

## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Præmar, County of Argyll, in Lat. 57° 16', Long. 5° 24' W, Distance from Sea 60 miles.Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 5 feet.During the MONTH of January 1875.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.		SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				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.	Attached Thermometer	Barometer. No.	Attached Thermometer	Max. No.	Min. No.	Max. No.	Min. No.	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.	12 inches.	No. 22 inches.									
		Inches.	°	Inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°					°	°			
	1	28.712		28.350		28.0	17.3	29.0	17.0	28.0	25.0	27.1	27.1	S	0	SW	1	0.15	St.	6	St.	10								Very stormy & drifting snow	1		
	2	28.150		28.352		39.8	26.7	63.0	26.0	33.8	23.0	38.0	36.5	S	1	SW	1	0.08	St.	8	St.	10								do & drift	2		
	3	28.050		28.605		40.2	38.0	48.0	26.8	36.8	35.2	34.4	34.0	S	2	SW	3	0.10	"	9	"	8								do do	3		
	4	28.370		28.200		40.2	34.0	41.0	30.0	36.8	35.4	34.8	34.0	SW	0	E	0	0.50	"	9	"	10								do do	4		
	5	28.472		28.522		40.5	33.3	41.3	33.0	40.3	37.0	41.7	38.8	SW	1	SW	1	0.04	"	9	"	9								do do	5		
	6	28.544		28.516		44.8	36.4	43.2	34.7	46.8	44.0	44.8	43.0	SW	0.5	S	2	0.15	"	10	"	10								Soft & wet	6		
	7	28.700		28.770		45.2	37.8	43.0	32.4	40.7	39.0	38.0	36.3	SW	0	S	1	0.04	"	9	Ca	4								do do	7		
	8	28.880		28.716		36.4	28.2	36.8	21.0	26.7	26.0	35.0	33.3	SW	0	S	0.5	-	St.	5	St.	9								Low & fresh	8		
	9	28.588		28.412		41.2	32.3	41.2	28.8	36.8	35.8	38.0	36.7	S	0	SW	1	-	St.	10	St.	10								Dark & dull	9		
	10	28.472		28.512		42.2	37.8	43.8	34.0	40.4	39.1	38.8	38.2	SW	0	SW	0	-	Ca	7	"	9								do	10		
	11	28.550		28.600		40.0	31.4	49.2	31.0	34.0	34.0	35.8	35.8	SW	0	SW	0	0.18	St.	10	Ca	9								Dense fog all day	11		
	12	28.576		28.600		39.7	35.2	44.2	39.6	37.3	37.0	38.0	37.7	S	0	SW	1	0.05	St.	9	St.	10								drift & dull	12		
	13	28.650		28.650		44.3	34.2	44.4	32.0	37.0	36.7	43.3	42.3	SW	0	SW	0	0.09	"	9	"	10								do do	13		
	14	28.650		28.650		46.8	37.0	47.1	36.3	39.0	38.0	42.0	40.0	SW	0.5	SW	0	0.19	Ca	8	St.	1								Sp. & dr.	14		
	15	28.372		28.114		47.8	36.0	47.8	32.0	46.0	44.8	44.0	41.3	SW	0	SW	2	0.18	St.	10	Ca	4								do	15		
	16	28.150		28.174		44.8	38.0	53.8	33.0	42.3	39.3	38.0	36.7	SW	2	S	0	-	Ca	7	Ca	7								Low & fine	16		
	17	28.300		28.300		42.8	33.7	71.0	30.8	36.4	35.0	36.2	35.8	SW	0.5	SW	0	0.10	St.	4	St.	10								do & fine	17		
	18	28.120		28.150		47.8	35.0	50.8	34.0	45.0	43.8	38.2	37.0	S	0.5	SW	0	0.25	Ca	9	"	8								Stormy & dr.	18		
	19	28.000		27.927		50.7	36.0	68.2	34.0	44.3	42.3	42.0	38.4	S	0.5	SW	2	0.18	St.	9	"	9								do & dull	19		
	20	27.966		27.950		45.3	32.0	51.0	31.5	38.8	37.2	32.8	31.7	SW	0	SW	0.5	0.06	"	8	"	10								do	20		
	21	28.114		28.200		41.4	26.2	65.2	22.1	27.0	25.2	30.0	29.3	SW	0	SW	1	0.02	Ca	2	Ca	4								do	21		
	22	28.462		28.350		38.0	28.0	48.4	23.8	31.0	30.6	28.7	28.0	W	0	SW	0.5	-	Ca	3	St.	9								Low & fresh	22		
	23	28.220		28.100		35.8	26.0	57.0	22.0	31.8	31.3	34.0	34.0	SW	0	S	0.5	0.15	St.	8	St.	8								do	23		
	24	27.476		27.558		22.2	26.5	53.8	22.8	38.8	38.2	30.6	29.6	S	0	SW	0.5	-	"	10	Ca	5								Low & dr.	24		
	25	28.824		28.500		38.2	21.4	56.0	15.8	25.8	25.2	29.0	28.5	SW	0	SW	0	-	Ca	5	St.	7								Low & fresh	25		
	26	28.772		28.500		37.3	14.0	40.0	15.4	19.0	19.0	32.3	31.3	SW	0	S	2	0.07	St.	8	St.	10								Low & dr.	26		
	27	28.640		28.550		46.3	35.8	48.0	35.2	42.0	41.7	44.0	42.4	SW	1	SW	3	0.50	St.	8	St.	10								Very soft all day	27		
	28	28.582		28.600		46.2	34.3	58.1	29.0	44.0	43.0	37.2	35.8	SW	4	SW	2	0.22	Ca	8	St.	9								Low & dr.	28		
	29	28.994		29.082		43.2	31.0	42.0	28.0	32.1	31.2	31.3	30.3	S	0.5	SW	0.5	0.17	Ca	5	Ca	8								do	29		
	30	29.050		29.100		44.0	32.1	51.4	30.2	34.3	34.0	40.0	39.5	S	0	SW	0.5	-	Ca	5	"	7								do	30		
	31	29.000		28.752		50.2	38.5	59.4	36.4	46.0	45.0	47.0	46.0	SW	0	SW	0.5	-	Ca	8	"	8								do	31		
	Sums.	14.296		13.592		67.9	57.8	82.2	127.3	61.8	61.8	150.7	149.4	13.0		27.0		4.30		23.3		2.52											
	Means.	28.461		28.438		42.3	31.9	49.1	28.8	36.3	34.9	36.9	35.8	0.42		0.87				7.5		8.1											
	† Total Corrections for Instrumental Errors.																																
	† Corrections for Diurnal Range.	-0.09		-0.09																													
	"Corrected Means."																																
	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†† = 28.431  
for Temp. (Col. 2), = 2.8.4.2.2 - 0.2.1.5 = 28  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 28.408  
for Temp. (Col. 4), = 2.8.4.2.2.9 - 0.2.1.5 = 28  
Mean at Station, corrected, and at 32°, = 28.420  
Correction for height, feet above Mean Sea-level, = 1.2.0.2  
Mean, reduced to 32°, and Sea-level, = 29.6.2.2  
Highest Reading, corrected for Index error, on the 30th, = 29.0.0.0  
Lowest Do. Do., on the 24th, = 27.4.7.6  
Difference, or Monthly Range, = 1.6.2.4

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 19th, = 50.7  
Lowest in Month, corrected for Index errors, on the 1th, = 17.3  
Difference, or Monthly Range, = 33.4  
"Corrected Mean" of all the Highest, (Col. 5), = 42.3  
"Corrected Mean" of all the Lowest, (Col. 6), = 31.9  
Difference, or Mean Daily Range, = 10.4  
\*\* Calculated Mean Temperature of Month, = 37.1  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 17th, = 41.0  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 49.1  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 26th, = 15.4  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 28.8  
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 36.8  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 35.2  
† Computed Temperature of Dew-Point, = 33.2  
† Do. Elastic Force of Vapour, = 1.19.0  
† Do. Weight of Vapour in a Cubic Foot of Air, = 88  
† Relative Humidity, (Saturation = 100), = 88  
RAIN fell on 22 Days; Amount in Inches, = 4.30

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.		3	1	0	1	7	17	1	1	0	0.42
P.M.		2	2	1	0	6	17	1	2	0	0.87
Mean.		2	2	1	0	6	17	1	2	0	0.64 = 0.41

Observations made and  
Return verified by

(Signed)

H.



Blasmar  
Jan. 1875

BOOK POST.

Mr ALEXANDER BUCHAN.

*Secretary of the Meteorological Society of Scotland,*

EDINBURGH

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., in perfection, or in perfection; whether any have suffered from blight, disease, etc. Whether Epizootic diseases prevail among cattle; and the Agronomical condition of the district generally.

EDINBURGH, December 1874.

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

FOREST TREES.					
Alder,	.	.	.	.	.
Ash,	.	.	.	.	.
Beech,	.	.	.	.	.
Birch,	.	.	.	.	.
Elm,	.	.	.	.	.
Larch,	.	.	.	.	.
Lime,	.	.	.	.	.
Oak,	.	.	.	.	.
Sycamore or Plane,	.	.	.	.	.
In Flower.					
Least Bud					
First appear.					
In Leaf.					
Dressed or Leaves.					
GROPS, monthling variety.					
Barley,	.	.	.	.	.
Bere or Bigg,	.	.	.	.	.
Oats,	.	.	.	.	.
Wheat,	.	.	.	.	.
Beans,	.	.	.	.	.
Pease,	.	.	.	.	.
Potatoes,	.	.	.	.	.
Turnips,	.	.	.	.	.
Rye Grass,	.	.	.	.	.
Growing or Planting.					
Sowing or above Ground.					
Appearing In Ear					
or Flower.					
First Cut					
or Raised.					



## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Braemar, County of Marischal, in Lat. 57° 11', Long. 3° 24', Distance from Sea 60 miles.Height of Cistern of the Barometer above Mean Sea-level 114 feet, above Ground 3 feet.During the MONTH of February 1875.

The Hours of Observation are of Greenwich Time.

Date.	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 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.				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.	Velocity (0—6).	Amount (0—10).	Velocity (0—6).	Amount (0—10).	No. 8 inches.	No. 12 inches.	No. 22 inches.		No. 8 inches.	No. 12 inches.	No. 22 inches.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 28.836  
for Temp. (Col. 2) = 2.8.8.4.2... - 0.0.6...  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 28.851  
for Temp. (Col. 4) = 2.8.8.8.7... - 0.0.6...  
Mean at Station, corrected, and at 32° = 28.844  
Correction for height, feet above Mean Sea-level, = 1.202  
Mean, reduced to 32°, and Sea-level, = 30.046  
Highest Reading, corrected for Index error, on the 21 th, = 29.2.50  
Lowest Do. Do., on the 14 th, = 28.4.72  
Difference, or Monthly Range, = 0.7.78

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 1 th, = 48.9  
Lowest in Month, corrected for Index errors, on the 5 th, = 11.0  
Difference, or Monthly Range, = 37.9  
"Corrected Mean" of all the Highest, (Col. 5), = 38.8  
"Corrected Mean" of all the Lowest, (Col. 6), = 27.0  
Difference, or Mean Daily Range, = 11.8  
\*\* Calculated Mean Temperature of Month, = 32.9  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 21 th, = 76.3  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 47.8  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 5 th, = 5.0  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 23.1  
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 31.1  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 30.6  
†† Computed Temperature of Dew-Point, = 29.3  
†† Do. Elastic Force of Vapour, = 16.2  
†† Do. Weight of Vapour in a Cubic Foot of Air, =  
†† Relative Humidity, (Saturation = 100), = 92  
RAIN fell on 14 Days; Amount in Inches, = 0.81

WIND.		SUMMARY.					
Direction.	N	NE	E	SE	S	SW	W
A.M.	3	4	2	2	5	7	3
P.M.	4	5	4	1	3	7	1
Mean.	4	4	3	2	4	7	3

Observations made and  
Return verified by

(Signed)

H.







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Raheen, County of Gloucester, in Lat. 51° 41' N, Long. 3° 24' W, Distance from Sea 60 miles.  
Height of Cistern of the Barometer above Mean Sea-level 1116 feet, above Ground 3 feet. During the MONTH of March 1875  
The Hours of Observation are of Greenwich Time.

Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				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. —	Attached Ther- mometer	Barometer. No. —	Attached Ther- mometer	Max. No. —	Min. No. —	Max. in Sun's rays No. —	Min. on Grass. No. —	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	Velocity (0-10), and Species.	Amount (0-10), and Species.	Velocity (0-10), and Species.	Amount (0-10), and Species.	No. — 8 inches.	12 inches.	No. — 22 inches.									
	inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°							
1	28.838		28.924		30.3	27.2	45.0	24.5	29.2	29.2	30.3	30.0	NE	0.5	E	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
2	28.910		28.924		37.0	31.0	75.0	28.4	32.7	32.0	31.2	31.0	NE	1.0	NE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
3	28.934		28.950		35.0	28.8	59.0	25.4	31.8	31.2	30.3	30.0	NE	0.5	NE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	
4	28.900		28.850		37.7	24.0	87.0	17.2	24.5	24.5	24.0	24.0	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	
5	28.774		28.700		38.1	15.1	54.8	8.5	24.8	27.8	30.8	30.0	SE	1.0	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	
6	28.850		28.400		36.2	28.2	44.0	10.0	34.8	32.0	36.3	36.0	SE	0.5	SE	0.5	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	6	
7	28.710		28.350		45.3	34.1	50.0	24.2	39.0	38.5	43.3	41.7	SE	0.5	SE	0.5	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	7	
8	28.490		28.550		42.7	38.3	64.8	30.3	45.8	39.8	38.8	37.8	SE	1.0	SE	1.0	0.55	—	—	—	—	—	—	—	—	—	—	—	—	—	8	
9	28.500		29.050		46.7	32.3	66.0	31.0	38.1	38.0	36.3	36.3	SE	1.0	SE	1.0	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	9	
10	29.200		29.200		43.4	24.2	89.0	19.3	27.3	26.4	34.5	32.3	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10
11	29.164		29.186		40.7	29.0	91.8	22.0	32.8	30.2	32.0	31.0	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11
12	29.110		29.080		38.0	30.4	56.3	23.7	32.2	31.0	33.0	32.5	SE	0.5	SE	0.5	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12
13	29.008		29.050		36.0	31.3	66.8	24.2	33.0	32.8	32.6	31.6	SE	0.5	SE	0.5	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13
14	29.054		29.070		38.7	31.2	96.1	26.2	33.8	33.2	32.3	31.8	SE	0.5	SE	0.5	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14
15	29.050		29.018		38.0	25.2	94.7	19.0	30.0	28.8	31.8	31.0	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15
16	28.972		29.084		41.3	22.0	90.8	19.7	22.7	22.7	35.3	33.7	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16
17	29.332		29.422		39.7	29.3	62.0	25.0	31.0	29.0	30.2	29.2	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17
18	29.222		28.924		45.3	28.2	60.7	25.8	30.8	30.3	44.2	40.8	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18
19	28.932		28.950		46.7	31.8	98.2	29.1	32.2	29.2	32.0	30.7	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19
20	28.970		28.950		41.4	31.3	94.1	27.0	32.0	30.8	35.3	33.3	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20
21	28.900		28.956		47.7	32.4	63.2	25.0	34.0	37.1	45.4	40.2	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21
22	28.950		29.050		49.3	26.0	78.0	24.5	44.0	41.7	45.2	42.2	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22
23	29.100		29.100		52.2	35.0	82.0	34.4	42.2	40.2	44.4	43.3	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23
24	28.976		28.976		49.9	32.0	107.3	24.0	36.8	39.3	40.8	39.9	SE	0.5	SE	0.5	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24
25	28.888		28.650		48.8	37.3	56.4	27.0	44.6	40.7	48.2	44.8	SE	1.0	SE	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25
26	28.672		28.620		48.3	36.2	60.0	25.5	42.8	39.2	47.0	35.8	SE	0.5	SE	0.5	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26
27	28.562		28.750		45.0	33.8	81.3	31.7	34.0	31.0	34.8	32.4	SE	1.0	SE	1.0	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27
28	28.500		29.029		45.0	28.2	93.0	27.0	36.8	33.2	40.7	37.0	SE	0.5	SE	0.5	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28
29	29.100		29.150		48.8	38.7	91.2	33.2	41.1	38.2	42.8	40.7	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29
30	29.200		29.500		51.3	41.0	95.8	36.0	45.3	41.8	44.0	41.0	SE	0.5	SE	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30
31	29.508		29.550		49.2	36.8	92.3	39.2	45.4	40.7	41.8	40.2	SE	1.0	SE	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31
Sums.	28.826		29.422		99.7	143.8	618.6	186.8	158.4	140.5	160.0		18.0	21.0			1.34	208	227													
Means.	28.920		28.949		43.2	30.8	78.6	26.0	35.1	33.6	36.6	35.2	0.58	0.68				6.7	7.3													
† Total Corrections for Instrumental Errors.	-0.009		-0.009																													
† Corrections for Diurnal Range.																																
† Corrected Means.	28.911		28.940						33.5	35.1																						
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†† = 28.891  
for Temp. (Col. 2), = 2.8...9.11... = 0.22.5  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 28.920  
for Temp. (Col. 4), = 2.8...9.11... = 0.22.5  
Mean at Station, corrected, and at 32° = 28.906  
Correction for height, feet above Mean Sea-level, = 1.902  
Mean, reduced to 32°, and Sea-level, = 30.108  
Highest Reading, corrected for Index error, on the 1<sup>st</sup> th, = 29.422  
Lowest Do. Do., on the 7<sup>th</sup>, = 28.210  
Difference, or Monthly Range, = 1.212

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 2<sup>nd</sup> th, = 52.2  
Lowest in Month, corrected for Index errors, on the 5<sup>th</sup>, = 15.1  
Difference, or Monthly Range, = 37.1  
"Corrected Mean" of all the Highest, (Col. 5), = 43.2  
"Corrected Mean" of all the Lowest, (Col. 6), = 30.5  
Difference, or Mean Daily Range, = 12.7  
\*\* Calculated Mean Temperature of Month, = 36.8  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 24<sup>th</sup>, = 101.3  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 78.6  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 4<sup>th</sup>, = 14.2  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 26.0  
Difference of above Means or Range ("exposed"), =

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), = 34.3  
†† Computed Temperature of Dew-Point, = 32.0  
†† Do. Elastic Force of Vapour, = 1.82  
†† Do. Weight of Vapour in a Cubic Foot of Air, =  
†† Relative Humidity, (Saturation = 100), = 86  
RAIN fell on 11 Days; Amount in Inches, = 1.34  
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 4 0 4 4 12 3 18 0 0.58  
P.M. 1 6 1 4 2 8 4 5 0 0.68  
Mean. 2 5 0 4 3 10 4 32 0 0.63

Observations made and  
Return verified by

(Signed)

H.



Beaumar  
Mar. 1875.

 $T_0$ 

Mr ALEXANDER BUCHAN.

*Secretary of the Meteorological Society of Scotland,*

EDINBURGH.

Turnips, Rutis, 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.

[illegible][illegible]

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

EDINBURGH, December 1874.

(By Order) A. B.

(By Order) A. B.



# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Præmar, County of Argyll, in Lat. 57° 11', Long. 5° 24' W, Distance from Sea 60 miles.  
 Height of Cistern of the Barometer above Mean Sea-level 1116 feet, above Ground 3 feet. During the MONTH of April 1875.  
 The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. _____				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.		P.M.												
		Barometer.	Atta- ched Ther- mometer	Barometer.	Atta- ched Ther- mometer	Max. No.	Min. No.	Max. in Sun-rays.	Min. on Grass.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	Readings of the H.Cup Anemometer. No. _____	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. _____	8 inches.	12 inches.						22 inches.	Temperature of Air, Water, and Soil. No. _____	9 A.M.	9 P.M.
		No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____						No. _____	No. _____	No. _____	No. _____
	1	29.284		29.210				50.2	34.7	98.0	28.3	44.0	40.0	40.4	38.8	SW	0.5	SW	0.5			SL	6	SL	4									1		
	2	29.032		28.754				50.8	39.0	80.2	30.8	45.4	42.0	43.8	41.7	SW	0	SW	0.5			0.10	SW	7	SW	8								2		
	3	28.528		27.962				50.4	42.2	87.0	33.8	45.0	42.5	44.0	41.5	SW	0.5	SW	1			0.16	"	8	SL	8								3		
	4	28.162		28.200				46.5	34.0	87.0	28.0	38.7	36.8	34.0	33.7	NW	1	N	0.5			0.21	N	10	N	10								4		
	5	27.900		27.778				42.0	32.0	87.8	30.0	33.8	33.3	35.8	33.7	NE	0	SW	1			1.32	"	10	"	9								5		
	6	27.934		28.056				44.3	32.8	92.3	31.8	38.5	36.2	33.8	33.1	SW	1	SW	0.5			0.06	SW	8	SW	8								6		
	7	28.124		28.464				42.0	35.3	89.0	30.8	39.0	38.1	39.5	39.2	N	0.5	NE	0			0.14	"	11	N	10								7		
	8	28.714		28.950				48.1	34.0	90.3	31.0	39.6	38.7	39.3	37.3	N	0	NE	0.5				SW	3	SL	7								8		
	9	29.032		29.132				48.0	36.0	98.3	31.4	40.4	38.4	37.0	35.0	NE	1	NE	0.5				SW	1										9		
	10	29.184		29.162				54.2	37.8	103.0	31.2	40.8	38.8	43.3	42.2	N	0.5	NE	0.5				SW	5	SL	8								10		
	11	29.124		29.100				58.0	34.7	115.3	25.0	46.8	44.0	41.8	38.0	E	0	E	0				SW	5	SL	1								11		
	12	29.090		29.100				59.0	30.0	117.0	28.0	47.0	40.4	41.0	38.8	NE	0	E	0				"	1	SL	2								12		
	13	29.042		29.132				59.2	27.8	107.3	22.4	34.4	36.8	47.3	44.0	SE	0	E	0				SL	1	SL	4								13		
	14	29.050		29.100				55.0	34.2	103.0	23.2	47.0	43.0	46.0	43.8	N	0	E	0				SW	5	SL	8								14		
	15	29.090		29.050				59.8	43.0	111.0	36.2	48.8	44.3	47.8	45.0	SW	0.5	N	0				"	3	SL	7								15		
	16	28.982		28.970				63.3	31.4	101.2	26.0	44.1	41.5	46.3	41.1	N	0	N	0				SW	4	SL	4								16		
	17	28.934		28.876				63.2	31.8	109.8	26.3	45.8	44.2	48.0	43.0	N	0	N	0				SW	5	"	3								17		
	18	28.856		28.800				66.0	33.4	111.0	29.0	50.4	46.3	51.3	44.8	N	0	NE	0				SW	7	SW	8								18		
	19	28.850		28.880				68.3	31.2	112.4	25.0	48.3	43.8	50.0	45.0	SW	0	N	0				SL	4	SL	1								19		
	20	28.850		28.776				68.4	31.3	115.0	25.2	48.0	45.7	47.0	43.2	N	0	N	0														20			
	21	28.750		28.800				61.3	24.3	83.3	29.2	36.8	35.2	34.3	31.1	N	0	NE	1			0.04	N	9	SW	5								21		
	22	28.714		28.632				56.0	27.0	103.2	19.8	40.4	38.7	37.5	34.5	NW	1	N	1			0.01	SW	7	N	8								22		
	23	28.704		28.800				49.3	33.8	68.4	22.0	35.4	31.8	37.0	33.5	N	1	N	1.5				"	7	SW	6								23		
	24	28.850		28.904				44.8	31.2	71.7	24.0	44.1	38.0	42.8	37.6	N	0	N	0.5				"	7	SL	8								24		
	25	28.850		28.920				47.0	35.3	88.8	32.3	42.3	37.8	42.0	39.3	N	0	N	0				"	7	SL	8								25		
	26	28.816		28.700				54.1	28.0	100.7	21.8	45.2	39.1	42.2	39.5	S	0	N	1			0.14	"	2	N	10								26		
	27	28.616		28.680				56.8	29.0	115.0	27.0	49.8	45.3	44.3	41.7	N	0.5	N	1.5			0.12	"	6	SW	4								27		
	28	28.750		28.700				52.0	40.8	87.7	32.3	47.0	46.2	50.0	47.0	S	0	N	1			0.08	N	10	N	9								28		
	29	28.720		28.800				60.0	46.4	105.8	33.8	54.0	49.3	46.4	43.7	N	0.5	N	0.5				SW	4	SW	2								29		
	30	28.800		28.782				59.2	37.8	115.2	26.3	50.7	44.8	44.0	42.0	L	0	S	0.5				SL	1	SL	4								30		
	31																																	31		
Sums.		28.732		28.732				139.3	133.4	124.4	121.1	117.6	79.9	295.0		8.5				135			162		170											
Means.		28.778		28.773				54.6	36.4	94.7	28.1	44.0	40.6	42.7	39.8		0.28						5.40		5.67											
† Total Corrections for Instru- mental Errors.		-0.09		-0.09																																
† Correc- tions for Diurnal Range.																																				
"Cor- rected Means."		28.769		28.764																																
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 ++ for Temp. (Col. 2), = 28.731  
 "Corrected Mean" of Barometer at 9 P.M., minus the Correction ++ for Temp. (Col. 4), = 28.726  
 Mean at Station, corrected, and at 32°, = 28.728  
 Correction for height, feet above Mean Sea-level, = 1.202  
 Mean, reduced to 32°, and Sea-level, = 29.930  
 Highest Reading, corrected for Index error, on the 1st, = 29.284  
 Lowest Do. Do., on the 5th, = 27.778  
 Difference, or Monthly Range, = 1.506

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 10th, = 68.4  
 Lowest in Month, corrected for Index errors, on the 11th, = 27.0  
 Difference, or Monthly Range, = 41.4  
 "Corrected Mean" of all the Highest, (Col. 5), = 54.6  
 "Corrected Mean" of all the Lowest, (Col. 6), = 34.4  
 Difference, or Mean Daily Range, = 20.2  
 \*\* Calculated Mean Temperature of Month, = 44.5  
 S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 12th, = 117.0  
 "Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 94.7  
 Lowest at Night, Black Bulb, (corrected for Index errors), on the 12th, = 19.8  
 "Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 28.1  
 Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 43.4  
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 40.1  
 # Computed Temperature of Dew-Point, = 36.2  
 # Do. Elastic Force of Vapour, = 2.13  
 # Do. Weight of Vapour in a Cubic Foot of Air, = 76  
 # Relative Humidity, (Saturation = 100), = 76  
 RAIN fell on 11 Days; Amount in Inches, = 1.35  
 WIND. SUMMARY.  
 Direction. N NE E SE S SW W NW Calm or Variable. Mean Force. Mean Velocity in miles per day.  
 A.M. 7 3 1 1 3 11 1 3 0 0.28  
 P.M. 2 5 4 1 1 10 6 1 0 0.40  
 Mean. 4 4 3 1 2 11 3 2 0 0.34 = 0.12

\* 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 given.  
 † Embracing corrections for both capillary and Index Errors.  
 ‡ The Diurnal Range for Scotland is as yet unknown.  
 § These "Hygrometric Deductions" are calculated from Glaisher's Hygrometric Tables, Second Edition only.  
 || While the Diurnal Range is unknown, the Arithmetic 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

*James Watson*

(Signed)

*James Watson*

H







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Braemar, County of Marble, in Lat. 57° N, Long. 3° 24' W, Distance from Sea 60 miles.  
Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 5 feet. During the MONTH of May 1875.  
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETER. Read Daily, at 9 P.M.				HYGROMETER. No.				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.	Atmos- phere	Barometer, No.	Atmos- phere	Max. No.	Min. No.	Max. No.	Min. No.	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 Species.	Velocity (0-10), and Direction.	Amount (0-10), and Species.	No.					3 inches.	12 inches.	No.	3 inches.		
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°					°	°	°	°	°	°
	1	28.742		28.724		53.2	37.0	53.2	30.3	53.2	45.0	59.1	38.0	SE	0.5					Cloud	7	SE	7						99	Sea & fine	1			
	2	28.694		28.664		53.2	38.3	53.2	35.3	53.2	44.0	46.0	44.0	SE	0.5					SE	7		4						99	do.	2			
	3	28.650		28.650		53.8	38.3	42.0	32.6	50.8	47.5	53.0	50.7	SW	0.5						8		8						99	dark & dull	3			
	4	28.684		28.760		57.2	41.8	58.2	36.0	52.0	38.2	48.2	43.0	SW	0						Cloud	6	Cloud	8						99	Sea & fine	4		
	5	28.782		28.712		53.8	40.6	54.3	33.2	51.3	46.0	48.2	45.3	E	0.5						Cloud	7	Cloud	5						99	do	5		
	6	28.500		28.400		59.3	39.8	95.7	35.0	49.5	46.6	31.0	48.2	SE	0			0.08			8	N	9						99	do	6			
	7	28.314		28.384		56.6	41.3	92.3	36.1	53.0	49.3	48.8	47.0	SE	0.5						Cloud	8	Cloud	6						99	do	7		
	8	28.426		28.320		55.8	42.2	89.2	38.0	49.8	47.0	46.8	45.0	SW	0.5			0.12			N	4	SE	7						99	Shining	8		
	9	28.312		28.424		57.2	43.8	105.2	36.2	50.0	47.8	49.2	47.0	SE	0			0.17			10	Cloud	8						99	do	9			
	10	28.692		28.500		54.1	42.4	111.3	37.0	47.7	41.8	46.8	43.2	N	1.5						Cloud	4		7						99	Sea & fine	10		
	11	28.750		28.450		60.2	40.2	91.8	34.2	50.1	47.0	53.8	53.8	SW	2							7	N	8						99	Shining	11		
	12	28.834		28.824		61.2	41.2	110.0	41.8	57.3	52.3	52.2	49.0	SW	1.5						Cloud	7	Cloud	7						99	Sea & fine	12		
	13	28.900		28.668		62.2	44.0	115.0	43.2	56.3	50.8	52.0	49.2	SW	1.5						Cloud	5	Cloud	8						99	do	13		
	14	28.834		28.820		63.0	45.2	108.8	38.2	59.0	53.8	52.8	47.3	N	1			0.11			Cloud	5	SE	8						99	Shining	14		
	15	28.766		28.900		58.3	44.0	102.4	40.0	48.0	42.3	45.0	40.8	SW	1						Cloud	4	Cloud	5						99	Sea	15		
	16	28.932		28.900		56.3	40.7	110.0	38.0	46.7	41.0	45.4	42.0	SW	2						Cloud	6		4						99	do	16		
	17	28.720		28.500		55.4	35.3	109.4	29.0	48.7	44.2	47.3	45.0	SW	0						Cloud	7		8						99	do	17		
	18	28.128		28.124		53.7	41.8	83.0	34.0	46.4	43.8	42.9	40.0	SW	0			0.03			N	8	Cloud	6						99	Light shower	18		
	19	28.160		28.230		51.6	39.0	111.8	34.0	47.3	42.0	42.2	34.3	N	0.5			0.02			Cloud	7		8						99	do	19		
	20	28.104		28.264		52.0	40.7	97.2	36.0	47.4	42.7	45.0	43.0	SW	1						Cloud	8	SE	4						99	Sea & fine	20		
	21	28.330		28.030		56.4	37.3	105.2	38.0	50.7	46.0	50.0	47.8	SW	1.5			0.33				8	N	8						99	do	21		
	22	28.250		28.350		53.3	40.2	108.2	37.0	48.8	42.2	42.8	40.0	SW	2			0.15				8		8						99	do	22		
	23	28.600		28.718		52.8	40.0	108.3	36.4	47.3	43.2	42.8	40.0	SW	1			0.04				4	Cloud	8						99	Shining	23		
	24	28.800		28.684		56.8	40.0	86.0	32.0	47.3	43.0	48.3	45.0	SW	2			0.08			Cloud	7		8						99	do	24		
	25	28.866		28.932		55.2	40.0	106.3	36.2	49.0	46.3	46.3	44.8	SW	2			0.12			Cloud	5	N	8						99	do	25		
	26	28.972		29.050		51.3	42.4	73.0	36.0	46.3	42.1	45.8	42.0	SW	1			0.02				4	SE	7						99	do	26		
	27	28.926		28.720		53.0	42.8	74.0	40.0	46.8	43.3	51.7	45.0	SW	0.5			0.17			N	9	N	8						99	do	27		
	28	28.682		28.770		52.8	40.0	76.3	36.0	43.0	41.4	40.6	38.4	SW	1			0.10				10		8						99	do	28		
	29	28.770		28.700		55.0	37.0	112.3	34.8	48.0	40.8	48.2	44.0	N	0.5						Cloud	6	SE	7						99	Sea	29		
	30	28.672		28.672		64.7	43.2	119.0	40.3	52.0	46.7	62.8	48.5	SW	0.5							7	Cloud	7						99	do	30		
	31	28.726		28.900		63.3	39.4	114.0	32.3	57.8	47.0	50.7	46.8	SW	0							1	SE	4						99	do	31		
Sums.		19.678		19.794		202.7	36.7	15.8	180.4	291.8	154.1	234.8	148.0					1.64				202		210										
Means.		28.635		28.639		56.5	41.2	100.5	35.8	49.4	45.0	47.6	44.8									6.5		6.8										
Corrections for Diurnal Range.		-0.09		-0.09																														
"Corrected Means."		28.626		28.630																														
No. of Column.		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction for Temp. (Col. 2), = 28.575  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction for Temp. (Col. 4), = 28.579  
Mean at Station, corrected, and at 32°, = 28.577  
Correction for height, feet above Mean Sea-level, = 1.202  
Mean, reduced to 32°, and Sea-level, = 29.779  
Highest Reading, corrected for Index error, on the 26th, = 29.050  
Lowest Do. Do., on the 21st, = 28.050  
Difference, or Monthly Range, = 1.000

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 30th, = 64.7  
Lowest in Month, corrected for Index errors, on the 17th, = 35.3  
Difference, or Monthly Range, = 29.4  
"Corrected Mean" of all the Highest, (Col. 5), = 56.5  
"Corrected Mean" of all the Lowest, (Col. 6), = 41.2  
Difference, or Mean Daily Range, = 15.3  
Calculated Mean Temperature of Month, = 48.8  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 30th, = 119.0  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 100.5  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 17th, = 29.0  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 35.8  
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 48.5  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 44.8  
Computed Temperature of Dew-Point, = 40.8  
Do. Elastic Force of Vapour, = 2.53  
Do. Weight of Vapour in a Cubic Foot of Air, = 75  
Relative Humidity, (Saturation = 100), = 75  
RAIN fall on 14 days; Amount in Inches, = 1.64  
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 1 1 1 3 17 5 1 0 0.86  
P.M. 0 1 2 1 2 20 3 2 0 0.79  
Mean. 1 1 2 1 2 19 4 1 0 0.82 = 0.67

Observations made and  
Return verified by

(Signed)



Greene  
Inc

BOOK POST.

Mr ALEXANDER BUCHAN,

*Secretary of the Meteorological Society of Scotland,*

EDINBURGH.

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.

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..... 100%

FOREST TREES.									
Alder.	.	.	.	.	.	.	.	.	.
Ash.	.	.	.	.	.	.	.	.	.
Beech.	.	.	.	.	.	.	.	.	.
Birch.	.	.	.	.	.	.	.	.	.
Elm.	.	.	.	.	.	.	.	.	.
Larch.	.	.	.	.	.	.	.	.	.
Lime.	.	.	.	.	.	.	.	.	.
Oak.	.	.	.	.	.	.	.	.	.
Sycamore or Plane,	.	.	.	.	.	.	.	.	.
In	Flower.								
Leaf buds	First appear.								
In	Leaf.								
Divered of	Leaves.								
CHOPS.									
Barley.									
Bore or Bigg.									
Oats.									
Wheat.									
Beans.									
Pease.									
Potatoes.									
Turnips.									
Rye Grass.									
Sowing or	Planting or								
above	above								
Appearance	Appearance								
In	In								
Flower.	Flower.								
First Cut	First Cut								
or Raised.	or Raised.								

EDINBURGH, December 19. 1884.

upon, the indications of the Rain-Gauge. For wind, rain, and snow, as indicated in every column, the Observer cannot be so exact to register observations only; and nothing that partakes of the nature of deduction or inference.

Convenient abbreviations for the nomenclature of Clouds will be found on the other side. The amount of Cloud ought to be estimated from the  $\frac{1}{100}$ ths of the zenith. The strata of Clouds that appear near the horizon are viewed obliquely; and thus, being made to judge of their amount, we ought not to take them into account in the  $\frac{1}{100}$ ths of their column, though their appearance and changes may be noted among the Remarks. The amount of Clouds is entered on a scale of 0 to 10; thus, when the sky overhead is covered, a scale of 0 to 10; thus, when the sky overhead is covered, 10 is entered.

Observations of the Clouds are made at 9 A.M. and at sunset, as 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:—Thus, in the column Velocity and Direction, 6, S.W. will indicate that the upper strata of Clouds travel with extreme velocity from S.W. and those in the lower regions from W. with one-third the speed of the former. Again, in the second column, an entry of  $\frac{2}{4}$ , st. will indicate that the higher Cloud column, an entry of  $\frac{2}{4}$ , east, will indicate that the upper strata of Clouds are covered to the amount of 4 tenths with stratus Clouds; and that the sky is further observed to the extent of 2 tenths by lower Clouds of the cumulus or nimbus kind.

Remarks on peculiar Clouds accompanied with drawings, will assist materially in the development of a more exact nomenclature of Clouds, as well as throw light on the electrical, and other of their more obscure phenomena of Meteorology.

The approximate number of Hours in which objects in the sun's rays cast shadows, should be entered in the proper column.

As the germination and growth of crops and plants generally depend greatly on the temperature of the soil—these observations are of great amount and constancy—the Council recommend that the Thermometers in this interesting department be maintained at 9 A.M. By Thermometers permanently fixed in the soil, their bulbs being sunk to depths of 3, 12, and 22 inches, and the stems above the ground protected from the sun's rays, and fitted with sloping glass collars, to prevent rain water being conveyed to the bulbs by the stems or wooden frames.

A knowledge of the Temperature of the Sea is not only in itself important in its relations to that of the 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 if this be impracticable, from the ends of piers and rocks round the coast, where it is influenced by that of river water, and as little influenced as possible by currents sweeping along the coast, and thus the temperature of the beach, either greatly heated by the

The Hygrometer in use as a Self-Registering Thermometer. The Hygrometer is usually placed in a room, not especially mounted on the wall. The observations are made on the front frame. As the readings of this apparatus seriously vitiate the Hygrometer observations, Observers are specially required to attend to the following conditions.—The bulbs must hang down freely at least an inch from the scales and frame to which they are attached; the frame must be such as will bring the tubes forward at least an inch from any board on which it may be suspended; the water-glass must be covered, and altogether placed to the side, and a little below the level of the wet bulb, but in no case under the neck of the bulb by the cotton, which also supplies it with water. It must be seen by the Observer that the muslin is always clean and moist, and the water pure. In frosty weather, observation has to be made with much delicacy, and must be made with great care. The bulb must be moistened by immersion from 15 to 30 minutes. The observation must be taken at the end of the hour of observation. From the film of ice thus formed upon the bulb, the Thermometer glass is taken to the eye, and the indication will be read as follows:—The eye exactly opposite the centre of the bulb, and the reading ought to be taken to within a degree, and rounded up in decimals. Thus, if the Thermometer reads 40° 1', or 40° 2', or 40° 3', or 40° 4', or 40° 5', or 40° 6', or 40° 7', or 40° 8', or 40° 9', or 40° 10', or 40° 11', or 40° 12', or 40° 13', or 40° 14', or 40° 15', or 40° 16', or 40° 17', or 40° 18', or 40° 19', or 40° 20', or 40° 21', or 40° 22', or 40° 23', or 40° 24', or 40° 25', or 40° 26', or 40° 27', or 40° 28', or 40° 29', or 40° 30', or 40° 31', or 40° 32', or 40° 33', or 40° 34', or 40° 35', or 40° 36', or 40° 37', or 40° 38', or 40° 39', or 40° 40', or 40° 41', or 40° 42', or 40° 43', or 40° 44', or 40° 45', or 40° 46', or 40° 47', or 40° 48', or 40° 49', or 40° 50', or 40° 51', or 40° 52', or 40° 53', or 40° 54', or 40° 55', or 40° 56', or 40° 57', or 40° 58', or 40° 59', or 40° 60', or 40° 61', or 40° 62', or 40° 63', or 40° 64', or 40° 65', or 40° 66', or 40° 67', or 40° 68', or 40° 69', or 40° 70', or 40° 71', or 40° 72', or 40° 73', or 40° 74', or 40° 75', or 40° 76', or 40° 77', or 40° 78', or 40° 79', or 40° 80', or 40° 81', or 40° 82', or 40° 83', or 40° 84', or 40° 85', or 40° 86', or 40° 87', or 40° 88', or 40° 89', or 40° 90', or 40° 91', or 40° 92', or 40° 93', or 40° 94', or 40° 95', or 40° 96', or 40° 97', or 40° 98', or 40° 99', or 40° 100', or 40° 101', or 40° 102', or 40° 103', or 40° 104', or 40° 105', or 40° 106', or 40° 107', or 40° 108', or 40° 109', or 40° 110', or 40° 111', or 40° 112', or 40° 113', or 40° 114', or 40° 115', or 40° 116', or 40° 117', or 40° 118', or 40° 119', or 40° 120', or 40° 121', or 40° 122', or 40° 123', or 40° 124', or 40° 125', or 40° 126', or 40° 127', or 40° 128', or 40° 129', or 40° 130', or 40° 131', or 40° 132', or 40° 133', or 40° 134', or 40° 135', or 40° 136', or 40° 137', or 40° 138', or 40° 139', or 40° 140', or 40° 141', or 40° 142', or 40° 143', or 40° 144', or 40° 145', or 40° 146', or 40° 147', or 40° 148', or 40° 149', or 40° 150', or 40° 151', or 40° 152', or 40° 153', or 40° 154', or 40° 155', or 40° 156', or 40° 157', or 40° 158', or 40° 159', or 40° 160', or 40° 161', or 40° 162', or 40° 163', or 40° 164', or 40° 165', or 40° 166', or 40° 167', or 40° 168', or 40° 169', or 40° 170', or 40° 171', or 40° 172', or 40° 173', or 40° 174', or 40° 175', or 40° 176', or 40° 177', or 40° 178', or 40° 179', or 40° 180', or 40° 181', or 40° 182', or 40° 183', or 40° 184', or 40° 185', or 40° 186', or 40° 187', or 40° 188', or 40° 189', or 40° 190', or 40° 191', or 40° 192', or 40° 193', or 40° 194', or 40° 195', or 40° 196', or 40° 197', or 40° 198', or 40° 199', or 40° 200', or 40° 201', or 40° 202', or 40° 203', or 40° 204', or 40° 205', or 40° 206', or 40° 207', or 40° 208', or 40° 209', or 40° 210', or 40° 211', or 40° 212', or 40° 213', or 40° 214', or 40° 215', or 40° 216', or 40° 217', or 40° 218', or 40° 219', or 40° 220', or 40° 221', or 40° 222', or 40° 223', or 40° 224', or 40° 225', or 40° 226', or 40° 227', or 40° 228', or 40° 229', or 40° 230', or 40° 231', or 40° 232', or 40° 233', or 40° 234', or 40° 235', or 40° 236', or 40° 237', or 40° 238', or 40° 239', or 40° 240', or 40° 241', or 40° 242', or 40° 243', or 40° 244', or 40° 245', or 40° 246', or 40° 247', or 40° 248', or 40° 249', or 40° 250', or 40° 251', or 40° 252', or 40° 253', or 40° 254', or 40° 255', or 40° 256', or 40° 257', or 40° 258', or 40° 259', or 40° 260', or 40° 261', or 40° 262', or 40° 263', or 40° 264', or 40° 265', or 40° 266', or 40° 267', or 40° 268', or 40° 269', or 40° 270', or 40° 271', or 40° 272', or 40° 273', or 40° 274', or 40° 275', or 40° 276', or 40° 277', or 40° 278', or 40° 279', or 40° 280', or 40° 281', or 40° 282', or 40° 283', or 40° 284', or 40° 285', or 40° 286', or 40° 287', or 40° 288', or 40° 289', or 40° 290', or 40° 291', or 40° 292', or 40° 293', or 40° 294', or 40° 295', or 40° 296', or 40° 297', or 40° 298', or 40° 299', or 40° 300', or 40° 301', or 40° 302', or 40° 303', or 40° 304', or 40° 305', or 40° 306', or 40° 307', or 40° 308', or 40° 309', or 40° 310', or 40° 311', or 40° 312', or 40° 313', or 40° 314', or 40° 315', or 40° 316', or 40° 317', or 40° 318', or 40° 319', or 40° 320', or 40° 321', or 40° 322', or 40° 323', or 40° 324', or 40° 325', or 40° 326', or 40° 327', or 40° 328', or 40° 329', or 40° 330', or 40° 331', or 40° 332', or 40° 333', or 40° 334', or 40° 335', or 40° 336', or 40° 337', or 40° 338', or 40° 339', or 40° 340', or 40° 341', or 40° 342', or 40° 343', or 40° 344', or 40° 345', or 40° 346', or 40° 347', or 40° 348', or 40° 349', or 40° 350', or 40° 351', or 40° 352', or 40° 353', or 40° 354', or 40° 355', or 40° 356', or 40° 357', or 40° 358', or 40° 359', or 40° 360', or 40° 361', or 40° 362', or 40° 363', or 40° 364', or 40° 365', or 40° 366', or 40° 367', or 40° 368', or 40° 369', or 40° 370', or 40° 371', or 40° 372', or 40° 373', or 40° 374', or 40° 375', or 40° 376', or 40° 377', or 40° 378', or 40° 379', or 40° 380', or 40° 381', or 40° 382', or 40° 383', or 40° 384', or 40° 385', or 40° 386', or 40° 387', or 40° 388', or 40° 389', or 40° 390

[illegible]

10. VI. 1961



## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Braemar, County of Aberdeen, in Lat. 57° N., Long. 3° 24' W., Distance from Sea 60 miles.Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 3 feet.During the MONTH of June 1875

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				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. —	Attached Thermometer	Barometer. No. —	Attached Thermometer	Max. No. —	Min. No. —	Max. in Sun's rays No. —	Min. on Grass. No. —	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force	Direction.	Force	No. of hours in which it fell.	Amount in inches.	Velocity (40-100) and Direction.	Amount (0-100) and Species.	Velocity (40-100) and Direction.	Amount (0-100) and Species.	No. — 8 inches.	No. — 12 inches.	No. — 22 inches.					
		inches.	°	inches.	°	No. —	No. —	No. —	No. —	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°					°
	1	29.006		29.100		72.3	36.7	123.0	31.0	55.0	49.0	53.5	49.0	SW	0	NE	0.3										Thin & Sunshine	1			
	2	29.130		29.050		75.7	37.3	123.2	32.2	58.8	53.8	50.0	46.8	SW	0	S	1.5										"	2			
	3	28.918		28.812		68.2	33.5	116.0	28.8	62.0	52.7	56.0	51.0	S	0	SW	0										"	3			
	4	28.664		28.650		66.8	38.2	105.3	31.8	56.8	53.2	50.3	46.0	SW	0	S	0										"	4			
	5	28.610		28.672		61.8	44.2	115.3	36.7	49.0	47.3	51.8	47.2	SW	0	S	0	0.17	Clouds	3	Clouds	7					"	5			
	6	28.444		28.600		61.1	45.5	109.3	42.1	50.0	48.6	52.7	48.2	E	0	SW	0.5										Rain	6			
	7	28.622		28.672		57.7	48.2	78.0	42.0	52.4	48.0	52.2	50.3	SW	0	SW	0	0.10	Clouds	9	Clouds	7					Shower	7			
	8	28.800		28.828		60.6	47.3	109.0	40.8	52.7	48.2	49.7	45.6	SW	1	SW	1.5										Thin & Sun	8			
	9	28.692		28.320		55.3	38.3	83.4	34.8	52.7	47.7	52.8	49.5	SE	0.5	W	0.5	0.06	Clouds	8	Clouds	7					Shower	9			
	10	28.140		28.212		56.8	45.7	117.8	39.3	50.7	48.8	49.8	46.5	SW	1.5	SW	1.5	0.02	Clouds	7	Clouds	8					"	10			
	11	28.200		28.260		58.2	38.8	113.4	34.8	52.2	46.3	45.9	44.3	SW	0	SW	0.5	0.17	Clouds	6	Clouds	9					"	11			
	12	28.300		28.320		55.4	34.7	115.3	29.6	49.5	45.0	45.8	45.2	S	0.5	NE	0.5	0.23	"	8	"	10					th Thunder & Wind S. P.M.	12			
	13	28.316		28.212		56.0	35.4	108.0	29.8	50.7	46.3	47.0	45.2	SW	0.5	SW	1	0.04	"	7	Clouds	6					"	13			
	14	28.150		28.000		52.0	33.3	87.0	29.3	50.7	47.0	48.3	46.5	S	0	SW	1	0.32	Clouds	8	"	7					"	14			
	15	27.972		27.912		56.0	44.2	110.5	35.0	49.8	44.7	47.4	46.5	S	1	SW	0.5	0.16	"	7	Clouds	10					"	15			
	16	28.084		28.350		59.0	39.3	110.0	33.0	52.8	47.8	47.3	46.7	SW	0	NE	0.5	0.37	"	6	Clouds	9					Shower 2 P.M.	16			
	17	28.550		28.722		56.7	45.3	98.4	38.3	50.0	47.0	48.2	45.8	SE	0.5	NE	0	0.05	"	7	Clouds	8					Shower	17			
	18	28.784		28.800		59.8	44.2	116.4	40.4	49.8	47.0	53.0	47.8	SW	0	SW	0.5										Thin & Sun	18			
	19	28.734		28.576		58.0	49.2	105.7	42.0	54.7	52.0	53.8	51.0	SW	0.5	SW	1.5										"	19			
	20	28.630		28.534		60.0	45.8	114.6	31.8	53.2	46.6	48.0	45.1	SW	1	S	0										"	20			
	21	28.526		28.650		60.2	41.8	116.0	34.0	54.2	47.4	50.8	47.0	SW	1	SW	1										"	21			
	22	28.700		28.570		54.0	45.3	96.1	40.2	51.0	46.3	53.3	49.2	SW	1	SW	2										"	22			
	23	28.750		28.876		61.0	49.0	123.0	45.0	54.0	50.3	52.3	45.0	SW	0.5	SW	1										"	23			
	24	28.872		28.800		64.3	47.4	120.8	40.8	57.8	52.2	58.0	54.0	SW	1	SW	1										"	24			
	25	28.680		28.500		60.0	52.0	80.0	46.3	57.0	53.3	53.4	50.3	SW	1	SW	1										Shower	25			
	26	28.500		28.610		55.8	46.4	119.8	45.0	50.8	46.4	47.8	45.2	SW	0.5	SW	0.5	0.21	Clouds	8		8					"	26			
	27	28.650		28.600		55.8	41.0	103.2	37.0	51.7	46.8	48.2	47.7	S	1	S	0	0.02	Clouds	8	Clouds	10					"	27			
	28	28.700		28.822		61.0	47.0	114.0	42.0	54.3	51.0	51.4	49.0	E	0	NE	1										Thin	28			
	29	28.850		28.800		55.4	47.4	79.1	45.4	49.8	49.0	52.6	51.3	NE	0	NE	1.5	0.05	Clouds	10	Clouds	7					Shower	29			
	30	28.780		28.600		55.0	47.7	67.1	46.2	57.0	49.2	52.1	51.4	NE	0	E	0										"	30			
	31																												31		
Sums.		17.764		17.380		294.2	88.9	318.7	22.5	8.6	28.2	23.5	236.8	13.0		18.0		14	2.00	199	195										
Means.		28.592		28.548		59.8	42.9	106.2	37.5	52.9	48.7	50.8	47.9	0.43		0.60															
+ Total Corrections for Instrumental Errors.		-0.009		-0.009																											
+ Corrections for Diurnal Range.																															
"Corrected Means."		28.583		28.539																											
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), = 28.520  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction<sup>††</sup> for Temp. (Col. 4), = 28.463  
Mean at Station, corrected, and at 32°, = 28.492  
Correction for height, feet above Mean Sea-level, = 1.202  
Mean, reduced to 32°, and Sea-level, = 29.694  
Highest Reading, corrected for Index error, on the 2 th, = 29.130  
Lowest Do. Do., on the 15 th, = 27.912  
Difference, or Monthly Range, = 1.218

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 2 th, = 75.7  
Lowest in Month, corrected for Index errors, on the 14 th, = 33.3  
Difference, or Monthly Range, = 42.4  
"Corrected Mean" of all the Highest, (Col. 5), = 59.8  
"Corrected Mean" of all the Lowest, (Col. 6), = 42.9  
Difference, or Mean Daily Range, = 16.9  
\*\* Calculated Mean Temperature of Month, = 57.4  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 23 th, = 123.0  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 106.2  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 23 th, = 28.8  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 37.5  
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 57.8  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 48.2  
# Computed Temperature of Dew-Point, = 44.6  
# Do. Elastic Force of Vapour, = 2.95  
# Do. Weight of Vapour in a Cubic Foot of Air, = 76  
# Relative Humidity, (Saturation = 100), = 76  
RAIN fell on 14 Days; Amount in Inches, = 2.00

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.		0	3	2	2	5	17	0	1	0	0.43
P.M.		0	6	1	0	5	17	1	0	0	0.60
Mean.		0	4.2	1.5	1.7	1.0	0	0.52	0.27	0.44	

Observations made and Return verified by

James Wilson

(Signed)

James Wilson



Baccus  
June 1875-

 $T_0$ 

*Secretary of the Meteorological Society of Scotland,*

Have the goodness also to state any information you may be able to collect relative to the Crops of Grain, Hay, Potatoes, Turnips, Kraits, 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.

FOREST TREES.	Alder, . . . . . Ash, . . . . . Beech, . . . . . Birch, . . . . . Elm, . . . . . Larch, . . . . . Lime, . . . . . Oak, . . . . . Sycamore or Plane.	In flower. First buds First appear.	In leaf. Divested of leaves.	CROPS, mentioning variety. Barley, . . . . . Bere or Bigg, . . . . . Oats, . . . . . Wheat, . . . . . Beans, . . . . . Peas, . . . . . Potatoes, . . . . . Turnips, . . . . . Rye Grass, . . . . .	Sowing or Planting. Raising or Above ground. Appearing In ear or flower. First cut or threshed.
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One of the chief objects that the SCOTCH METEOROLOGICAL SOCIETY proposed to itself when the Society was established in 1855, was to secure *perfect uniformity* in the system of observation pursued at all its stations. Uniformity in the observations is absolutely necessary to justify the publication of Monthly Results from different observations, if being found that differences between the Returns from two Stations so very considerable as to render them incomparable, may arise from dissimilarity in the position or shelter of instruments, or different hours of observation, or even from the use of differently constructed instruments. It is therefore hoped, that those who kindly furnish Reports to the Society will, by a scrupulous attention to the following Directions, secure for their Monthly Returns, an accuracy and value commensurate with the labour and pains involved in making them; and, for the Tables published by the Society, an entire comprehensiveness among several Returns, without which the Society's Reports must inevitably fail in achieving one of the main objects of Meteorological Observation.

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**Barometer.**—roughly variations of atmospheric pressure, are not fitted for scientific purposes. No Barometer should be used for Meteorological Observation that is not supplied with some means of adjustment or compensation which will secure that the height of the mercury in the tube is accurately measured from the fluctuating surface of the mercury in the cistern.

flexible leather, thus raising or depressing the surface till it just needs the ivory point which forms the zero point of the fixed scale. The Barometer originally constructed by Mr. Aitue of London, and usually called the Board of Trade Barometer, has the great convenience of requiring no adjustment of the column. Its scales and inches are not true inches, but so much shorter as to compensate the error that would otherwise arise from the fluctuations of the Barometer for mercury in the column. This is an excellent means of avoiding the ordinary Observers' nuisance as it is entirely safe in setting the instrument likely to be used in any case. The only error in the instrument to the zero point of the fixed scale when the light is brought to stand the mercury with which these Barometers are made, good. To succeed in the comparison with which these Barometers are made, the comparison when atmospheric pressure was being given to the Standard Barometer, particular care being given to the nature of the comparison when atmospheric pressure was rising or falling very rapidly, with the result that none of the readings differed from those of the Standard more than 0.003 inch.

make the comparisons, their altitudes and the readings differed very rapidly, with the result that the error was not more than 0.003 inch.

A modification of the aneroid Barometer is used at a number of the Society's Stations, of which the coincidence of the zero point with the surface of the water is indicated by a little ivory float, whose thin passing of the water through the lid and case of the aneroid, tends to form one straight line with those on its ivory frame, the surface of the mercury is then at the exact height from which the scale is graduated. In taking an observation, this preliminary setting must be made with scrupulous accuracy, as a slight error here will vitiate the readings from the vernier.

It is absolutely necessary that the Barometer which is to be used, shall have been compared to a Standard Barometer.

ting must be made with scrupulous accuracy; as a slight error here will vitiate the readings from the vernier.

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 obtained, so that the observer may be enabled to read it without being forced, and to facilitate the readings, a piece of white paper should be put behind the tube. It must be hung by a particular care, and exposed to neither the sun's rays nor the heat of a fire. The object must be to bring the instrument, including the brass and steel parts, to a uniform temperature, and the attached Thermometer, shall be so placed, that it may be read at one uniform temperature, it is evident that the best position is that which is least liable to sudden changes of temperature.

In taking an Observation, the Attached Thermometer is first noted; the tube must then be gently tapped, and the glass-adjusted screw carefully made. The eye, by raising and lowering it, must be brought into the plane of the back and front of the Index—usually the lower edge of the vernier, which must be carefully adjusted so as to form exactly a tangent to the convex surface, so as to prevent the tube. Observations must be taken quickly, so as to prevent heat from the observer's hands and persons standing adjacent the vernier. The use of a lens will facilitate this.

Of the Barometer, a mistake not infrequently made by these beginners, is in setting the vernier to the wrong edge of the glass. The level of the clear surface of the mercury which is in direct contact with the glass tube, must be carefully avoided.

The use of a lens will facilitate an accurate adjustment and reading of the Barometer. A mistake not unfrequently made by those beginning to observe, consisting in setting the edge of the vernier to the level of the clear surface of the mercury which is in direct contact with the glass tube, must be carefully avoided.

The errors most frequently made in reading the Barometer are of 1/400 inch, 0/500 inch, and 0/600 inch; that is to say, instead of 29/365 inches, either of the following is sometimes set down, viz: as 30/365 inches, 29/366 inches or 29/364 inches. Experience having shown that even the very best Observer makes these mistakes, particular attention is directed to the matter.

When a Barometer having adjustable surfaces has to be fastened to the instrument, the ivory peg must first be secured to the top of the tube, but it is a light-peg to the instrument, thus preventing the escape of the mercury. Then screw up the mercury tube, and take down the instrument; if within a quarter of an inch it will take down the instrument, it should then be carried with the column unremoved. Before screwing the Barometer up, it must be ascertained whether the space above the mercury in the tube is a complete vacuum; this is done by moving the mercury in the instrument, a sharp tap is produced when the mercury strikes the top of the tube. If a dull tap is heard, there is air in the tube, which must be got rid of.

marks. Experience, particularly attention is directed to the matter of the instrument being used.

When a barometer having adjustable surfaces has to be used from its fastenings, the ivory peg must first be screwed so as to form a tight joint to the cistern, thus preventing the escape of the mercury. Then screw up the mercury not quite to the top of the tube, but leaving a space of an inch or of an inch and a half, and then insert a plug of wax or putty into the top of the tube, and carry the instrument to the place where it is to be used.

Before the Barometer for use, it must be ascertained whether the space above the mercury is a complete vacuum; this is done by allowing the mercury to rise to the top of the tube, and then, if, on inclining the instrument, a sharp tap is produced when the mercury strikes the top of the tube. If a dull tap is heard, there is air in the tube, which must be got rid of.

[illegible]

is at the tube, which must be got rid of. As the Barometers are liable to be damaged by the introduction of air into their tubes, on removal from place to place, or in being roughly handled, it may be useful to Observers to know how the tube may be expelled. First, close up the stem by screwing the ivory peg tight, so as to prevent the escape of mercury; then screw upon the mercury to about half an inch from the top of the tube; and having a substance, such as the boot, and gently up to the second thumb-screw, slowly inverted the instrument, place the top of it on a yielding substance, such as the palm of the hand, so as to induce the air to ascend through the column of the instrument, whence it may escape. Since, however, the weight of two atmospheres—the pressure of this air, and the weight of the air outside—pressing down, to get it wholly expelled. After repeated trials of the mercury, when gently struck against the top of the glass tube, will show when the whole of the air has been driven down. On hanging up the Barometer, care must be taken to screw down the mercury in the tube before unscrewing the top of the stem, for if this be not attended to, the mercury will fall, and the instrument be seriously damaged.

air has been expelled. On making up the instrument, the mercury in the tube before unfastening the stopper should be at least 10 mm. above the level of the float of the cistern, for if this be not attended to, the mercury will sink out, and the instrument be seriously damaged.

The Council of the Society recommended that the Self-Registering Thermometers, and the Dry and Wet Bulb Hygrometers, be kept in Stevenson's Louver-boarded Box for Thermometers painted white inside and outside, and screwed 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 hanging immediately above the Minimum

The thermometer BOX is to be placed in a place of exposure, and in a free open space to which the sun's rays have free access during the day, and in which the wind is free to blow, so as to secure the Thermometers are suspended on cross-laths in the centre of the Box, and the door, which should open to the north, is to be fastened by a screw.

The Council regard the question of UNIFORMITY OF HEIGHT ABOVE GROUND, AND METHOD IN PROTECTING THE THERMOMETERS, as vital in the Meteorological Observations, since without it Observations made at different Stations are incomparable, thus rendering them of little value.

Professor Phillip's, and Negretti and Zambra's Maximum Thermometers, and Rutherford's Minimum Thermometer are recommended that these Thermometers be graduated on the glass stem. The Minimum Thermometer is liable to two derangements,—viz., the column of spirit breaking, and part of the spirit distilling by high heat. This is prevented by the use of the following method.

[illegible]

own the detached portion of spirit, will generally be sufficient for a few throws, or swinging strokes, will generally be sufficient for the purpose; after which the Thermometer should be placed in a tilting position, to allow the rest of the spirit still adhering to the inner surface of the tube to drain down to the column. But another method must be adopted, if the portion of spirit in the top of the tube be not sufficient to allow the rest of the spirit to drain down to the bottom of the tube. Heat should be applied slowly and cautiously to the top of the tube, where the detached portion of spirits, which,

being turned into vapor by the heat, will condense on the surface of the unbroken column of spirit. Care must be taken that the seal is not applied too quickly; for if this be done, the tube will break and the instrument be destroyed. The best way to apply the requisite amount of heat, by bringing the end of the tube slowly over a small flame, until the vapor will escape instead of being turned into liquid.

The paths of the Thermometers for registering the greatest heat from the sun's rays, and the least from radiation during nights, have a black coating, which may easily be made, or moulded, by the application a mixture

**Black-Bath**  
The bath is made by mixing

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 measured by these instruments by distillation. Bulb-baths of lamp black and printers ink. They are placed in shallow blackened boxes, whose sides protect the bulbs from the wind.

enclosed in 'glass jackets' may also be used, being indeed preferable

of the above. It must, however, be added, that the whole subject of the observation of Solar and Terrestrial Radiation is not yet in a sufficiently advanced state to warrant the exclusive recommendation of any one of these methods.

The Hygrothermometer in use at the Society's Stations consists of two Thermometers usually, but not necessarily, mounted on a common frame. As apparently slight deviations from the approved form of this apparatus seriously vitiate the observations, Observers are severely reminded to adhere to the following instructions.

**Dry and Wet Bulb Hygrometer.**—The Hygrometer should be placed in a position where it is not exposed to direct solar radiation, and where it is not liable to be affected by draughts of air. It should be placed in a position where it is not exposed to direct solar radiation, and where it is not liable to be affected by draughts of air. It should be placed in a position where it is not exposed to direct solar radiation, and where it is not liable to be affected by draughts of air.

the following conditions.—The bulbs must hang down at least an inch free from the scales and frame to which they are attached; the frame must be such as will bring the tubes forward an inch from any board on which it may be suspended; the water-cup must be covered, and altogether placed to the side and level below the level of the wet bulb, but in no case under the neck of the bulb; the muslin must be of medium fineness and fastened at the neck of the bulb by the cotton, which also supplies the means of fastening the bulb to the board; the thermometer must be seen to by the Observer that the bulb is always clear of the moist, and that the air is not drawn over the bulb by the draught of the wind; and must be made with grease. The scales must hang down

In reading the Thermometer great care must be taken to observe the following points:

**Reading of the Thermometer.** The reading ought to be taken with the eye exactly opposite to the level of the column of mercury. The reading ought to be taken to tenths of a degree, and noted in decimals. Thus, if the Thermometer will be read  $-39^{\circ}.9$ ,  $40^{\circ}.0$ , or  $40^{\circ}.1$ ; or again,  $40^{\circ}.4$ ,  $40^{\circ}.5$ , or  $40^{\circ}.6$ , according as it indicates a little under, an

So also  $40\frac{1}{2}^\circ$  and  $40\frac{3}{4}^\circ$ , more or less must be registered  $40^\circ.2$ , or  $40^\circ.3$ , or  $40^\circ.4$ , or  $40^\circ.5$ , or  $40^\circ.6$ , or  $40^\circ.7$  or  $40^\circ.8$  respectively. In reading Rutherford's index, the indication of that end of the index of the Minimum Thermometer, the indication of that end of the index of the spirit is next the surface of the spirit is alone noted. On opening

the Thermometer Box, the Dry and Wet Bulb Thermometers are to be first, and rapidly, read, inasmuch as they are readily affected by heat from the person of the Observer.

The Hygrometer is read at 9 A.M. and 9 P.M. The Self-Registering Thermometers are read at 9 P.M. only, as indicating the greatest and least degrees of temperature in the hour of observing the temperature.

when the Self-Registering Thermometers are read, since, in winter a 24 hours preceding. It is not a matter of indifference whether, at least, the extremes may occur at any hour; and it is necessary to prefer their occurrence to their proper meteorological day. In the Society's schedules, the indications registered on the 3d are those of a series of phenomena commencing at 9 p.m. on the 2d, and

No instrument ought to be used for Meteorological purposes till it has been carefully tested by comparison with Standard Thermometer. When such Thermometers as are not graduated on the stem, but merely on a

attached seals, undergo repairs, they are very liable to be moved from their position on the Scale, and ought never afterwards to be used without being re-tested. The Self-Registering, especially the Minimum Thermometers, ought frequently to be compared with the dry bulb of the Hygrometer. The freezing-point of each Thermometer, marked by a scratch on the tube, ought to be tested once a year, in snow or melting ice.

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



# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Pruman, County of Shutreen, in Lat. 57° 24', Long. 3° 24', Distance from Sea 60 miles.  
 Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 5 feet. During the MONTH of July 1875.  
 The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				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 Disasters, 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.		9 h. P.M.								
		Barometer.	Attach- ed Ther- mometer	Barometer.	Attach- ed Ther- mometer	Max.	Min.	Max. in Sun/rays.	Min. on Grass.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	Velocity (0-6), and Direction.	Amount (0-10), and Species.	Velocity (0-6), and Direction.	Amount (0-10), and Species.	No. 1 inches.	No. 2 inches.	No. 3 inches.	No. 4 inches.	No. 5 inches.						
		* No.		No.		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.					No.
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°					
	1	28.500		28.520		63.2	45.7	126.3	49.7	56.4	53.8	68.3	56.2	S	0	E	0	0.43	Can 8	Can 8											1	
	2	28.470		28.586		63.7	54.0	106.0	53.8	56.0	55.5	57.0	54.0	N	0	N	0	0.56	N 10	N 8											2	
	3	28.812		29.004		64.3	54.0	126.8	45.0	54.0	50.3	54.0	49.3	N	0	N	0	-	Can 7	Can 1											3	
	4	29.088		29.110		67.8	58.2	132.0	34.0	58.8	53.0	59.0	54.0	SW	1	SW	0	-	Can 2	St 1											4	
	5	29.070		29.150		76.0	53.0	133.8	45.0	59.4	57.3	57.1	55.0	SW	0	E	0	-	Can 4	St 8											5	
	6	29.130		29.134		71.8	52.8	134.0	53.7	64.8	57.8	60.0	54.8	SW	0	E	0.5	-	-	" 8											6	
	7	29.100		28.982		76.3	53.7	134.0	53.0	63.0	58.2	63.2	58.0	SW	0	E	0.5	-	Can 6	Can 6											7	
	8	28.832		28.660		69.2	55.6	104.0	53.0	60.4	53.5	56.3	51.2	SW	0.5	SW	0	-	Can 7	" 7											8	
	9	28.424		28.232		62.7	41.8	100.0	38.0	54.8	50.4	50.2	49.0	E	0.5	W	0	0.12	" 7	N 10											9	
	10	28.250		28.272		58.8	48.2	79.3	44.5	51.0	48.6	50.0	49.3	N	0	S	0	0.42	N 10	" 10											10	
	11	28.256		28.376		53.8	43.0	97.7	41.8	51.7	48.2	43.8	41.0	SW	0	SW	2	0.42	" 8	" 10											11	
	12	28.662		28.864		54.8	42.0	110.0	41.4	45.2	43.3	46.2	44.0	SW	5	SW	1.5	0.12	" 10	Can 4											12	
	13	28.840		28.800		54.0	33.0	64.2	32.0	47.3	46.0	51.7	49.2	SW	0	SW	0	0.24	" 10	Can 7											13	
	14	28.466		28.800		55.8	35.2	107.2	35.0	56.1	52.0	50.0	48.5	SW	0	NE	0.5	0.02	Can 7	" 7											14	
	15	28.850		28.900		55.3	44.8	66.2	58.3	49.7	48.0	50.7	47.8	NE	0	NE	0.5	-	Can 7	Can 8											15	
	16	28.875		28.870		64.2	38.3	120.0	34.0	52.4	47.7	52.8	50.4	E	0	NE	0.5	-	St 6	" 4											16	
	17	28.850		28.850		66.3	43.8	118.0	39.4	55.3	51.4	54.5	53.0	SW	0	E	0	-	Can 3	" 4											17	
	18	28.858		28.834		63.2	42.1	103.2	35.7	55.3	53.3	54.8	52.7	E	0	NE	0.5	0.04	N 8	Can 7											18	
	19	28.822		28.912		62.8	52.8	87.3	51.2	58.3	57.9	57.3	57.0	NE	0	N	0	-	St 8	St											19	
	20	28.934		28.910		71.8	54.2	104.8	50.7	64.8	59.0	60.0	53.0	NE	0	NE	0	-	-	St 2											20	
	21	28.850		28.754		74.4	48.2	126.3	37.0	59.2	56.2	55.0	52.3	NE	0	SE	0	0.04	Can 4	St 1											21	
	22	28.612		28.524		72.8	42.5	128.2	37.0	62.7	67.7	57.9	54.8	SW	0	NE	0	-	Can 4	Can 9											22	
	23	28.400		28.468		67.3	47.8	130.0	46.0	53.0	52.0	47.8	47.8	NE	0	NE	0	0.78	Can 7	N 10											23	
	24	28.308		28.580		61.1	45.3	84.3	44.5	49.0	46.3	46.3	44.0	SW	0	SW	0.5	0.03	N 8	Can 4											24	
	25	28.512		28.712		58.7	42.8	104.0	41.3	50.4	46.3	47.3	46.2	SW	0.5	SW	0.5	0.05	Can 7	Can 6											25	
	26	28.900		28.976		60.0	42.4	115.3	35.8	53.8	47.7	49.0	44.8	SW	0	S	0.5	0.09	" 4	Can 3											26	
	27	29.070		29.100		63.0	38.2	120.0	33.8	52.0	53.7	54.0	50.0	W	0.5	SE	0	-	" 4	St 6											27	
	28	29.104		29.100		67.0	38.8	113.8	32.6	66.3	57.8	57.0	52.2	E	0	SW	0.5	-	St 1	" 4											28	
	29	29.038		28.850		68.8	42.3	121.4	38.3	59.2	56.0	54.8	55.0	SW	0	SW	0.5	0.31	Can 5	" 8											29	
	30	28.900		28.950		62.4	47.3	106.3	45.0	52.3	47.8	51.8	47.3	N	1.5	N	1	0.02	" 7	Can 8											30	
	31	28.926		28.968		63.7	46.3	117.0	44.0	52.4	47.8	53.4	52.0	SW	2	N	1	0.04	Can 2	N 8											31	
	Sums.	23.879		24.728		133.2	171.1	134.4	61.5	119.0	69.3	116.0	22.8					3.53	181	187												
	Means.	28.770		28.798		64.3	45.5	110.8	42.0	54.8	52.2	53.7	50.7	0.27				5.8	6.0													
	+ Total Corrections for Instrumental Errors.	-0.09		-0.09																												
	+ Corrections for Diurnal Range.																															
	"Corrected Means."	28.761		28.789						52.1		50.6																				
	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	

NOTATION USED IN GENERAL REMARKS.					
a.	denotes aurora.	m.	denotes meteor.		
ci.	" cirrus.	ma.	" meteor.		
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.	" scud.		
fr.	" frost.	s.	" sleet.		
h.-fr.	" hoar-frost.	s.	" snow.		
h.	" haze.	so. h.	" solar halo.		
h. d.	" heavy dew.	sq.	" squall.		
hl.	" hail.	sq.	" squalls.		
l.	" lightning.	st.	" thunder.		
li. cl.	" light clouds.	t. s.	" thunder storm.		
li. sh.	" light showers.	w.	" wind.		
lu. co.	" lunar corona.	g.	" gale of wind.		
lu. h.	" 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.
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  $\frac{1}{1000}$  for Temp. (Col. 2), = 28.695  
 "Corrected Mean" of Barometer at 9 P.M., minus the Correction  $\frac{1}{1000}$  for Temp. (Col. 4), = 28.723  
 Mean at Station, corrected, and at 32°, = 28.709  
 Correction for height, feet above Mean Sea-level, = 1.202  
 Mean, reduced to 32°, and Sea-level, = 29.911  
 Highest Reading, corrected for Index error, on the 5<sup>th</sup>, = 29.150  
 Lowest Do. Do. on the 9<sup>th</sup>, = 28.232  
 Difference, or Monthly Range, = 0.918

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 7<sup>th</sup>, = 76.3  
 Lowest in Month, corrected for Index errors, on the 13<sup>th</sup>, = 35.0  
 Difference, or Monthly Range, = 41.3  
 "Corrected Mean" of all the Highest, (Col. 5), = 64.3  
 "Corrected Mean" of all the Lowest, (Col. 6), = 45.5  
 Difference, or Mean Daily Range, = 18.8  
 \*\* Calculated Mean Temperature of Month, = 54.9  
 S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 7<sup>th</sup>, = 134.0  
 "Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 110.8  
 Lowest at Night, Black Bulb, (corrected for Index errors), on the 13<sup>th</sup>, = 32.0  
 "Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 42.0  
 Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 54.2  
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 51.4  
 # Computed Temperature of Dew-Point, = 48.7  
 # Do. Elastic Force of Vapour, = 34.2  
 # Do. Weight of Vapour in a Cubic Foot of Air, = 81  
 # Relative Humidity, (Saturation = 100), = 81  
 RAIN fell on 17 Days; Amount in Inches, = 3.53  
 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 5 4 0 1 11 3 4 0 0.27  
 P.M. 4 7 5 2 2 8 2 1 0 0.36  
 Mean. 4 6 4 1 2 10 2 2 0 0.32 = 0.10

Observations made and Return verified by

(Signed)







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Braemar, County of Aburdeen, in Lat. 57° N., Long. 3° 26' W., Distance from Sea 60 miles.  
 Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 3 feet. During the MONTH of August 1875.  
 The Hours of Observation are of Greenwich Time.

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, facing North.		Exposed Black Bulbs.		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. A.M.		9 h. P.M.						
	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.	Direction.	Force.	Direction.	Force.	Direction.	Force.	Direction.	Force.	Direction.	Force.	Direction.	Force.				
1	28.642		28.682		67.5	46.0	125.8	42.7	56.0	51.0	54.3	52.3	NE	0.5	S	0.5															1	
2	28.692		28.956		66.0	42.8	114.3	40.2	58.2	53.0	54.5	51.4	N	0.5	S	0															2	
3	28.666		29.000		61.2	39.6	117.0	38.0	56.0	52.8	49.5	48.7	N	0	E	0															3	
4	28.684		28.984		57.0	46.0	89.2	41.5	52.3	47.3	49.2	45.8	NE	0.5	N	0.5																4
5	28.992		29.086		58.3	47.7	78.8	42.3	50.0	48.0	52.1	49.0	NE	0	NE	0																5
6	29.094		29.064		68.2	47.0	87.3	48.2	52.0	49.8	53.7	52.2	E	0	NE	0																6
7	29.084		29.060		61.9	50.0	115.2	49.4	54.2	52.3	52.8	51.3	NE	0	NE	0																7
8	29.064		28.950		55.4	48.2	78.3	47.0	51.2	49.8	52.0	51.0	NE	0	NE	0																8
9	28.808		28.682		58.8	48.8	110.3	49.3	53.2	52.2	53.7	52.1	NE	0	NE	0																9
10	28.890		28.572		65.8	52.1	113.0	40.4	58.0	55.3	56.3	54.2	NE	0	S	0.5																10
11	28.582		28.630		63.0	49.8	98.9	47.3	59.2	56.2	53.5	53.0	W	0	S	0																11
12	28.678		28.654		60.3	49.2	73.0	45.8	54.3	54.0	53.0	52.3	N	0	N	0																12
13	28.684		28.772		56.4	48.3	82.0	45.0	52.2	50.8	53.3	52.3	NE	0	S	0.5																13
14	28.788		28.880		65.3	49.2	91.2	47.0	52.6	52.0	54.3	51.8	NE	0	S	0																14
15	28.860		28.882		70.3	49.0	120.8	44.2	61.7	53.8	57.0	54.0	W	0	S	0																15
16	28.716		28.632		66.8	53.3	89.5	50.1	59.7	58.0	61.0	59.8	S	0.5	S	0																16
17	28.610		28.592		67.3	56.2	117.0	44.5	60.8	57.8	57.0	53.2	W	0	W	0																17
18	28.668		28.868		63.2	52.7	112.3	48.3	56.2	52.8	53.8	52.8	W	0.5	W	0.5																18
19	28.972		29.000		61.5	42.7	103.3	39.2	53.8	50.8	51.0	49.8	W	0	W	0																19
20	28.970		28.930		57.2	37.8	100.0	32.8	52.6	50.1	54.8	51.8	W	1	W	1																20
21	28.990		29.028		61.7	53.0	86.0	41.0	54.8	53.7	52.7	53.8	W	0	W	0.5																21
22	28.950		28.880		62.9	47.5	101.6	44.0	57.0	51.0	56.4	54.6	W	0.5	W	0.5																22
23	28.712		28.654		65.7	55.8	114.8	53.7	59.8	56.3	56.8	52.6	W	0.5	W	0.5																23
24	28.564		28.614		63.8	51.2	111.0	45.6	58.0	56.8	51.6	49.6	W	0	W	0																24
25	28.624		28.600		61.7	44.8	91.7	31.8	53.6	51.8	53.0	51.8	W	0.5	W	0.5																25
26	28.484		28.582		60.8	51.0	96.0	46.3	57.0	50.7	54.0	50.0	S	3	SW	h.															26	
27	28.712		28.864		60.2	48.5	103.0	45.0	53.0	50.7	53.3	50.7	W	2	W	1.5																27
28	28.878		28.826		65.3	47.3	117.8	45.0	57.0	51.7	54.0	53.0	W	0	E	0.5																28
29	28.750		28.700		61.7	50.0	104.8	46.7	52.6	51.7	52.3	50.2	W	1	W	0																29
30	28.618		28.572		55.0	45.0	66.3	41.7	50.8	48.2	46.9	44.3	W	0	W	0																30
31	28.734		28.932		55.0	42.3	93.0	36.0	50.0	48.0	43.2	41.8	W	2	W	0																31
Sums.	24670		25168		638	252.6	1023	116.3	158.5	70.2	102.9	47.2	10.5	12.0	24	320																
Means.	28.796		28.812		62.1	48.1	100.1	43.8	55.1	52.3	53.3	51.5	0.34	0.39																		
+ Total Corrections for Instrumental Errors.	-0.009		-0.009																													
+ Corrections for Diurnal Range.																																
+ Corrected Means.	28.787		28.803						52.2	51.4																						
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†† for Temp. (Col. 2), = 28.721  
 Corrected Mean" of Barometer at 9 P.M., minus the Correction†† for Temp. (Col. 4), = 28.737  
 Mean at Station, corrected, and at 32°, = 28.729  
 Correction for height, feet above Mean Sea-level, = 1.202  
 Mean, reduced to 32°, and Sea-level, = 29.931  
 Highest Reading, corrected for Index error, on the 6th, = 29.094  
 Lowest Do. Do., on the 25th, = 28.400  
 Difference, or Monthly Range, = 0.694

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 15th, = 70.3  
 Lowest in Month, corrected for Index errors, on the 10th, = 37.8  
 Difference, or Monthly Range, = 32.5  
 "Corrected Mean" of all the Highest, (Col. 5), = 62.1  
 "Corrected Mean" of all the Lowest, (Col. 6), = 48.1  
 Difference, or Mean Daily Range, = 14.0  
 \*\* Calculated Mean Temperature of Month, = 55.1  
 S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 1st, = 125.8  
 "Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 100.1  
 Lowest at Night, Black Bulb, (corrected for Index errors), on the 25th, = 31.8  
 "Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 43.8  
 Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 54.2  
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 51.8  
 †† Computed Temperature of Dew-Point, = 49.4  
 †† Do. Elastic Force of Vapour, = 3.35  
 †† Do. Weight of Vapour in a Cubic Foot of Air, = 0.0013  
 †† Relative Humidity, (Saturation = 100), = 84  
 RAIN fell on 24 Days; Amount in Inches, = 3.20  
 WIND. SUMMARY.  
 Direction. N NE E SE S SW W NW  
 A.M. 1 7 1 2 3 12 4 1  
 P.M. 2 4 2 1 8 10 2 2  
 Mean. 1 6 1 2 6 11 3 1

\* 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 capillary and Index Errors.  
 †† Provisionally, though not absolutely a new correction.  
 ‡ These "Hygrometrical Deductions" are calculated from Glaisher's Hygrometrical Tables, Second Edition only.  
 § While the Diurnal Range is unknown, the Artificial 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 James Allan

(Signed) James Allan

Crops & looking remarkably well







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Braemar, County of Shullan, in Lat. 57° 18', Long. 5° 20' W, Distance from Sea 60 miles.  
Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 5 feet. During the MONTH of September 1875.

The Hours of Observation are of Greenwich Time.

Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 3 P.M.				HYGROMETER. No. —				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.		9 h. P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	Barometer. No.	Atmospheric Thermometer	Barometer. No.	Atmospheric Thermometer	Max. No.	Min. No.	Max. No.	Min. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	Velocity (0-10), and Species.	Amount (0-10), and Species.	Velocity (0-10), and Species.	Amount (0-10), and Species.	No. 3 inches.	No. 12 inches.	No. 22 inches.	No. 3 inches.	No. 12 inches.	No. 22 inches.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Barometer. No.	Atmospheric Thermometer	Barometer. No.	Atmospheric Thermometer	Max. No.	Min. No.	Max. No.	Min. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	Velocity (0-10), and Species.	Amount (0-10), and Species.	Velocity (0-10), and Species.	Amount (0-10), and Species.	No. 3 inches.	No. 12 inches.	No. 22 inches.	No. 3 inches.	No. 12 inches.	No. 22 inches.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
1	28.100		28.932		62.9	51.0	62.9	51.0	45.8	40.2	55.2	53.2	S.	0	SW	0.5		Cloud 4	SW	8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								</

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 28.747  
for Temp. (Col. 2), = 28.807 ... 28.747  
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 28.756  
for Temp. (Col. 4), = 28.813 ... 28.756  
Mean at Station, corrected, and at 32°... 28.753 = 28.753  
Correction for height, feet above Mean Sea-level, = 1.202  
Mean, reduced to 32°, and Sea-level, = 29.955  
Highest Reading, corrected for Index error, on the 14th, = 29.232  
Lowest Do. Do., on the 27th, = 28.000  
Difference, or Monthly Range, = 1.232

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 2th, = 72.0  
Lowest in Month, corrected for Index errors, on the 1th, = 31.0  
Difference, or Monthly Range, = 41.0  
"Corrected Mean" of all the Highest, (Col. 5), = 59.9  
"Corrected Mean" of all the Lowest, (Col. 6), = 43.2  
Difference, or Mean Daily Range, = 16.7  
\*\* Calculated Mean Temperature of Month, = 57.6  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 1th, = 115.4  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 88.2  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 1th, = 27.0  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 38.9  
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 50.6  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 48.5  
†† Computed Temperature of Dew-Point, = 46.3  
†† Do. Elastic Force of Vapour, = 3.15  
†† Do. Weight of Vapour in a Cubic Foot of Air, = 86  
†† Relative Humidity, (Saturation = 100), = 86  
RAIN fell on 15 Days; Amount in Inches, = 4.12  
WIND. SUMMARY.  
Direction. N NE E SE S SW W NW  
A.M. 2 3 2 2 6 10 5 0 0 0.67  
P.M. 0 6 3 0 6 12 2 1 0 0.38  
Mean. 1 4 3 1 6 11 4 0 0 0.52 = 0.27

Observations made and  
Return verified by

(Signed)







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Braemar, County of Shullen, in Lat. 57° 1', Long. 3° 24', Distance from Sea 60 miles.Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 5 feet.During the MONTH of October 1875.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. _____				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. _____	Attach- ed Ther- mometer	Barometer. No. _____	Attach- ed Ther- mometer	Max. No. _____	Min. No. _____	Max. in Sun rays No. _____	Min. on Grass, No. _____	Dry bulb. No. _____	Wet bulb. No. _____	Dry bulb. No. _____	Wet bulb. No. _____	Direction. No. _____	Force No. _____	Direction. No. _____	Force No. _____	Readings of the H. Cup Anemometer. No. _____	No. of hours in which it fell.	Amount in inches. No. _____	Velocity (0-10), and Direction. No. _____	Amount (0-10), and Direction. No. _____	Velocity (0-10), and Direction. No. _____	Amount (0-10), and Direction. No. _____	No. _____	12 inches.					No. _____	22 inches.
		inches.	°	inches.	°	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____	No. _____					No. _____	No. _____
	1	28.500		28.560		55.5	45.3	83.9	42.1	52.7	50.3	47.2	45.0	W 1	W 1			0.11	W 8	W 6									Shony	1		
	2	28.358		28.320		51.1	41.2	92.3	34.3	46.8	42.8	45.1	42.0	W 1	W 15			0.04	W 5	W 3									W	2		
	3	28.412		28.120		49.3	39.4	76.1	32.0	46.0	43.0	47.5	44.8	W 5	W 0.5			0.12	W 4	W 2									W	3		
	4	28.292		28.342		58.8	44.5	92.0	41.0	48.8	44.2	56.8	54.0	W 1.5	W 2			0.09	W 3	W 8									W	4		
	5	28.342		28.401		58.8	44.2	82.5	41.0	48.0	44.7	46.0	43.8	W 2	W 2			0.19	W 6	W 2									W	5		
	6	28.720		28.664		53.8	43.8	87.0	39.8	47.7	45.5	48.2	45.5	W 1.5	W 3			0.20	W 6	W 9									W	6		
	7	28.780		28.856		51.5	39.8	85.8	36.0	47.8	44.7	57.8	49.0	W 2	W 1				W 5	W 8									W	7		
	8	28.664		28.418		53.3	38.8	86.0	35.5	45.5	43.3	50.0	48.5	W 4	W 4			0.26	W 8	W 8									W	8		
	9	28.502		28.510		50.2	39.3	64.5	35.2	41.5	40.7	40.0	38.5	W 3	W 0				W 3	W 6									W	9		
	10	28.454		28.000		47.3	27.4	86.0	24.3	33.2	30.5	45.1	43.5	W 0	W 5			0.16	W 5	W 7									W	10		
	11	27.960		28.000		50.5	33.7	88.7	26.5	39.8	38.6	33.8	33.0	W 0	W 0			0.04	W 5	W 3									W	11		
	12	28.124		28.150		49.9	25.8	80.0	25.2	31.5	30.0	31.5	30.7	S 0.5	S 0.5			0.15	W 5	W 3									W	12		
	13	28.206		28.246		41.0	27.3	44.0	23.2	34.8	33.4	40.0	39.8	E 1	E 0.5			0.48	W 7	W 7									W	13		
	14	28.332		28.600		45.7	38.2	52.2	36.1	45.0	44.5	42.0	41.3	NE 0.5	NE 1			0.59	W 8	W 8									W	14		
	15	28.640		28.643		43.6	39.0	57.0	37.2	41.0	39.9	40.2	39.8	NE 0.5	NE 0.5			0.51	W 8	W 9									W	15		
	16	28.554		28.583		43.5	39.8	47.5	37.0	42.2	41.5	42.8	42.5	E 0.5	NE 0			0.29	W 6	W 7									W	16		
	17	28.602		28.730		49.0	41.9	57.0	40.2	46.0	44.5	46.5	44.8	E 0.5	E 0			0.15	W 6	W 8									W	17		
	18	28.796		28.800		48.6	41.0	51.0	37.0	47.8	46.0	42.0	39.8	NE 1	NE 1			0.18	W 5	W 6									W	18		
	19	28.754		28.737		45.2	39.9	49.5	37.2	42.2	40.6	42.5	40.4	E 0.5	E 0.5			0.08	W 6	W 9									W	19		
	20	28.654		28.500		44.3	41.2	47.2	39.8	43.5	40.4	42.7	41.0	NE 3	NE 3			0.29	W 7	W 10									W	20		
	21	28.386		28.400		49.8	40.7	50.5	39.5	43.4	42.6	48.4	47.0	NE 0.5	NE 0.4			0.49	W 8	W 10									W	21		
	22	28.318		28.432		51.2	44.9	67.0	43.7	47.2	46.0	47.1	46.0	E 0.5	E 0.5			0.41	W 6	W 10									W	22		
	23	28.500		28.722		47.8	43.7	57.0	43.0	45.3	44.8	44.3	44.0	E 1	E 0			0.15	W 8	W 10									W	23		
	24	28.826		28.900		47.8	42.1	60.3	41.4	43.8	42.5	43.4	43.7	SE 0.5	SE 0			0.02	W 10	W 9									W	24		
	25	28.888		28.854		52.5	34.3	62.8	30.0	36.0	36.0	36.8	36.4	S 0	W 6				W 7	W 6									W	25		
	26	28.768		28.740		48.5	34.7	53.0	50.2	39.8	39.1	43.0	40.3	SE 0	E 0				W 8	W 8									W	26		
	27	28.736		28.824		44.8	36.7	48.0	33.3	44.3	42.0	37.3	36.1	E 0	E 1			0.24	W 9	W 7									W	27		
	28	28.872		28.970		44.2	35.3	55.0	33.2	37.8	37.0	39.2	38.8	NE 0.5	E 0			0.12	W 7	W 8									W	28		
	29	28.970		28.922		44.2	37.3	50.0	33.8	40.0	39.2	42.8	41.0	NE 0	SE 0.5			0.09	W 7	W 9									W	29		
	30	28.820		28.800		45.0	39.0	52.0	37.0	41.0	38.2	39.8	38.7	NE 0.5	SE 0.5			0.05	W 8	W 8									W	30		
	31	28.754		28.774		43.2	36.4	48.8	31.7	37.8	37.0	39.0	38.0	NE 0.5	SE 0.5			0.07	W 6	W 10									W	31		
Sums.		17.504		17.318		269.9	208.6	208.6	167.2	88.2	33.8	104.8	57.7	33.0	30.4			5.54	195	218												
Means.		28.565		28.559		48.7	38.6	64.8	35.4	42.8	41.1	43.4	41.9	107	98			6.3	7.0													
+ Total Corrections for Instru- mental Errors.		-0.09		-0.09																												
+ Corre- ctions for Diurnal Range.																																
"Cor- rected Means."		28.536		28.530						41.0	41.8																					
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†† = 28.519  
for Temp. (Col. 2), = 28.536 - 0.017  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 28.517  
for Temp. (Col. 4), = 28.530 - 0.013  
Mean at Station, corrected, and at 32°, = 28.518  
Correction for height, feet above Mean Sea-level, = 1.202  
Mean, reduced to 32°, and Sea-level, = 29.720  
Highest Reading, corrected for Index error, on the 29 th, = 28.970  
Lowest Do. Do., on the 11 th, = 27.960  
Difference, or Monthly Range, = 1.010

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 4 th, = 58.8  
Lowest in Month, corrected for Index errors, on the 12 th, = 25.8  
Difference, or Monthly Range, = 33.0  
"Corrected Mean" of all the Highest, (Col. 5), = 48.7  
"Corrected Mean" of all the Lowest, (Col. 6), = 38.6  
Difference, or Mean Daily Range, = 10.1  
\*\* Calculated Mean Temperature of Month, = 43.6  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 2 th, = 92.3  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 64.8  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 13 th, = 23.2  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 35.4  
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 43.1  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 41.4  
†† Computed Temperature of Dew-Point, = 39.4  
†† Do. Elastic Force of Vapour, = 241  
†† Do. Weight of Vapour in a Cubic Foot of Air, =  
†† Relative Humidity, (Saturation = 100), = 86  
RAIN, fell on 27 Days; Amount in Inches, = 5.54

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.		0	7	7	4	2	9	2	0	0	1.07
P.M.		0	3	9	5	2	12	0	0	0	0.98
Mean.		0	5	8	5	2	10	1	0	0	1.02

Observations made and  
Return verified by

(Signed)







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Braemar, County of Shudeca, in Lat. 57° N., Long. 5° 24' W. Distance from Sea 60 miles.Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 5 feet.During the MONTH of November 1875.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.				SEA.	OZONE.	GENERAL REMARKS.  As to occurrence of Thunder, Lightning, Showers, 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.		9 h. P.M.											
		Barometer. * No.	Attach- ed Ther- mometer	Barometer. No.	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	No. of hours in which it fell.	Amount in inches.	Velocity (0—6), and Direction.	Amount (0—10), and Species.	Velocity (0—6), and Direction.	Amount (0—10), and Species.	No. 3 inches.	12 inches.	No. 22 inches.	No. of feet, No.						Temperature at 1 fathoms and Density.	9 A.M. 9 P.M.	
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°						°	°	°
	1	28.724		28.668		413	36.2	41.2	35.8	37.6	36.8	39.0	36.8	SE	0.5	SE	0.5	0.03	N	9	N	9									Shiny	1			
	2	28.600		28.500		420	37.2	42.2	36.0	39.2	37.8	42.0	41.4	S	0	E	0	0.12	SE	8		10										2			
	3	28.472		28.424		528	41.8	52.0	37.2	43.8	43.5	52.0	50.0	SW	0	SW	1	0.07	N	9	SE	9											3		
	4	28.416		28.600		538	46.7	62.0	39.0	50.3	47.8	48.2	47.0	SW	0.5	SW	0		SE	8		7											4		
	5	28.300		28.112		524	43.1	57.0	38.4	46.8	45.2	46.7	44.8	S	2	SW	3	0.15	N	8		8											5		
	6	27.924		28.050		483	38.0	50.7	37.0	45.3	44.0	39.0	37.8	S	0	SE	1.5	0.33	SE	7	N	10											6		
	7	28.050		28.050		454	33.0	41.0	30.8	38.4	38.0	33.3	33.0	SW	0	SE	0.5	0.25	N	10		10											7		
	8	28.110		28.150		438	29.0	46.0	25.0	31.8	30.0	29.3	28.7	SW	1	N	0	0.14	SE	4	SE	4											8		
	9	28.056		28.028		414	21.8	42.0	16.0	28.0	27.0	21.3	21.0	SW	0	N	0			5		2											9		
	10	27.900		27.950		402	10.0	40.2	6.0	18.0	10.0	16.8	16.8	E	0	N	0		SE	5													10		
	11	27.920		28.200		392	11.8	48.8	3.0	28.2	18.2	38.0	35.8	SW	0	SE	0.5	0.02	SE	4	N	8												11	
	12	28.516		28.712		395	30.8	37.8	26.0	34.5	32.2	30.2	29.3	SW	0.5	SW	0			4	SE	4												12	
	13	28.632		28.376		331	21.2	35.0	16.5	21.0	21.0	32.8	32.0	SW	0	N	0	0.86	SE	9	N	10												13	
	14	28.234		28.550		368	28.0	40.1	21.4	35.8	35.0	34.5	32.2	N	1	SW	0	0.09	N	8	SE	2												14	
	15	28.772		28.874		393	30.2	68.8	25.4	35.0	32.3	31.3	30.3	E	0	N	0	0.02	SE	5	SE	8												15	
	16	28.634		28.450		422	30.8	48.2	25.0	37.8	36.3	41.0	39.8	SE	0	SE	1.5	0.25	N	9	N	8												16	
	17	28.510		28.470		448	39.0	45.2	28.0	42.7	41.0	39.3	39.0	S	1.5	SW	1	0.22	N	7		9												17	
	18	28.614		28.400		420	35.7	42.0	35.0	36.8	36.8	41.0	41.0	SW	0	SW	0	0.66	N	10		10												18	
	19	28.320		28.850		410	32.0	51.7	32.0	42.8	42.2	38.0	30.2	SW	2	N	2	0.39	N	10		9												19	
	20	28.800		28.924		460	18.0	46.8	25.7	30.2	29.5	35.4	33.2	SW	1.5	SW	2	0.05	N	8		9												20	
	21	29.080		29.116		403	38.0	40.3	28.8	34.3	34.0	34.0	33.5	N	0.5	E	0	0.10	SE	5	SE	8												21	
	22	29.150		29.154		380	31.0	38.0	30.4	32.0	31.0	32.0	31.7	N	0	E	0		SE	8	N	8												22	
	23	29.164		29.180		360	20.8	49.0	20.0	20.4	20.4	26.8	26.2	E	0	E	0				7													23	
	24	29.180		29.072		345	25.7	58.0	25.7	31.2	31.0	28.0	28.0	SE	0	E	0		N	9	SE	6												24	
	25	29.028		28.950		338	28.0	42.4	22.0	28.8	28.0	29.0	29.0	E	0	E	0			8		9												25	
	26	28.990		28.950		328	27.0	55.8	21.8	29.8	28.7	31.3	31.0	E	0	E	0	0.25	SE	7	N	10													26
	27	29.064		29.132		340	30.2	59.8	30.0	32.3	32.0	35.0	32.0	N	0	SE	0	0.04	N	10		10												27	
	28	29.180		29.072		350	29.4	42.3	27.8	29.0	29.0	29.8	29.8	S	0	E	0.5	0.03	SE	8		10												28	
	29	29.010		29.020		361	32.6	41.2	25.4	34.0	34.3	33.3	33.0	N	0	E	0		N	10	N	9												29	
	30	29.000		29.072		357	29.9	43.8	25.2	30.7	30.7	30.2	30.2	E	0	E	0			9		9												30	
	31																																		31
Sums.		29.26		28.96		13.19	29.5	138.7	19.16	113.3	87.7	129.3	103.7	11.0	14.0			4.07		22.1		23.2													
Means.		28.608		28.632		4.07	3.03	4.63	2.64	3.38	3.29	3.43	3.35	0.37	0.47					7.4		7.7													
+ Total Corrections for Instrumental Errors.		-0.09		-0.09						-1	-1	0.6	0.6							7.6															
+ Corrections for Diurnal Range.																																			
"Corrected Means."		28.599		28.623						3.28	3.34																								
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  $\ddagger$  = 28.585  
for Temp. (Col. 2), = 28.599 - 0.014  
"Corrected Mean" of Barometer at 9 P.M., minus the Correction  $\ddagger$  = 28.609  
for Temp. (Col. 4), = 28.623 - 0.014  
Mean at Station, corrected, and at 32° = 28.597  
Correction for height, feet above Mean Sea-level, = 1.202  
Mean, reduced to 32° and Sea-level, = 29.799  
Highest Reading, corrected for Index error, on the 23<sup>rd</sup> th, = 29.164  
Lowest Do. Do., on the 10<sup>th</sup> th, = 27.900  
Difference, or Monthly Range, = 1.264

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 4<sup>th</sup> th, = 53.8  
Lowest in Month, corrected for Index errors, on the 10<sup>th</sup> th, = 10.0  
Difference, or Monthly Range, = 43.8  
"Corrected Mean" of all the Highest, (Col. 5), = 40.7  
"Corrected Mean" of all the Lowest, (Col. 6), = 30.3  
Difference, or Mean Daily Range, = 10.4  
\*\* Calculated Mean Temperature of Month, = 35.5  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 15<sup>th</sup> th, = 68.8  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 46.3  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 11<sup>th</sup> th, = 3.0  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 26.4  
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 34.0  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 33.12  
Computed Temperature of Dew-Point, = 31.8  
Do. Elastic Force of Vapour, = 1.88  
Do. Weight of Vapour in a Cubic Foot of Air, = 1.78  
Relative Humidity, (Saturation = 100), = 90  
RAIN fell on 20 Days; Amount in Inches, = 4.07

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.		5	1	4	2	6	6	1	4	1	0.37
P.M.		1	3	10	2	0	5	5	4	0	0.47
Mean.		3	2	7	2	3	6	3	4	0	0.42

Observations made and  
Return verified by

(Signed)

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## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Præmar, County of Arden, in Lat. 57° 11', Long. 3° 24', Distance from Sea 60 miles.  
Height of Cistern of the Barometer above Mean Sea-level 1114 feet, above Ground 3 feet. During the MONTH of December 1875.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. _____				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, Prevailing Wind, &c.  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.	Attach- ed Ther- mometer	Barometer. No.	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun's rays No.	Min. on Grass. No.	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 Species.	Velocity (0-5), and Direction.	Amount (0-10), and Species.	No. 3 inches.	12 inches.	No. 22 inches.					
		inches.	°	inches.	°	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.					
	1	29.050		28.872		35.0	23.3	35.8	23.0	23.8	23.8	28.2	28.2	SE	0	E	0		0.03	8	N	8					99	Shony	1		
	2	28.770		28.800		33.1	18.0	52.2	18.0	22.0	22.0	32.0	32.0	W	0	N	0			5	2	8					99	Fair	2		
	3	28.660		28.620		34.8	24.2	51.3	21.4	32.7	32.0	32.0	32.0	W	0	N	1	0.02		5	2	7					99	Fair	3		
	4	28.750		28.874		32.8	11.8	52.0	11.8	20.0	20.0	11.8	11.8	S	0	N	0			1	2	8					99	Fair	4		
	5	28.950		29.150		32.8	15.0	52.8	15.0	17.0	17.0	25.0	25.0	S	0	N	0			9	2	9					99	do	5		
	6	29.170		28.258		37.8	35.0	30.8	24.0	25.8	25.8	23.0	23.0	SE	0	SE	0			7	2	9					99	do	6		
	7	29.214		29.200		32.3	15.0	53.3	15.0	18.0	18.0	31.0	30.8	SW	0.5	E	0			6	2	9					99	do	7		
	8	29.100		29.150		36.8	25.7	43.0	24.2	32.0	31.5	36.2	35.5	W	0.5	N	1			4	2	4					99	Clear	8		
	9	29.130		29.112		41.2	34.0	42.0	32.0	38.0	36.7	38.8	36.2	W	1	N	1	0.02		4	2	7					99	do	9		
	10	28.962		28.828		40.8	36.8	44.0	32.0	37.3	36.0	38.8	38.0	W	0	N	0.5	0.33		9	2	10					99	Spl	10		
	11	28.808		28.784		41.2	37.3	41.7	34.0	40.0	39.2	41.0	39.0	W	0	SW	0			9	2	7					99	do	11		
	12	28.750		28.776		46.8	38.0	51.0	32.8	41.8	38.0	39.4	38.2	W	3	SW	0	0.03		4	2	6					99	Fair	12		
	13	28.782		28.800		43.0	35.0	49.2	29.0	37.8	37.2	38.0	36.8	W	0	N	0.5			9	2	5					99	do	13		
	14	28.768		28.750		41.0	27.0	51.7	26.0	39.0	37.2	37.0	30.2	S	0	W	0			6	2	4					99	do	14		
	15	28.724		28.732		41.8	32.2	49.3	25.4	38.0	36.8	35.2	34.0	W	0	N	0			3	2	3					99	do	15		
	16	28.786		28.782		44.3	33.3	50.0	26.0	42.0	41.0	42.8	41.3	S	0	W	0			8	2	8					99	do	16		
	17	28.628		28.484		44.0	37.3	60.3	30.5	40.0	37.4	39.2	38.2	W	0.5	N	1	0.31		8	2	10					99	Spl	17		
	18	28.514		28.450		45.2	32.0	43.0	28.2	42.4	41.0	32.8	32.3	W	2	N	1	0.20		10	2	5					99	do	18		
	19	28.900		28.150		42.2	31.7	42.2	29.2	33.2	33.2	36.0	34.3	E	0.5	W	0	0.13		10	2	10					99	Rain	19		
	20	28.064		27.850		46.2	31.0	45.0	25.0	36.3	35.2	37.8	33.7	W	0.5	N	1	0.09		9	2						99	Spl & dull	20		
	21	28.274		27.972		44.8	35.2	49.0	27.0	34.3	32.4	44.0	43.0	W	1	SW	3	0.88		5	2	10					99	Shony	21		
	22	27.976		28.066		47.3	34.1	43.2	30.0	36.0	34.4	35.8	33.7	S	0	SW	2	0.69		7	2	10					99	Lighting	22		
	23	28.200		28.450		44.7	32.8	53.2	32.7	38.7	34.3	39.0	37.0	W	3	N	2	0.80		10	2	2					99	do	23		
	24	28.300		28.368		47.8	36.0	45.0	33.4	47.0	45.0	37.4	36.3	W	3	N	2	0.33		8	2	10					99	Rain & Sleet	24		
	25	28.726		28.950		44.3	35.9	46.0	32.0	38.7	36.2	42.8	41.3	W	2	N	0.5			5	2	8					99	Fair & Sunshiny	25		
	26	28.802		28.950		48.2	37.8	69.0	26.8	44.0	42.0	44.3	44.0	W	0.5	N	0.5			7	2	7					99	do	26		
	27	28.972		28.900		45.2	42.0	47.8	40.0	44.0	41.2	42.8	41.0	W	0	N	1			4	2	3					99	Fair	27		
	28	28.054		28.950		43.3	36.0	62.3	35.0	36.5	35.4	36.8	35.0	W	1	N	0.5			4	2	3					99	do	28		
	29	28.878		28.860		46.0	35.9	58.8	40.0	40.0	38.4	40.7	38.8	W	0	N	0.5			4	2	8					99	do	29		
	30	28.750		28.750		48.0	42.2	48.0	38.0	40.4	38.2	43.0	41.7	S	0	N	1	0.19		8	2	8					99	Rain	30		
	31	28.420		28.534		47.3	38.2	45.2	35.0	43.8	42.0	39.0	36.2	S	3	N	2	0.34		10	2	10					99	do	31		
Sums.	16 13 9	20.912		20.970		60.0	47.8	156.6	151.8	160.3	121.5	188.6	160.5	22.0	22.0			439		214	214										
Means.	28.675	28.676		41.9	31.5	48.4	28.1	35.2	33.9	36.1	35.2	0.71	0.71					6.9		6.9											
+ Total Corrections for Instru- mental Errors.	-0.09	-0.09								-1	-1			0.6	0.6					6.9											
+ Corrections for Diurnal Range.																															
"Cor- rected Means."	28.666	28.667								33.8	35.1																				
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†† = 28.648  
for Temp. (Col. 2), = 28.666 ..... : 0.018.  
“Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = 28.650  
for Temp. (Col. 4), = 28.667 ..... : 0.017.  
Mean at Station, corrected, and at 32°, = 28.649  
Correction for height, feet above Mean Sea-level, = 1.202  
Mean, reduced to 32°, and Sea-level, = 29.851  
Highest Reading, corrected for Index error, on the 7 th, = 29.214  
Lowest Do. Do., on the 20 th, = 27.850  
Difference, or Monthly Range, = 1.364

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 26 th, = 48.2  
Lowest in Month, corrected for Index errors, on the 4 th, = 11.8  
Difference, or Monthly Range, = 36.4  
“Corrected Mean” of all the Highest, (Col. 5), = 41.9  
“Corrected Mean” of all the Lowest, (Col. 6), = 31.5  
Difference, or Mean Daily Range, = 10.4  
\*\* Calculated Mean Temperature of Month, = 36.7  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 26 th, = 69.0  
“Corrected Mean,” (Col. 7), of Black Bulb, Max. in Sun, = 48.9  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 4 th, = 11.8  
“Corrected Mean,” (Col. 8), of Black Bulb, Min. on grass, = 28.1  
Difference of above Means or Range (“exposed”), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 35.6  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 34.4  
†† Computed Temperature of Dew-Point, = 32.5  
†† Do. Elastic Force of Vapour, = 1.86  
†† Do. Weight of Vapour in a Cubic Foot of Air, = 89  
†† Relative Humidity, (Saturation = 100), = 89  
RAIN fell on 15 Days; Amount in Inches, = 4.39

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variables.	Mean Force.
A.M.		0	0	1	2	7	4	7	0	0	0.71
P.M.		0	3	2	1	0	19	3	3	0	0.71
Mean.		0	2	1	2	4	16	5	1	0	0.71

Observations made and  
Return verified by

*James A. R. R.*

(Signed)

*James A. R. R.*

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