = 34.2  
 Difference or Mean Daily Range ..... = 9.4

\*\* Calculated **Mean Temperature** of Month, ..... = 38.9

R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the      th,.....

"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun,..... =

**Lowest at Night**, Black Bulb, (corrected for Index errors), on the 7<sup>th</sup>, ... = 22.7

"Corrected **Mean**," (Col. 8), of **Black Bulb**, Min. on grass, ..... = 30.0

Difference of above Means or Range ("exposed"), ..... =

Evaporation = 1.015 in.

**HYGROMETER, Mean** (corrected) A.M. and P.M. Reading of Dry  
**Bulb**, (Cols. 9 and 11), ..... = 38.6

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), ..... = 37.6

‡ Computed **Temperature of Dew-Point,** ..... = 36.5  
 ‡ Do. **Elastic Force of Vapour,** ..... = 2150.204  $\text{lb.}$

Do. Weight of Vapour in a Cubic Foot of Air, ... = 2.52 Grs

## Relative Humidity, (Saturation = 100), ..... = 92.8

RAIN fell on 23 Days; Amount in Inches, ..... = 1.9211

WIND.		SUMMARY.			
				Calm or	Mean
					Mean Velocity

Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean velocity in miles per day.
A.M.	1	1	1	1	1	11	3	8	1	1.06	

A.M.	1	4	1	1	1	1	5	8	1	100
P.M.	0	3	0	1	0	9	5	12	1	100

Mean.	1	3	1	1	0	10	4	10	1	$1.08 = 1.17^{cor}$
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Observations made and  
Return verified by

Mr. Bevers, assisted by Mr. Dawson,  
Janitor, Grammarschule, Aberdeen

(Signed) Alex. Beverly

Greatest Daily Range 15.7 on the 29<sup>th</sup>

A.



Over den  
Decr 1845

 $T_0$ 

Mr ALEXANDER BUCHAN.

*Secretary of the Meteorological Society of Scotland,*

EDINBURGH.

the use of abbreviations, the date of the weather at 9 a.m., and the sex should be registered, either in two columns, otherwise unoccupied space should be used for the purpose of the column of 'Remarks'. The observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with the Periodic Return of the Seasons. The observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with the Periodic Return of the Seasons.

The Council recommend Observers, before purchasing new instruments, and in repairing old ones, to communicate with the Geological and Natural History Survey, in order that every instrument may be examined and approved before being used ; and they consider it necessary that he should have full power to reject any instrument which, if being presented for examination, does not afford him satisfaction.

EDINBURGH, December 1874.

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

[illegible]

Have the goodness also to state any information you may be able to collect relative to the Crops of Grain, Hay, Potatoes, Turnips, Fruits, etc., whether plentiful, or in perfection; whether any have suffered from blight, disease, etc. Whether Epidemics prevail among cattle; and the Agricultural condition of the district generally.