

## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at The Gardens Abeyre, County of Abertee, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 31 miles.Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.During the MONTH of January 1885.

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's rays No.	Min. on Grass. No.	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—6), and Direction.	Amount (0—10), and Species.	Velocity (0—6), and Direction.	Amount (0—10), and Species.	No.	3 inches.					No.	12 inches.	No.	22 inches.		
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°					°	°	°	°	°	°
		°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°					°	°	°	°	°	°
	1	29.100	40	29.050	42		27			29	28	27	26	W		W			0.02		Cu	Cu									Overcast - some showers of rain	1				
	2	28.975	42	28.900	41		28			29	29	28	27	W		W			—		Cu	Cu									After shooting Very dull & overcast all day	2				
	3	28.900	41	28.750	45		27			30	30	28	28	W		SE			—		Hi	Hi									Warm & Sunshine	3				
	4	29.000	40	29.100	40		28			33	32	30	30	W		W			—		ST	ST									fine but overcast -	4				
	5	29.450	43	29.650	43		26			33	33	28	28	SW		SW			—		Hi	Cu									" " "	5				
	6	29.675	44	29.700	42		37			34	32	37	37	SE		S			—		Hi	Hi									" " " After shooting	6				
	7	29.600	40	29.700	44		25			42	39	30	30	S		SW			—		Cu	ST									fine bright day	7				
	8	29.750	40	29.900	41		25			29	29	32	31	W		SW			4		Cu	Cu									overcast - all day	8				
	9	29.900	42	29.900	41		20			28	27	29	28	W		W			0.01		ST	ST									overcast & soft	9				
	10	29.750	42	29.800	42		23			27	27	35	34	Cu	SE	SW	SE		0.04		Hi	Hi									fine overcast day	10				
	11	29.200	45	29.500	45		20			35	34	35	34	Hi	SE	SW	SE		0.05		Hi	Hi									Cold & overcast	11				
	12	29.450	44	29.400	43		33			38	37	37	35	Hi	SE	SW	SE		0.40		Hi	Hi									heavy rain all day	12				
	13	29.325	43	29.300	43		34			39	37	37	35	Hi	SE	SW	SE		0.41		Hi	Hi									heavy rain	13				
	14	29.200	42	29.200	42		33			36	36	35	35	Hi	SE	SW	SE		0.26		Hi	Hi									heavy rain all day	14				
	15	29.100	43	29.200	42		33			35	34	34	34	Hi	SE	SW	SE		—		Hi	Hi									all day	15				
	16	29.100	43	28.850	49		33			37	36	36	36	Hi	SE	SW	SE		—		Hi	Hi									fine day	16				
	17	28.700	44	28.900	45		33			36	35	39	37	S		W			0.02		Cl. ST	Cu									fine bright day	17				
	18	29.050	42	29.200	45		34			40	37	41	39	W		SW			—		Hi	Hi									overcast	18				
	19	29.150	46	29.250	47		40			46	45	41	40	SW		SW			—		Hi	Hi									windy day	19				
	20	29.400	46	29.450	47		33			38	36	37	35	SW		SW			—		cast	Hi									fine day	20				
	21	29.600	45	29.600	45		20			37	35	37	36	SW		SW			0.40		Hi	Cu									fine am rainy P.M.	21				
	22	29.400	43	29.750	45		31			33	32	35	33	SW		SW			—		Cu	Cu									Cold windy day	22				
	23	29.900	44	29.950	44		24			31	32	33	32	SW		SW			1.60		Hi	Hi									Bright - P.M. shower	23				
	24	29.975	43	30.050	45		30			33	33	40	37	SW		SW			0.65		Hi	Hi									heavy rain	24				
	25	29.850	45	29.700	45		33			36	35	36	34	S		S			—		Cu	Hi									some sleet	25				
	26	29.150	43	29.800	44		34			36	36	38	36	S		S			0.70		Hi	Hi									heavy showers of rain	26				
	27	28.700	43	28.650	44		27			30	30	35	32	SW		SW			0.20		Hi	Hi									" " "	27				
	28	28.300	42	28.500	40		30			32	32	32	31	W		SW			0.05		Hi	Hi									" " "	28				
	29	28.800	40	28.750	42		22			26	25	31	30	SW		SW			—		Cu	Cu									fine day	29				
	30	29.050	42	28.950	42		26			36	35	36	35	W		SE			0.02		Hi	Cu									some showers	30				
	31	28.550	42	28.650	42		29			37	35	32	31	SW		SW					Cu	Cu									" " "	31				
	Sums.	1572	8	186	10		298			138	104	131	96						378																	
	Means.	29.263	42.7	29.292	43.5		29.6			34.2	33.4	34.2	33.1																							
	† Total Corrections for Instrumental Errors.	-0.17		-0.17																																
	‡ Corrections for Diurnal Range.																																			
	“Corrected Means.”																																			
	No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.209  
for Temp. (Col. 2), = 29.246 - 37 = 29.209  
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.236  
for Temp. (Col. 4), = 29.275 - 39 = 29.236  
Mean at Station, corrected, and at 32°, = 29.223  
Correction for height, feet above Mean Sea-level, = 507  
Mean, reduced to 32°, and Sea-level, = 29.730  
Highest Reading, corrected for Index error, on the 24th, = 30.050  
Lowest Do. Do. on the 28th, = 28.350  
Difference, or Monthly Range, = 1.700

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

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = \_\_\_\_\_  
Lowest in Month, corrected for Index errors, on the 9th, = 20.0  
Difference, or Monthly Range, = \_\_\_\_\_  
"Corrected Mean" of all the Highest, (Col. 5), = \_\_\_\_\_  
"Corrected Mean" of all the Lowest, (Col. 6), = 29.6  
Difference, or Mean Daily Range, = \_\_\_\_\_  
\*\* Calculated Mean Temperature of Month, = \_\_\_\_\_

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, = \_\_\_\_\_  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = \_\_\_\_\_  
Lowest at Night, Black Bulb, (corrected for Index errors), on the th, = \_\_\_\_\_  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = \_\_\_\_\_  
Difference of above Means or Range ("exposed"), = \_\_\_\_\_

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 34.2  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 33.0  
†† Computed Temperature of Dew-Point, = 31.5  
†† Do. Elastic Force of Vapour, = 178  
†† Do. Weight of Vapour in a Cubic Foot of Air, = \_\_\_\_\_  
†† Relative Humidity, (Saturation = 100), = 89  
RAIN fell on 15 Days; Amount in Inches, = 3.80

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		8	1	3	3	7	7					
P.M.	1		4	3	3	8	5	2					
Mean.	1	0	6	2	3	6	6	7	0	-			

Observations made and  
Return verified by \_\_\_\_\_

(Signed) \_\_\_\_\_







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Abogue Castle, County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 31 miles.  
 Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.  
 During the MONTH of February 1883.  
 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.				SUNSHINE. Hours.	THERMOMETERS under Ground.			SEA.	OZONE. 0—10.	GENERAL REMARKS.  As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc.  Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.		
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer. No. —		No. of hours in which it fell.	Amount in inches.	9 A.M.			P.M.		9 h. A.M.						
		Barometer.	Attached 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	No. —	Velocity (0—6), and Direction.			Amount (0—10), and Species.	Velocity (0—6), and Direction.		Amount (0—10), and Species.	No. —	No. —					No. —	
		* No.	inches.	No.	°	No.	No.	No.	No.	°	°	°	°					9 h. A.M.									°					°	°
		°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°			°	°		°	°	°					°	°
1	28650	42	29000	41	28			35	32	32	30	NW	NW					0.03		Cu		Cu							Windy and heavy the Sun & Snow	1			
2	29100	41	29100	42	22			26	25	32	30	NW	W					0.01		Cu		Cu							Overcast and dull	2			
3	29000	42	29750	42	24			27	27	31	30	SW	SW					0.02		Cu		Vi							" Some Sls Snow	3			
4	28750	41	28650	42	29			32	31	36	36	E	NE					0.77		Vi		Vi							Snow Sleet & Rain all day	4			
5	28850	42	29100	42	32			36	36	35	35	NW	NW					0.12		Vi		Vi							" " " "	5			
6	29350	42	29650	42	36			36	35	37	36	NW	SE					0.40		Cu		Vi							Overcast and drizzle	6			
7	29250	43	29350	45	34			36	36	36	35	SE	SE					0.40		Vi		Vi							High Gale of Wind & Rain	7			
8	29650	45	29050	43	34			37	36	34	34	SE	SE					0.52		Vi		Vi							" Very heavy rain	8			
9	29100	42	28900	43	32			33	32	35	35	SE	SE					0.27		Cu		Vi							fine day rising bright	9			
10	28675	44	28850	45	28			34	34	30	29	SW	SE					0.07		Vi		Cu							Gale rain morning	10			
11	28800	45	29050	43	26			33	32	31	30	W	W					0.20		Cu		Cu							Bright & cold	11			
12	28750	43	28600	43	30			40	40	37	35	SW	S					0.83		Vi		Cu							Gale wind and rain	12			
13	28950	42	29250	43	32			37	35	34	32	SW	SW					0.20		Vi		Vi							fine day	13			
14	29000	43	29100	46	32			38	37	37	38	E	SW					0.55		Vi		Cu							Heavy rain & Gale of wind	14			
15	29200	43	29425	45	30			37	37	31	30	SW	SE					0.12		Vi		Cu							" " "	15			
16	29350	43	29750	44	28			30	29	38	37	SW	SW					0.10		Cu		Cu							fine day	16			
17	29600	45	29400	43	35			37	37	35	35	SE	SE					0.95		Vi		Vi							fine day	17			
18	29400	43	29550	43	28			37	36	30	30	NW	NW					—		Vi		Cu							Very heavy rain all day	18			
19	29650	42	29400	45	27			31	30	39	36	NW	SE					—		Cu		Vi							fine day	19			
20	29400	46	29450	45	37			44	40	46	43	NW	NW					—		Cu		Cu							fine up to 6 P.M. then High Gale	20			
21	29500	47	29450	45	41			48	44	47	35	NW	NW					—		Cu		Vi							fine day	21			
22	29700	46	29850	47	35			39	38	36	37	NW	NW					—		Cu		Cu							Windy and overcast	22			
23	30200	46	29500	48	34			42	41	39	36	NW	NW					—		St		Cu							Very cold brought round weather	23			
24	29800	49	29950	52	38			47	44	38	33	NW	NW					—		Cu		Cu							Gale of wind	24			
25	30000	50	30100	50	22			46	44	35	32	NW	NW					—		Cu		Cu							Peal of Thunder w/ 4 P.M. high wind	25			
26	29750	45	29900	48	28			41	38	44	42	NW	NW					0.00		St		Cu							fine day	26			
27	29750	45	29920	48	37			43	41	37	35	NW	NW					0.08		Vi		Cu							Overcast & cold	27			
28	29950	50	29850	50	33			38	35	42	40	NW	NW					0.06		St		Vi							" " "	28			
29																																29	
30																																30	
31																																31	
Sums.	8575	115	10575	135	h2			199	170	176	127							5.80															
Means.	29.388	42.1	29.391	44.8	31.5			37.1	36.1	36.3	34.4																						
† Total Corrections for Instrumental Errors.	-0.17		-0.17																														
† Corrections for Diurnal Range.																																	
"Corrected Means."																																	
No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			

## NOTATION USED IN GENERAL REMARKS.

a.	denotes aurora.	m.	denotes meteor.
ci.	" cirrus.	ms.	" meteors.
ci-cu.	" cirro-cumulus.	n.	" nimbus.
cs.	" 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.
h.	" hail.	sq.	" squalls.
l.	" lightning.	t.	" thunder.
li. cl.	" light clouds.	t. s.	" thunder storm.
li. sh.	" light showers.	w.	" wind.
lu. co.	" lunar corona.	g.	" gale of wind.
lu. 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†† = 29.335  
 for Temp. (Col. 2), = 29.37 ..... 36  
 Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.331  
 for Temp. (Col. 4), = 29.374 ..... 43  
 Mean at Station, corrected, and at 32°, ..... = 29.333  
 Correction for height, feet above Mean Sea-level, ..... = 501  
 Mean, reduced to 32°, and Sea-level, ..... = 29.834  
 Highest Reading, corrected for Index error, on the 25th, ..... = 30.100  
 Lowest Do. Do., on the 12th, ..... = 28.600  
 Difference, or Monthly Range, ..... = 1.500

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, ..... =  
 Lowest in Month, corrected for Index errors, on the 2 th, ..... = 22.0  
 Difference, or Monthly Range, ..... =  
 "Corrected Mean" of all the Highest, (Col. 5), ..... =  
 "Corrected Mean" of all the Lowest, (Col. 6), ..... = 31.5  
 Difference, or Mean Daily Range, ..... =  
 \* Calculated Mean Temperature of Month, ..... =

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

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), ..... = 36.7  
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), ..... = 35.2  
 ‡ Computed Temperature of Dew-Point, ..... = 33.1  
 ‡ Do. Elastic Force of Vapour, ..... = 1.89  
 ‡ Do. Weight of Vapour in a Cubic Foot of Air, ... =  
 ‡ Relative Humidity, (Saturation = 100), ..... = 86  
 RAIN fell on 19 Days; Amount in Inches, ..... = 5.80

WIND.		SUMMARY.				
Direction.		N	NE	E	SE	S
A.M.						
P.M.						
Mean.						

Observations made and  
 Return verified by

(Signed)

*George H. Smythe*







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Abogye Castle, County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 31 miles.  
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet. During the MONTH of March 1883.  
The Hours of Observation are of Greenwich Time.

[illegible]

<b>BAROMETER,</b> "corrected Mean" at 9 A.M., <i>minus</i> the Correction $\uparrow \uparrow$	=	29.457
for Temp. (Col. 2), = 29.498 - ... 41.		
Corrected Mean" of Barometer at 9 P.M., <i>minus</i> the Correction $\uparrow \uparrow$	=	29.444
for Temp. (Col. 4), = 29.485 - ... 41.		
<b>Mean at Station, corrected, and at 32°,</b>	=	29.450
Correction for height, feet above Mean Sea-level,	=	511
<b>Mean, reduced to 32°, and Sea-level,</b>	=	29.961
Highest Reading, corrected for Index error, on the 3 th,	=	30.225
Lowest Do. Do. on the 25 th,	=	28.850
Difference, or <b>Monthly Range,</b>	=	1.375

<b>S.-R. THERMOMETER,</b> (in shade, etc.), <b>Highest in Month,</b> (corrected for Index Errors), on the	th.....	=
<b>Lowest in Month,</b> corrected for Index errors, on the	15 <sup>th</sup> , .....	= 16-0
Difference, or <b>Monthly Range,</b> .....		=
"Corrected <b>Mean</b> " of all the <b>Highest,</b> (Col. 5), .....		=
"Corrected <b>Mean</b> " of all the <b>Lowest,</b> (Col. 6), .....		= 25-3
Difference, or <b>Mean Daily Range,</b> .....		=
** Calculated <b>Mean Temperature</b> of Month, .....		=
<b>S.-R. THERMOMETER, Black Bulb in Sun, Highest,</b> (corrected for Index Errors), on the	th.....	=
"Corrected <b>Mean,</b> " (Col. 7), of <b>Black Bulb, Max. in Sun,</b> .....		=
<b>Lowest at Night,</b> Black Bulb, (corrected for Index errors), on the	th, ...	=
"Corrected <b>Mean,</b> " (Col. 8), of <b>Black Bulb, Min.</b> on grass, .....		=
Difference of above Means or Range ("exposed"), .....		=

<b>HYGROMETER, Mean</b> (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), .....	=	31.9
<b>Mean</b> (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), .....	=	31.0
‡ Computed <b>Temperature of Dew-Point</b> , .....	=	28.9
‡ Do. <b>Elastic Force of Vapour</b> , .....	=	160
‡ Do. <b>Weight of Vapour in a Cubic Foot of Air</b> , ...	=	
‡ <b>Relative Humidity</b> , (Saturation = 100), .....	=	88
<b>RAIN</b> fell on 24 Days; Amount in Inches, .....	=	5.30

WIND.							SUMMARY.				
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day
A.M.	6	1	2	5				17			
P.M.	8	1	1	2				14			
Mean.	7	1	2	6	0	0	0	15			

Observations made and  
Return verified by

(Signed)







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Abney Castle Gardens, County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 37 miles.  
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet. During the MONTH of April

The Hours of Observation are of Greenwich Time.

[illegible]

<b>BAROMETER,</b> "corrected Mean " at 9 A.M., <i>minus</i> the Correction $\uparrow \uparrow$	=	29.491
for Temp. (Col. 2), = 29.653..... - 61..)		
Corrected Mean $\uparrow \uparrow$ of Barometer at 9 P.M., <i>minus</i> the Correction $\uparrow \uparrow$	=	29.507
for Temp. (Col. 4), = 29.570..... - 63)		
<b>Mean at Station, corrected, and at 32°,.....</b>	=	29.499
Correction for height, feet above Mean Sea-level,.....	=	511
<b>Mean, reduced to 32°, and Sea-level,.....</b>	=	30.010
Highest Reading, corrected for Index error, on the 6 <sup>th</sup> ,.....	=	30.225
Lowest Do. Do., on the 18 <sup>th</sup> ,.....	=	28.925
Difference, or <b>Monthly Range</b> ,.....	=	1.300

<b>S.-R. THERMOMETER,</b> (in shade, etc.), <b>Highest in Month,</b> (corrected for Index Errors), on the <u>1</u> th, .....	=	
<b>Lowest in Month,</b> corrected for Index errors, on the <u>7</u> th <u>30</u> , .....	=	<u>29.0</u>
Difference, or <b>Monthly Range,</b> .....	=	
" Corrected <b>Mean</b> " of all the <b>Highest,</b> (Col. 5), .....	=	
" Corrected <b>Mean</b> " of all the <b>Lowest,</b> (Col. 6), .....	=	<u>33.8</u>
Difference, or <b>Mean Daily Range,</b> .....	=	
* Calculated <b>Mean Temperature</b> of Month, .....	=	
<b>S.-R. THERMOMETER</b> Black Bulb in Sun. <b>Highest</b> (corrected for		

<b>HYGROMETER, Mean</b> (corrected) A.M. and P.M. Reading of <b>Dry Bulb</b> , (Cols. 9 and 11), .....	=	41-8
<b>Mean</b> (corrected) A.M. and P.M. Reading of <b>Wet Bulb</b> , (Cols. 10 and 12), .....	=	40.0
‡ Computed <b>Temperature of Dew-Point</b> , .....	=	37.7
‡ Do. <b>Elastic Force of Vapour</b> , .....	=	.22
‡ Do. <b>Weight of Vapour in a Cubic Foot of Air</b> , ...	=	
‡ <b>Relative Humidity</b> , (Saturation = 100), .....	=	86
<b>RAIN</b> fell on 8 Days; Amount in Inches, .....	=	1.71

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day
A.M.			10	1		4	13	2			
P.M.			1	10	3	1	3	11	1		
Mean.			0	10	2	1	4	12	1		

Observations made and  
Return verified by

(Signed)







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Boysie Castle, County of Oberlin, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 51 miles.

Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.

During the MONTH of May 1885

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, 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.			Temperature of Well at depth of feet. No.	Temperature at 1 foot, and Drift.	9 A.M. 9 P.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.	Direc- tion.	Force.	Direc- tion.	Force.	9 h. A.M.	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.	No. 12 inches.	No. 22 inches.			
																																				SUNSHINE.		Hours.
																																				No.	3 inches.	
1	29650	54	29675	54	30					112	41	36	35	N		NE				0.06	E	Mi	Mi							Overcast & Cold	1							
2	29650	50	29500	55	31					36	35	39	37	Ni		N				0.11		Ni	Al							Rainy day	2							
3	29500	52	29600	52	32					40	37	34	33	N		N				0.09		Ni	Ni							Very cold. Wet. Rain. hills white.	3							
4	29600	53	29650	53	32					38	37	37	36	NE		N				0.30		Ni	Ni									4						
5	29700	52	29700	54	35					38	38	39	39	NE		NE				0.10		Ni	Ni									5						
6	29700	52	29650	54	34					41	39	42	40	E		E				—		Ni	St									6						
7	29500	53	29500	49	32					40	40	34	33	NE		NE				0.03		Ni	Ni									overcast & dull	7					
8	29500	49	29400	48	29					34	33	32	30	NE		NE				0.04		Ni	Ni									fine A.M. Snow & rain P.M.	8					
9	29350	40	29350	48	30					33	33	35	33	N		N				0.05		Ni	Ni									snowing all day high land white	9					
10	29200	41	29000	48	34					39	38	38	37	N		NW				—		Ni	Ni									snow lying on ground & hills deep	10					
11	29000	48	29200	54	34					46	41	37	34	NW		N				—		Ni	Ni									the hail & snow	11					
12	29100	42	29100	53	27					42	38	41	41	E		W				—		Ni	Ni									wind & some warmer	12					
13	29200	49	29200	58	45					44	42	49	46	SW		SW				—		Ni	Ni									Cold black day	13					
14	29300	57	29425	59	45					52	46	42	47	N		SW				—		Ni	Ni										14					
15	29650	66	29825	59	36					67	59	44	42	SW		SW				—		Ni	Ni										windy A.M. fine P.M.	15				
16	29950	62	30000	62	31					59	56	42	39	W		W				—		Ni	Ni										very warm day	16				
17	29850	54	29875	58	28					50	49	43	40	W		W				—		Ni	Ni										17					
18	29600	53	29500	55	38					49	48	42	42	W		W				0.06		Ni	Ni										a shower rain am fine P.M.	18				
19	29550	54	29600	55	39					47	43	39	39	NW		NW				0.03		Ni	Ni										Rough day heavy showers	19				
20	29600	58	29650	58	34					50	48	43	41	E		E				—		Ni	Ni										Black & cold day	20				
21	29650	59	29650	60	36					54	52	46	45	SW		SW				—		Ni	Ni										Bright & cold day	21				
22	29650	59	29600	58	44					54	51	47	44	W		W				—		Ni	Ni										A fine day	22				
23	29500	58	29450	59	45					58	57	54	50	W		W				—		Ni	Ni										Cold day	23				
24	29450	62	29425	59	41					62	55	54	49	W		W				—		Ni	Ni										high drying wind	24				
25	29375	58	29250	62	48					58	53	54	51	SW		SW				0.07		Ni	Ni										25					
26	29300	62	29400	62	40					50	48	41	40	SW		SW				0.27		Ni	Ni										26					
27	29500	61	29450	62	32					49	47	46	44	SW		SW				—		Ni	Ni										Rough early morning fine day	27				
28	29300	62	29300	62	43					52	50	55	52	SW		SW				—		Ni	Ni										fine day Cold night	28				
29	29275	60	29450	62	44					49	45	54	57	W		W				—		Ni	Ni										Black dull day	29				
30	29650	59	29750	62	38					50	44	40	38	W		NW				—		Ni	Ni										Rough windy day	30				
31	29700	56	29600	58	30					48	46	52	50	SW		SW				—		Ni	Ni										fine day	31				
Sums.	1571	13	1472	16	124					14	15	14	12							15														NOTATION USED IN GENERAL REMARKS.				
Means.	15500	139	14725	103	187					23	149	109	41							121															a. denotes aurora.			
* Total Corrections for Instrumental Errors.	0.017		0.017																																m. denotes meteor.			
† Corrections for Diurnal Range.																																			ci. cirrus.			
"Corrected Means."																																			ci.-cu. cirro-cumulus.			
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				ci.-st. cirro-stratus.				
																																			cu. cumulus.			
																																			cu.-s. cumulo-stratus.			
																																			d. dew.			
																																			f. fog.			
																																			fr. frost.			
																																			h.-fr. hoar-frost.			
																																			h. haze.			
																																			h. d. heavy dew.			
																																			li. hail.			
																																			li. light.			
																																			li. cl. light clouds.			
																																			li. sh. light showers.			
																																			lu. co. lunar corona.			
																																			lu. la. lunar halo.			

<b>BAROMETER,</b> "corrected Mean" at 9 A.M., minus the Correction +)			
for Temp. (Col. 2),	=	29.483	69
Corrected Mean" of Barometer at 9 P.M., minus the Correction +)			
for Temp. (Col. 4),	=	29.458	73
<b>Mean at Station, corrected, and at 32°,.....</b>			29.400
Correction for height,	feet above Mean Sea-level,.....		495
<b>Mean, reduced to 32°, and Sea-level,.....</b>			29.895
Highest Reading, corrected for Index error, on the 16th,.....			30.080
Lowest	Do.	Do.,	on the 17th,.....
			28.875
Difference, or <b>Monthly Range,</b> .....			1.105

**S.-R. THERMOMETER,** (in shade, etc.), **Highest in Month,** (corrected for Index Errors), on the ~~5~~th, ..... = ~~40.0~~

**Lowest in Month**, corrected for Index errors, on the 16 th, ..... = 280

Difference, or **Monthly Range**, ..... *1.41*

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

"Corrected Mean" of all the Lowest, (Col. 6), ..... = 36-0

Difference, or **Mean Daily Range**, .....

\* Calculated Mean Temperature of Month.

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

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

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

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

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

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry

**Bulb**, (Cols. 9 and 11), ..... = 45.5

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols.

$$10 \text{ and } 12, \dots = 43.0$$

††† Computed **Temperature of Dew-Point**, ..... = **40.1**

4. D. Elastic Force of Vapour, ..... = ..... 2.

‡ D0. Weight of Vapour in a Cubic Foot of Air, ... =

Relative Humidity, (Saturation = 100), ..... = 82

RAIN fell on 12 Days; Amount in Inches, ..... = 1.21

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

\* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.," and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.  
 † Embracing corrections for both capillarity and Index Errors.  
 ‡ The Diurnal Range for Scotland is as yet unknown.  
 § *Precipitation, though not absolutely a minus correction.*  
 ¶ These "Hygrometrical Deductions" are calculated from Glaisher's Hygrometrical Tables, Second Edition only.  
 † While the Diurnal Range is unknown, the Atmospheric Mean of Columns 6 and 7 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, are indicated as such by the observer, in each Schedule. See over.

Observations made and  
Return verified by

(Signed).

George W. Lutz







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Oborne Castle, County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 31 miles.Height of Cistern of the Barometer above Mean Sea-level 453.2 feet, above Ground 4 feet.During the MONTH of June 1885.

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.		Readings of the H. Cup Anemometer.		No. of hours in which it fell.	Amount in inches.	9 A.M.		P.M.		9 h. A.M.					Temperature of WELL at depth of feet. No.	Temperature at 1 fathom, and Density.	9 A.M.	9 P.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.	Direc- tion.	Force	Direc- tion.	Force	No.	9 h. A.M.			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.	22 inches.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
inches.	°	inches.	°	°	°	°	°	°	°	°	°	°																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.442  
for Temp. (Col. 2), = 29.531 — ... 89.5  
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.462  
for Temp. (Col. 4), = 29.553 — ... 91.1  
Mean at Station, corrected, and at 32°, = 29.452  
Correction for height, feet above Mean Sea-level, = 490  
Mean, reduced to 32°, and Sea-level, = 29.942  
Highest Reading, corrected for Index error, on the 4th, = 29.900  
Lowest Do. Do., on the 24th, = 29.125  
Difference, or Monthly Range, = 0.775

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 5th, = 2  
Lowest in Month, corrected for Index errors, on the 5th, = 31.0  
Difference, or Monthly Range, = 29.0  
"Corrected Mean" of all the Highest, (Col. 5), = 41.7  
"Corrected Mean" of all the Lowest, (Col. 6), = 41.7  
Difference, or Mean Daily Range, = 0.0  
\*\* Calculated Mean Temperature of Month, = 0.0  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 5th, = 41.7  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 41.7  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 5th, = 41.7  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 41.7  
Difference of above Means or Range ("exposed"), = 0.0

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 52.5  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 49.8  
†† Computed Temperature of Dew-Point, = 47.2  
†† Do. Elastic Force of Vapour, = 0.324  
†† Do. Weight of Vapour in a Cubic Foot of Air, = 82  
†† Relative Humidity, (Saturation = 100), = 82  
RAIN fell on 13 Days; Amount in Inches, = 1.95

WIND.		SUMMARY.		
-------	--	----------	--	--



INSTRUCTIONS

FOR TAKING METEOROLOGICAL OBSERVATIONS,

WITH REMARKS ON THE USE OF INSTRUMENTS.

One of the chief objects that the Scottish 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, it being found that differences between the Returns from two Stations, so very considerable as to render them quite incomparable, may arise from dissimilarity in the position or the use of instruments, different hours of observation, or even from the want of sufficiently 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 comparableness among the several Returns, without which the Society's Reports must inevitably fail in achieving one of the main objects of Meteorological Observation.

The Council recommend that Observations be made precisely at 9 A.M. and 9 P.M. (Greenwich or Railway Time only), as specified in the following remarks, or at the top of the columns of the Schedule. It is hoped that the utmost punctuality in the time of reading the instruments will be observed. Observers, in some few cases, may find this impossible; in such instances, they are specially requested to mark opposite every reading the time at which it was taken, if not at 9 A.M. or 9 P.M.

**Barometer.**—The barometer should be used for Meteorological Observation that is 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. The Barometer in which the error arising from the fluctuating surface of the mercury in the cistern is entirely got rid of is Fournier's Barometer, the arrangement consisting in applying a reservoir by means of a screw to the bottom of the cistern, into which a plug of ivory point which forms the zero point of the fixed scale.

The Barometer originally constructed by Mr. Adie of London, and usually called the Board of Trade Barometer, has the great convenience of requiring no adjustment or compensation to compensate the error that would otherwise arise from the fluctuations of the surface of mercury in the cistern. This is an excellent Barometer for ordinary Observers, inasmuch as it is simply eliminates the error of observation likely to arise from a few cases in setting the instrument to the zero point of the fixed scale when the light is not good. To allow the accuracy with which these Barometers are made, it may be stated, that when compared during a whole year, with the Society's Standard Barometer, the 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.

A modification of Fournier's Barometer is used at a number of the Society's Stations, by which the coincidence of the zero point with the surface of the mercury is indicated by a little ivory disk, whose stem passes freely through the lid and ends of the cistern. When the index of this little disk is brought to the zero point of the fixed scale, the zero point of the scale 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 with a Standard Barometer. The Barometer should be suspended in as good a light as can be secured, and to facilitate the reading, a piece of white paper may be exposed to neither the sun's direct rays nor the heat of a fire, and must not be hung against a wall heated by a fire. The object being to secure that the whole instrument, including the brass fittings, the contained mercury, and the attached Thermometer, shall be, when 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 cistern-adjustment carefully made. The eye, by raising and lowering it, must be brought into the plane of the back and front of the index—usually below the level of the well bulb, but in no case under the bulb; the lower edge of the vernier, which must be carefully adjusted so as to form exactly a tangent to the convex surface of the mercury in the tube. Observations must be taken quickly, so as to prevent heat from the Observer's hands and person from affecting the mercury. 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 errors of 1.000 inch, 0.500 inch, and 0.050 inch; that is to say, instead of 29.365 inches, either of the following is sometimes set down—viz., as 30.365 inches, 28.365 inches, 29.865 inches, or 29.815 inches. Experience having shown that even the very best Observers make these mistakes, particular attention is directed to the matter. When a Barometer having adjustable surfaces has to be removed from its fastenings, the ivory peg must first be served so as to form a tight plug to the cistern, thus preventing the escape of the mercury. Then screw up the mercury not quite to the top of the tube, but to within a quarter of an inch of it, and take down the instrument; it should then be carried with the cistern uppermost. Before suspending the Barometer for use, it must be ascertained whether the space above the mercury in the tube is a complete vacuum; this is the case 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.

As 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 air may be expelled. First close up the cistern by screwing the ivory peg tight, so as to prevent the escape of mercury; then screw up the mercury to about half an inch from the top of the tube; and having slowly inverted the instrument, place the top of it on a yielding substance, such as the foot, and gently tap on the cistern with the palm of the hand, so as to induce the air to ascend through the column to the cistern, whence it may escape. Since there is the weight of two atmospheres—the pressure of the mercury in the Barometer, and the air outside—pressing on any air that may be inside the tube, it is usually a tedious operation to get it wholly expelled. After repeated trials, however, it is generally accomplished; and the clear metallic sound of the mercury, when gently struck against the top of the glass tube, will show when the whole of the air has been expelled. On hanging up the Barometer, care must be taken to screw down the mercury in the tube before unscrewing the ivory peg of the cistern, for, if this be not attended to, the mercury will flow out, and the instrument be seriously damaged.

The Council of the Society recommend that the Self-Registering Thermometers, and the Dry and Wet Bulb Hygrometers, be kept in Stevenson's Lenoxy-boarded Box for the purpose of protecting them from the weather, as shown in the past by repeated and annoying breakages of Thermometers of similar construction; and as regards Maximum Thermometers, either Negretti and Zambra's, or Phillips's, whether they will act at the highest temperatures they may be required to register. By the laws of the Society, Members and Observers have a right to have their instruments purchased by the Secretary, and to advise with him regarding the purchase of instruments.

Very great care should be bestowed on the Observations of the Wind. Wind, the accuracy of which, both as regards Direction and Force, is so essential towards the right discussion of many of the more important problems of the science, is a subject which should be carefully attended to. A Wind-Vane ought to be elevated at least 12 feet above surrounding objects. When it oscillates incessantly, the mean direction should be taken. In all cases, but especially when the Vane is stationary, and when the wind is feeble, reference may be made to the direction of smoke, etc., in well-exposed situations. Careful observations are recommended to be made on the changes in the direction of the wind; and during storms, extra observations at every hour of Greenwich time. Such a system of simultaneous observation, pursued at different Stations, is likely to give highly valuable and important results, particularly in connection with the system of thickly-planted Stations over a limited district round Edinburgh called Storm Stations, in the course of being established by the Society for the systematic investigation of the relation of the force of the wind to Barometrical Gradations, and other points connected with storms.

The Council would recommend the Hemispherical Cup Anemometer—a self-registering instrument which shows the amount of wind that passes it per day; from which also the mean Velocity of the Wind at the time of observation may be ascertained. For indicating the Force of the Wind at any particular hour of observation, the Pressure Anemometer recently brought under the notice of the Society by Mr. T. Stevenson, the Honorary Secretary, and Mr. R. Ballingall, Mr. T. Stevenson, the Honorary Secretary, and Mr. R. Ballingall, the Honorary Secretary, are recommended as likely to secure uniformity in making observations on the Force of the Wind.

Many causes conspire to produce anomalies in Rain Returns, arising partly from the difficulty of obtaining a perfectly unobstructed situation for observation, and partly from the defective nature of the instruments used. The Rain-Gauge should not be placed on a slope or terrace, but on a level piece of ground, in as open a situation as the Observer can secure for it. As it is often difficult to obtain a position as free and unobstructed by surrounding objects as is desirable, trees, buildings, or other obstructions, at least as many feet from towards which it is important, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

being of the scale of every instrument; the rejection of Thermometers, the frameworks of which are not likely to stand exposure to the weather, as shown in the past by repeated and annoying breakages of Thermometers of similar construction; and as regards Maximum Thermometers, either Negretti and Zambra's, or Phillips's, whether they will act at the highest temperatures they may be required to register. By the laws of the Society, Members and Observers have a right to have their instruments purchased by the Secretary, and to advise with him regarding the purchase of instruments.

Very great care should be bestowed on the Observations of the Wind. Wind, the accuracy of which, both as regards Direction and Force, is so essential towards the right discussion of many of the more important problems of the science, is a subject which should be carefully attended to. A Wind-Vane ought to be elevated at least 12 feet above surrounding objects. When it oscillates incessantly, the mean direction should be taken. In all cases, but especially when the Vane is stationary, and when the wind is feeble, reference may be made to the direction of smoke, etc., in well-exposed situations. Careful observations are recommended to be made on the changes in the direction of the wind; and during storms, extra observations at every hour of Greenwich time. Such a system of simultaneous observation, pursued at different Stations, is likely to give highly valuable and important results, particularly in connection with the system of thickly-planted Stations over a limited district round Edinburgh called Storm Stations, in the course of being established by the Society for the systematic investigation of the relation of the force of the wind to Barometrical Gradations, and other points connected with storms.

The Council would recommend the Hemispherical Cup Anemometer—a self-registering instrument which shows the amount of wind that passes it per day; from which also the mean Velocity of the Wind at the time of observation may be ascertained. For indicating the Force of the Wind at any particular hour of observation, the Pressure Anemometer recently brought under the notice of the Society by Mr. T. Stevenson, the Honorary Secretary, and Mr. R. Ballingall, Mr. T. Stevenson, the Honorary Secretary, and Mr. R. Ballingall, the Honorary Secretary, are recommended as likely to secure uniformity in making observations on the Force of the Wind.

Many causes conspire to produce anomalies in Rain Returns, arising partly from the difficulty of obtaining a perfectly unobstructed situation for observation, and partly from the defective nature of the instruments used. The Rain-Gauge should not be placed on a slope or terrace, but on a level piece of ground, in as open a situation as the Observer can secure for it. As it is often difficult to obtain a position as free and unobstructed by surrounding objects as is desirable, trees, buildings, or other obstructions, at least as many feet from towards which it is important, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W. The order of their importance, S.W., N.E., S.E., S., and W.

water, in cases where the observations cannot be taken daily, the observation may be made on the 5th, 15th, and 25th of each month. When convenient, extra Sea Observations might be taken for other hours of observation. It is also very desirable that observations on the daily Maxima and Minima by Thermometers continuously immersed, be instituted at points along the coast, by the method proposed by Mr. T. Stevenson, and already commenced at Peterhead and Liverpool. The Temperature of the water at the bottom of Wells ought, when practicable, to be taken, both the depth of the Well, and of the water being noted.

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

Too much importance cannot be attached to the electric condition of the atmosphere in connection with terrestrial magnetism, barometrical, thermometrical, and meteorological phenomena generally. A proper Electrometer is in truth, necessary to every complete meteorological observatory. The Remarks column is unavoidably too narrow. Some of the most valuable Observations that can be taken are those for which no rules can be given nor hours assigned. The use of contractions, ought, therefore, to be taken every advantage of, and a list of such as are in general use are given at the foot of the column. Besides special and extraordinary Observations, great prominence ought to be given in this column to Precipitation, differences in character, colour, velocity, and direction between the Lower and Upper Strata of Clouds, the Colour of the Sky, etc. Remarks ought to be made on the occurrence of Meteors, Auroral Boreas, remarkable depressions, elevations, and fluctuations of the Barometer, Thunder-Storms, and remarkable fogs, Snow, Hail, or Rain, the Hour of Storms of Wind commencing, attaining their maximum, and ending, as well as such notes on Storms as have been hinted at above. When lofty hills are in the vicinity of a Station, the Height of Clouds and of the Snow-line in winter should be recorded. By the use of abbreviations, the state of the weather at 9 A.M. and 9 P.M. should be registered either in two columns, otherwise, omitted, or ruled off for the purpose, from the column of 'Remarks.' Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with Agriculture, Horticulture, and Natural History. The Periodic Return of the Seasons, Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summaries may fairly represent the whole of Scotland. Observations ought to be confined to individual trees and shrubs; to particular species of birds, and, in the case of crops, to specified sorts reared from year to year on a selected piece of ground or farm. The Annual Table, published yearly in the Society's Journal, will indicate the species of plants and animals to which special attention is more particularly directed.

The Council recommend Observers, before purchasing new instruments, and in repeating old ones, to communicate with the Meteorological Secretary, who can order that every instrument may be examined and improved before being used; and they consider it wise, say that he should have full power to reject any instrument which, on being presented for comparison, does not afford him satisfaction.

(By Order)  
DUBLIN, December 1880.

By the use of abbreviations, the state of the weather at 9 A.M. and 9 P.M. should be registered either in two columns, otherwise, omitted, or ruled off for the purpose, from the column of 'Remarks.' Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with Agriculture, Horticulture, and Natural History. The Periodic Return of the Seasons, Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summaries may fairly represent the whole of Scotland. Observations ought to be confined to individual trees and shrubs; to particular species of birds, and, in the case of crops, to specified sorts reared from year to year on a selected piece of ground or farm. The Annual Table, published yearly in the Society's Journal, will indicate the species of plants and animals to which special attention is more particularly directed.

The Council recommend Observers, before purchasing new instruments, and in repeating old ones, to communicate with the Meteorological Secretary, who can order that every instrument may be examined and improved before being used; and they consider it wise, say that he should have full power to reject any instrument which, on being presented for comparison, does not afford him satisfaction.

(By Order)  
DUBLIN, December 1880.

By the use of abbreviations, the state of the weather at 9 A.M. and 9 P.M. should be registered either in two columns, otherwise, omitted, or ruled off for the purpose, from the column of 'Remarks.' Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with Agriculture, Horticulture, and Natural History. The Periodic Return of the Seasons, Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summaries may fairly represent the whole of Scotland. Observations ought to be confined to individual trees and shrubs; to particular species of birds, and, in the case of crops, to specified sorts reared from year to year on a selected piece of ground or farm. The Annual Table, published yearly in the Society's Journal, will indicate the species of plants and animals to which special attention is more particularly directed.

The Council recommend Observers, before purchasing new instruments, and in repeating old ones, to communicate with the Meteorological Secretary, who can order that every instrument may be examined and improved before being used; and they consider it wise, say that he should have full power to reject any instrument which, on being presented for comparison, does not afford him satisfaction.

(By Order)  
DUBLIN, December 1880.

By the use of abbreviations, the state of the weather at 9 A.M. and 9 P.M. should be registered either in two columns, otherwise, omitted, or ruled off for the purpose, from the column of 'Remarks.' Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with Agriculture, Horticulture, and Natural History. The Periodic Return of the Seasons, Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summaries may fairly represent the whole of Scotland. Observations ought to be confined to individual trees and shrubs; to particular species of birds, and, in the case of crops, to specified sorts reared from year to year on a selected piece of ground or farm. The Annual Table, published yearly in the Society's Journal, will indicate the species of plants and animals to which special attention is more particularly directed.

The Council recommend Observers, before purchasing new instruments, and in repeating old ones, to communicate with the Meteorological Secretary, who can order that every instrument may be examined and improved before being used; and they consider it wise, say that he should have full power to reject any instrument which, on being presented for comparison, does not afford him satisfaction.

(By Order)  
DUBLIN, December 1880.

By the use of abbreviations, the state of the weather at 9 A.M. and 9 P.M. should be registered either in two columns, otherwise, omitted, or ruled off for the purpose, from the column of 'Remarks.' Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with Agriculture, Horticulture, and Natural History. The Periodic Return of the Seasons, Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summaries may fairly represent the whole of Scotland. Observations ought to be confined to individual trees and shrubs; to particular species of birds, and, in the case of crops, to specified sorts reared from year to year on a selected piece of ground or farm. The Annual Table, published yearly in the Society's Journal, will indicate the species of plants and animals to which special attention is more particularly directed.

The Council recommend Observers, before purchasing new instruments, and in repeating old ones, to communicate with the Meteorological Secretary, who can order that every instrument may be examined and improved before being used; and they consider it wise, say that he should have full power to reject any instrument which, on being presented for comparison, does not afford him satisfaction.

(By Order)  
DUBLIN, December 1880.

By the use of abbreviations, the state of the weather at 9 A.M. and 9 P.M. should be registered either in two columns, otherwise, omitted, or ruled off for the purpose, from the column of 'Remarks.' Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with Agriculture, Horticulture, and Natural History. The Periodic Return of the Seasons, Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summaries may fairly represent the whole of Scotland. Observations ought to be confined to individual trees and shrubs; to particular species of birds, and, in the case of crops, to specified sorts reared from year to year on a selected piece of ground or farm. The Annual Table, published yearly in the Society's Journal, will indicate the species of plants and animals to which special attention is more particularly directed.

The Council recommend Observers, before purchasing new instruments, and in repeating old ones, to communicate with the Meteorological Secretary, who can order that every instrument may be examined and improved before being used; and they consider it wise, say that he should have full power to reject any instrument which, on being presented for comparison, does not afford him satisfaction.

(By Order)  
DUBLIN, December 1880.

By the use of abbreviations,



# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Abogye castle, County of Oberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 57 miles.

Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.

During the MONTH of July 1883

The Hours of Observation are of Greenwich Time.

[illegible]

<b>BAROMETER,</b> "corrected Mean" at 9 A.M., minus the Correction $\uparrow$ +)		
for Temp. (Col. 2),	= <u>29.378</u>	= <u>29.289</u>
Corrected Mean" of Barometer at 9 P.M., minus the Correction $\uparrow$ +)		
for Temp. (Col. 4),	= <u>29.384</u>	= <u>29.294</u>
<b>Mean at Station, corrected, and at 32°,</b> .....		= <u>29.292</u>
Correction for height,	feet above Mean Sea-level,.....	= <u>485</u>
<b>Mean, reduced to 32°, and Sea-level,</b> .....		= <u>29.777</u>
Highest Reading, corrected for Index error, on the 28 <sup>th</sup> ,.....		= <u>29.850</u>
Lowest Do.	Do., on the 12 <sup>th</sup> ,.....	= <u>28.900</u>
Difference, or <b>Monthly Range,</b> .....		= <u>0.950</u>

<b>S.-R. THERMETER, (in shade, etc.), Highest in Month,</b>	corrected for Index Errors), on the	th,.....	=
<b>Lowest in Month,</b>	corrected for Index errors, on the	30 th, .....	= 36-0
<b>Difference, or Monthly Range,</b>			=
<b>"Corrected Mean" of all the Highest,</b>	(Col. 5), .....		=
<b>"Corrected Mean" of all the Lowest,</b>	(Col. 6), .....		= 46-1
<b>Difference, or Mean Daily Range,</b>			=
<b>** Calculated Mean Temperature</b>	of Month, .....		=
<b>S.-R. THERMETER, Black Bulb in Sun, Highest,</b>	corrected for Index Errors), on the	th,.....	=
<b>"Corrected Mean,"</b>	(Col. 7), of Black Bulb, Max. in Sun,.....		=
<b>Lowest at Night,</b>	Black Bulb, (corrected for Index errors), on the	th, ...	=
<b>"Corrected Mean,"</b>	(Col. 8), of Black Bulb, Min. on grass, .....		=
<b>Difference of above Means or Range ("exposed"),</b>			=

<b>HYGROMETER, Mean</b> (corrected) A.M. and P.M. Reading of <b>Dry Bulb</b> , (Cols. 9 and 11), .....	=	53.0
<b>Mean</b> (corrected) A.M. and P.M. Reading of <b>Wet Bulb</b> , (Cols. 10 and 12), .....	=	51.9
‡ Computed <b>Temperature of Dew-Point</b> , .....	=	50.8
‡ Do. <b>Elastic Force of Vapour</b> , .....	=	37
‡ Do. <b>Weight of Vapour in a Cubic Foot of Air</b> , ...	=	
‡ <b>Relative Humidity</b> , (Saturation = 100), .....	=	82
<b>RAIN</b> fell on 25 Days; Amount in Inches, .....	=	6.62

WIND.	SUMMARY.											
	Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.			1	1	3		10	8	8			
P.M.			1	2	1	2	8	7	10			
Mean.		0	1	1	2	1	9	8	9	0		

(Signed) George H. Loring, Jr.

Observations made and  
Return verified by



Adyene

then the Self-Registering Thermometers are read, since, in winter, at least, the extremes may occur at any hour; and it is necessary to give their concurrence to their proper meteorological day. In the office's schedules, the indications registered on the 31 are those of a series of phenomena commencing at 9 p.m. on the 24, and extending till 9 p.m. on the 31.

No instrument ought to be used for Meteorological purposes till it has been carefully tested by comparison with a Standard Thermometer. When such Thermometers are not graduated on the stem, but merely on an attached scale, undergo repairs, they are very liable to be moved on 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 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 dry or melting ice.

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

fore recommend that the Temperature of the Sea be carefully taken by a properly constructed apparatus, from boats, or from the shore, and that the boats be so placed, that if this be impracticable, from the ends of piers and rocks round the coast, where it is not influenced by that of river water, and as little influenced as possible by currents sweeping along the coast, and thus acquiring the temperature of the land, either greatly heated by the sun or cooled by nocturnal radiation. At or near the mouth of high

EDINBURGH, *December 1880.*

EDINBURGH, December 1880.

SHRUBS, ETC.	Barberry, . . . . .	Apple, . . . . .	First in Blossom.	First in Generally.	Cuckoo, . . . . .	MICROSCOPIC KINDS.	First in Blossom.	First in Generally.	Apple, . . . . .	First in Blossom.	First in Generally.	SHRUBS, ETC.
Strawberry, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Gean, . . . . .	Gooseberry, . . . . .	Pear, . . . . .	Almond, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Cherry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Black Currant, . . . . .
Mountain Ash or Rowan, . . . . .	Plum, . . . . .	Strawberry, . . . . .	Almond, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .
Red Flowering Currant, . . . . .	Mountain Ash or Rowan, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Gooseberry, . . . . .	Pear, . . . . .	Almond, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Cherry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .
hodoxendron Ponticum, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Gean, . . . . .	Gooseberry, . . . . .	Pear, . . . . .	Almond, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Cherry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .
Whin, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Gean, . . . . .	Gooseberry, . . . . .	Pear, . . . . .	Almond, . . . . .	Black Currant, . . . . .	Cherry, . . . . .	Cherry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .	Gooseberry, . . . . .

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

BOOK POST.

8  
CC  
EDIN

Mr ALEXANDER BUCHAN,

*Secretary of the Meteorological Society of Scotland,*

EDINBURGH.

Observation, in cases where the observations cannot be taken daily, the observation may be made on the 5th, 15th, and 25th of each month. When convenient, extra Sea Observations might be taken for other days and greater depths, noting always the Temperature of the Air, and the Nature of Observation. It is also very desirable that observations on the daily Maxima and Minima by Thermometers continuously immersed in the water be taken at the same place, viz. at Pelee Island and Liverpool. Stevenson has already noted the Temperature of the Wells near the Well-head. The Temperature of the Wells at the bottom of Wells near the Well-head, when practicable, to be taken, both the depth of the Wells, and of the water being noted.

Mention what Test-Papers are used, Scheibner's or Moffatt's, etc. The Paper is affixed by a pin to a board, and the *Scale* is placed there. The *monometer*, Box and the indications are noted, and the *Scale* is removed. It is desired that these indications be noted in the *monometer* box, in connection with the force and direction of the wind at the time of observation, in the following manner:—thus *Scale* 3, *monometer* 3 on the *scale*, that the wind is from the N.W. and that its force is on the *scale* 4, or blowing fresh.

Too much importance must be attached to the electric condition. — 4, or blowing fresh.

**Atmospheric Electricity.**—The study of the phenomena of electricity in the atmosphere in connection with terrestrial magnetism, barometrical, thermometrical, and meteorological phenomena generally. A proper Electrometer is, in truth, necessary to every complete meteorological observatory. The Remarks column is unavoidably too narrow. Some of the most valuable Observations that can be taken are those for which no rules can be given nor hours assigned. The use of contractions, ought, therefore, to be taken advantage of, and a list of such in general use are given at the foot of the column. Besides special and extraordinary Observations

great, great prominence ought to be given in this column to Prevalent Diseases, differences in character, colour, velocity, and direction of Winds, the appearance of Clouds, the Colour of the Sky, etc. Remarks ought to be made on the occurrence of Meteors, Aurore Boreales, remarkable depressions, elevations, and fluctuations of the Barometre, Thunder-Storms, and remarkable falls of Snow, Hail, or Rain, the Hour of Storms of Wind commencing, attaining their maximum, and ending as well as such notes on Storms as have been obtained as above. When lofty hills are in the vicinity of a Station, the height of Clouds and of the Snow-line in winter should be recorded.

By the use of abbreviations, the state of the weather at 9 A.M. and P.M. should be registered either in two columns, otherwise unoccupied, or ruled off for the purpose, from the column of Remarks. Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with the Periodic Return of the Seasons. The Agricultural, Horticultural, and Natural History. The Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summaries may fairly represent the varied conditions of the seasons.

Observations ought to be confined to individual trees and shrubs of a particular species of birds, and, in the case of crops, to specified crops, and to particular parts of the crops. The results of the reports from year to year on a selected piece of ground or farm, will be entered in the Annual Table, published yearly in the Society's Journal, will indicate the species of plants and animals to which special attention is more particularly directed.

The Council recommend Observers, before purchasing new instruments, and in repairing old ones, to communicate with the Meteorological Secretary, in order that every instrument may be determined and improved before used, and they consider it necessary to request that the Council should be kept informed of the progress of the work.

EDINBURGH, December 1880.

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

FOREST TREES.	In flower.	In leaf buds.	In leaf appear.	In leaf.	Dressed or Leaves.	OPES mentioning variety.
Alder,						Barley, . . .
Birch,						Bere or Bigg,
Chestnut,						Oats, . . .
Hornbeam,						Wheat,
Maple,						Beans,
Pear,						Pease, . . .
Rose,						Potatoes, . . .
Spruce,						Turnips, . . .
Tanbark,						Rye Grass, . .

Have the goodness also to state any information you may be able to collect relative to the Crops of Gram, 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.



## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Obogue Castle, County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 31 miles.  
Height of Cistern of the Barometer above Mean Sea-level 453.45 feet, above Ground 4 feet. During the MONTH of August 1885.  
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.				SUNSHINE. Hours.	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.			Temperature of WELL at depth of feet, 50.	Temperature at 1 fathom, and Density.	9 A.M.						9 P.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.	Direc- tion.	Force	Direc- tion.	Force	Readings of the H. Cup Anemometer No.	No. of hours in which it fell.	Amount in Inches. No.	Velocity (0-5), and Direction.	Amount (0-10), and Species.	Velocity (0-5), and Direction.											Amount (0-10), and Species.	No. 8 inches.	12 inches.	No. 22 inches.
Inches.	°	Inches.	°	°	°	°	°	°	°	°	°	°																									
1	29.250	63	29.200	63	45					59	58	53	53	W		W			0.10	cu	ni											fine a m rainy P m	1				
2	29.400	63	29.600	63	46					65	59	54	54	W		W			0.20	ni	ni												Thunder 2 P m heavy rain from 3 to 8 P m	2			
3	29.600	63	29.800	63	48					59	59	55	54	W		W			0.50	ni	ni												rainy day Bright rainbow	3			
4	29.700	62	29.800	64	48					53	57	47	47	W		W				cu	cu												fine day	4			
5	29.600	63	29.600	63	46					54	57	48	48	W		W			0.01	cu	st														5		
6	29.550	63	29.475	63	43					58	53	51	50	W		SW			0.39	cu	ni													fine a m rainy P m	6		
7	29.500	63	29.550	63	45					56	53	50	50	W		SW				cu	cu													overcast & Bright by turns	7		
8	29.100	61	28.550	63	42					47	47	48	42	SW		NW			0.16	ni	cu													rough high wind & rain	8		
9	28.675	58	28.550	58	44					52	48	44	44	NW		NW			0.11	cu	ni													a boisterous day	9		
10	28.400	58	29.00	59	44					48	48	50	48	NW		NW			0.30	ni	ni													Cold rainy day	10		
11	29.250	62	29.500	62	45					58	52	48	46	W		W			0.02	cu	cu													Stars shooting cold stormy night	11		
12	29.650	60	29.650	60	42					56	54	50	48	NW		NW			0.40	cu	ni													fine a m rainy P m	12		
13	29.500	61	29.250	59	48					50	50	52	52	E		E			0.10	ni	ni														13		
14	29.100	60	29.000	60	51					53	53	56	55	NE		E			0.20	ni	ni														14		
15	29.650	61	29.300	61	48					57	57	49	47	NW		NW			0.10	ni	ni														15		
16	29.500	60	29.600	62	43					48	47	48	47	NW		NW			0.02	ni	st														fine clear but cold	16	
17	29.550	62	29.500	62	45					50	48	48	47	NW		NW				st	st														fine day	17	
18	29.550	60	29.650	62	40					50	50	54	52	W		W				cu	cu														18		
19	29.800	62	29.800	62	44					53	62	56	46	NW		W				st	st														19		
20	29.650	63	29.550	64	41					62	59	57	54	SW		SW				cu	cu														20		
21	29.750	64	29.750	64	46					62	55	52	50	W		W				cu	cu														21		
22	29.750	65	29.800	63	45					61	58	54	51	W		W				cu	st														22		
23	29.350	64	29.850	63	45					62	57	53	51	W		W				st	cu														23		
24	29.750	60	29.650	67	46					69	67	57	56	W		W				cu	st														24		
25	29.500	63	29.450	66	45					54	53	57	56	SW		SW				ni	ni														overcast & Cold	25	
26	29.400	60	29.375	62	43					52	57	45	44	SW		SW				ni	ni														26		
27	29.250	62	29.200	62	48					53	53	52	52	SW		SW			0.60	ni	ni														fine a m rainy P m	27	
28	29.350	62	29.450	63	46					54	52	48	47	W		SW				cu	cu														28		
29	29.250	62	29.125	62	46					53	52	54	57	W		NW				ni	ni														Thunder & lightning 6 P m S. E. rain	29	
30	29.50	60	29.150	58	40					50	50	42	47	W		W			0.11	ni	ni														fine day lightning at night	30	
31	29.050	64	28.950	62	34					65	52	48	47	W		SW			1.04	cu	ni														fine day	31	
Sums.	12325	58	13075	65	132					177	93	30	297						4.60																		
Means.	29.430	61.9	29.422	62.1	44.3					55.7	53.0	51.0	49.3																								
† Total Corrections for Instrumental Errors.	-0.17		-0.17																																		
† Corrections for Diurnal Range.																																					
"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†† = 29.325  
for Temp. (Col. 2), = 29.413 — 88 = 29.325  
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.317  
for Temp. (Col. 4), = 29.405 — 88 = 29.325  
Mean at Station, corrected, and at 32°, = 29.325  
Correction for height, feet above Mean Sea-level, = 487  
Mean, reduced to 32°, and Sea-level, = 29.800  
Highest Reading, corrected for Index error, on the 3<sup>rd</sup> day, = 29.800  
Lowest Do. Do., on the 10<sup>th</sup>, = 28.400  
Difference, or Monthly Range, = 1.400

\* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.," and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.  
† Embracing corrections for both capillarity and Index Errors.  
†† The Diurnal Range for Scotland is as yet unknown.  
‡ Practically, though not absolutely a minus correction.  
‡‡ These "Hygrometrical Deductions" are calculated from Glaisher's Hygrometrical Tables, Second Edition of 1890.  
‡‡‡ While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 5 and 6 will be entered as the "Calculated Mean Temperature." Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 11<sup>th</sup>, = 44.3  
Lowest in Month, corrected for Index errors, on the 3<sup>rd</sup> day, = 34.0  
Difference, or Monthly Range, = 10.3  
"Corrected Mean" of all the Highest, (Col. 5), = 44.3  
"Corrected Mean" of all the Lowest, (Col. 6), = 34.0  
Difference, or Mean Daily Range, = 10.3  
\*\* Calculated Mean Temperature of Month, = 44.3

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the 11<sup>th</sup>, = 44.3  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 44.3  
Lowest at Night, Black Bulb, (corrected for Index errors), on the 11<sup>th</sup>, = 34.0  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 34.0  
Difference of above Means or Range ("exposed"), = 10.3

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 53.4  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 51.2  
†† Computed Temperature of Dew-Point, = 49.0  
†† Do. Elastic Force of Vapour, = 34.7  
†† Do. Weight of Vapour in a Cubic Foot of Air, = 3.5  
†† Relative Humidity, (Saturation = 100), = 86  
RAIN fell on 17 Days; Amount in Inches, = 4.66

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.			1	1	1		4	16	8		
P.M.				2	1		7	13	8		
Mean.		0	0	2	1	0	3	13	8	0	

Observations made and  
Return verified by

(Signed)

*George K. Lupton*







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Aboyne Castle, County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 31 miles.  
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.  
During the MONTH of September 1883.  
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 Balls.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer. No. —  9 h. A.M.	No. of hours in which it fell.	No. of inches.	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.	Direc- tion.	Force	Direc- tion.	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.					Temperature of Wet bulb at No. —	Temperature of Air, Sun, and Surface.	9 A.M.	9 P.M.				
inches.	°	inches.	°	°	°	°	°	°	°	°	°	°																											
1	29.000	61	28.450	60	34			54	52	47	46	W	W					0.50	W	W									Young day	1									
2	28.750	61	28.600	62	46			50	50	48	48	W	W					0.48	W	W									" "	2									
3	28.700	62	28.800	60	50			57	55	51	50	W	W					—	W	W									" "	3									
4	29.050	60	29.300	61	42			46	45	44	43	W	W					—	W	W									Very cold day	4									
5	29.500	60	29.600	60	37			46	45	38	37	W	W					0.09	W	W									" "	5									
6	29.200	55	29.050	58	36			50	48	48	46	W	W					—	W	W									" am fine P m	6									
7	29.100	56	29.200	59	47			48	46	46	45	W	W					—	W	W									fine day	7									
8	29.450	57	29.600	57	39			49	48	40	39	W	W					—	W	W									" "	8									
9	29.600	58	29.525	58	32			37	36	52	48	W	W					0.02	W	W									fine day	9									
10	29.500	57	29.650	58	44			43	42	46	44	W	W					0.02	W	W									showers	10									
11	29.775	58	29.850	60	35			45	44	46	43	W	W					—	W	W									fine day	11									
12	29.850	56	29.850	62	27			39	38	46	44	W	W					—	W	W									clear fine day	12									
13	29.900	56	29.500	58	36			42	41	49	48	W	W					0.01	W	W									foggy day	13									
14	29.900	58	29.850	62	47			49	48	50	48	W	W					—	W	W									" "	14									
15	29.750	61	29.650	63	48			52	51	56	55	W	W					0.01	W	W									drizzly fine day	15									
16	29.650	63	29.750	63	51			54	53	56	55	W	W					—	W	W									fine day some dr. dr.	16									
17	29.750	62	29.750	61	45			53	53	48	47	W	W					—	W	W									fine day fog at night	17									
18	29.850	62	29.850	61	45			55	55	57	57	W	W					—	W	W									dull foggy day	18									
19	29.700	62	29.650	62	46			53	51	57	57	W	W					—	W	W									" "	19									
20	29.500	62	29.550	61	39			42	41	49	48	W	W					—	W	W									" "	20									
21	29.500	61	29.450	54	35			41	40	38	37	W	W					—	W	W									Cloudy cold day	21									
22	29.450	59	29.000	56	29			40	40	43	42	W	W					—	W	W									" "	22									
23	29.550	60	29.600	56	31			47	44	40	39	W	W					—	W	W									Bleak cold day	23									
24	29.300	60	29.050	57	37			45	45	49	48	W	W					0.58	W	W									hang day	24									
25	29.050	60	29.300	59	38.7			47	46	49	48	W	W					0.03	W	W									fine am cold rain from	25									
26	28.800	59	28.650	57	43			46	46	48	48	W	W					0.70	W	W									hang heavy all day	26									
27	28.700	59	28.850	60	37			48	48	48	48	W	W					0.42	W	W									" "	27									
28	29.150	59	29.000	57	46			48	48	46	46	W	W					0.03	W	W									showery & cold	28									
29	29.050	59	29.250	58	45			49	48	47	44	W	W					0.04 0.01	W	W									hang day	29									
30	29.450	55	29.400	55	37			42	42	45	45	W	W					0.02 0.02	W	W									heavy showers	30									
31																		0.0													31								
Sums.		156	25	127	168	105		217	189	215	181							2.95																					
Means.		29.388	59.3	29.406	59.2	40.2		47.2	46.3	47.2	46.0																												
† Total Corrections for Instrumental Errors.		-0.17		-0.17																																			
† Corrections for Diurnal Range.																																							
"Corrected Means."																																							
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.									
																														TABLE FOR ESTIMATING FORCE OF WIND.									

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† for Temp. (Col. 2), = 29.290  
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† for Temp. (Col. 4), = 29.308  
Mean at Station, corrected, and at 32°, = 29.299  
Correction for height, feet above Mean Sea-level, = 491  
Mean, reduced to 32°, and Sea-level, = 29.790  
Highest Reading, corrected for Index error, on the 13 th, = 29.900  
Lowest Do. Do., on the 2 th, = 28.600  
Difference, or Monthly Range, = 1.300

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = \_\_\_\_\_  
Lowest in Month, corrected for Index errors, on the 12 th, = 27.0  
Difference, or Monthly Range, = \_\_\_\_\_  
"Corrected Mean" of all the Highest, (Col. 5), = \_\_\_\_\_  
"Corrected Mean" of all the Lowest, (Col. 6), = 40.2  
Difference, or Mean Daily Range, = \_\_\_\_\_  
\*\* Calculated Mean Temperature of Month, = \_\_\_\_\_  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, = \_\_\_\_\_  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = \_\_\_\_\_  
Lowest at Night, Black Bulb, (corrected for Index errors), on the th, = \_\_\_\_\_  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = \_\_\_\_\_  
Difference of above Means or Range ("exposed"), = \_\_\_\_\_

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 47.2  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 46.1  
†† Computed Temperature of Dew-Point, = 44.9  
†† Do. Elastic Force of Vapour, = 2.98  
†† Do. Weight of Vapour in a Cubic Foot of Air, = \_\_\_\_\_  
†† Relative Humidity, (Saturation = 100), = 9  
RAIN fell on 14 Days; Amount in Inches, = 2.95

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.	1	7	3	1			10	8			
P.M.	2	7	3			2	7	9			
Mean.	2	7	3	0	1	9	8				

\* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.," and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.  
† Embracing corrections for both capillarity and Index Errors.  
†† The Diurnal Range for Scotland is as yet unknown.  
††† These "Hygrometrical Deductions" are calculated from Glaisher's Hygrometrical 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 \_\_\_\_\_

(Signed) George H. Smyth







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at The Gardens above Castle, County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 31 miles.

Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.

During the MONTH of October 1883

The Hours of Observation are of Greenwich Time.

[illegible]

<b>BAROMETER,</b> "corrected Mean" at 9 A.M., <i>minus</i> the Correction $\uparrow \uparrow$	=	29.293
for Temp. (Col. 2), = 24.362 ..... - .69 .....		
Corrected Mean" of Barometer at 9 P.M., <i>minus</i> the Correction $\uparrow \uparrow$	=	29.270
for Temp. (Col. 4), = 24.339 ..... - .69 .....		
<b>Mean at Station, corrected, and at 32°</b> , .....	=	29.282
Correction for height, feet above Mean Sea-level, .....	=	498
<b>Mean, reduced to 32°, and Sea-level</b> , .....	=	29.780
Highest Reading, corrected for Index error, on the 30 th, .....	=	29.925
Lowest Do. Do., on the 16 th, .....	=	28.550
Difference, or <b>Monthly Range</b> , .....	=	1.425

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

**Lowest in Month**, corrected for Index errors, on the 22th, ..... = 23.0

Difference, or **Monthly Range,** .....

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

"Corrected Mean" of all the Lowest, (Col. 6), ..... = 21.1

Difference, or **Mean Daily Range.** .....

\* Calculated Mean Temperature of Month

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

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

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

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

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

HYGROMETER. Mean (corrected) A.M. and P.M. Reading of Dry

**Bulb**, (Cols. 9 and 11), ..... = 42.9

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 11)

10 and 12), ..... = 41.6

‡‡ Computed Temperature of Dew-Point, ..... = 40.1

‡‡ Do. Elastic Force of Vapour, ..... = ..... 2

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

## Relative Humidity, (Saturation = 100), ..... = 90

RAIN fell on 19 Days; Amount in Inches, ..... = 2.1

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day
A.M.		1	3	2		1	14	10			
P.M.	2	1	1	1		3	16	7			
Mean.	1	1	2	1	0	2	13	9	0	—	

Observations made and  
Return verified by

(Signed)







## SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Gardens Oblique Castle, County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 31 miles.Height of Cistern of the Barometer above Mean Sea-level 453.5 feet, above Ground 4 feet.During the MONTH of November 1885.

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.	Attached Ther- mometer	Barometer.	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.	Readings of the H. Cup Anemometer. No. —	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. 8 inches.	No. 12 inches.					No. 22 inches.		
		* No.		No.		No.	No.	No.	No.									9 h. A.M.		No.													
		inches.	°	inches.	°	°	°	°	°	°	°	°	°																				
	1	29.800	53	29.750	54	33				42	40	49	47	SW		SW		0.00		st		st						fine day	1				
	2	29.700	54	29.500	54	31				43	43	44	44	SW		SW		0.01		ni		ni						slight rain	2				
	3	29.500	55	29.350	55	36				45	44	45	43	W		W		—		cu		st						fine day	3				
	4	28.700	55	28.650	54	31				46	44	42	39	W		W		—		cu		cu								4			
	5	28.700	50	28.650	37	27				38	37	38	37	NW		NW		—		cu		cu								rough cold day	5		
	6	28.750	57	28.250	57	31				40	39	33	32	NW		NW		—		cu		cu									6		
	7	28.900	50	29.000	52	28				34	33	30	29	NW		NW		—		cu		cu									7		
	8	29.050	48	29.000	48	25				29	27	27	26	NW		NW		—		cu		cu									fine day	8	
	9	29.700	57	29.850	49	20				28	28	42	40	NW		NW		—		cu		W										9	
	10	28.900	49	29.100	47	28				34	32	33	31	NW		NW		—		cu		cu										10	
	11	29.300	43	29.300	45	27				35	33	36	34	NW		NW		0.03		ni		ni									heavy shs of sleet & cold	11	
	12	29.200	46	29.500	47	27				31	31	33	33	W		W		0.01		st		cu									clear bright day	12	
	13	29.700	45	29.800	47	27				33	33	33	32	W		W		0.02		ni		ni									some shs of sleet & rain	13	
	14	29.700	46	29.750	46	26				34	33	32	33	W		W		0.02		ni		ni									overcast some shs rain	14	
	15	29.550	48	29.300	45	33				35	33	37	35	W		W		0.01		ni		ni										15	
	16	29.200	48	29.200	44	24				34	33	28	28	W		W		—		cu		cu										16	
	17	29.000	47	29.200	45	25				33	33	34	33	W		W		—		ni		ni										17	
	18	29.100	48	29.050	45	25				34	33	32	33	W		W		0.02		cu		ni										some shs hail	18
	19	29.600	45	28.950	43	32				33	32	35	33	NW		NW		0.05		cu		cu										cold heavy shs of snow	19
	20	28.850	44	29.100	45	31				33	32	35	33	NW		NW		—		cu		cu										cold & windy	20
	21	28.800	44	28.950	46	32				33	32	38	32	NW		NW		0.06		ni		cu										rainy am fine pm	21
	22	28.875	45	28.850	44	32				32	32	36	34	NW		NW		—		cu		cu										cold windy day	22
	23	29.000	45	29.000	46	32				35	34	38	36	NW		NW		0.47		cu		cu											23
	24	28.650	46	28.650	45	34				42	40	36	35	NW		NW		0.23		ni		ni										shs rain am fine pm	24
	25	28.100	45	28.200	45	35				40	38	37	38	NW		NW		—		ni		ni										cold rainy day	25
	26	28.350	46	28.400	46	36				41	36	37	35	NW		NW		—		ni		ni										fine day	26
	27	29.000	45	29.350	48	32				30	30	44	38	NW		W		—		cu		cu											27
	28	29.400	46	29.500	48	33				38	35	42	44	NW		NW		—		cu		ni										fine day some shs	28
	29	29.450	50	29.500	53	45				46	45	45	44	NW		SW		0.03		ni		ni										fine day	29
	30	29.650	53	29.750	54	40				52	48	51	48	NW		SW		—		cu		ni											30
	31																	3															31
Sums.		144	147	147	142	18				10	11	11	13					0.96															NOTATION USED IN GENERAL REMARKS.
Means.		29.096	48.2	29.140	48.1	30.6				36.6	35.4	37.4	36.0																				a. denotes aurora.
† Total Corrections for Instrumental Errors.		-0.17		-0.17																													m. denotes meteor.
† Corrections for Diurnal Range.																																	ci. cirrus.
"Corrected Means."																																	ci.-cu. cirro-cumulus.
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		ci.-s. cirro-stratus.
																																	cu. cumulus.
																																	cu.-s. cumulo-stratus.
																																	di. dew.
																																	f. fog.
																																	fr. frost.
																																	h.-fr. hoar-frost.
																																	h. haze.
																																	h. d. heavy dew.
																																	h. hail.
																																	li. lightning.

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.028  
for Temp. (Col. 2), = 29.079 ..... - 51.  
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.072  
for Temp. (Col. 4), = 29.123 ..... - 51.  
Mean at Station, corrected, and at 32°, ..... = 29.050  
Correction for height, feet above Mean Sea-level, ..... = 498  
Mean, reduced to 32°, and Sea-level, ..... = 29.548  
Highest Reading, corrected for Index error, on the 1 th, ..... = 29.800  
Lowest Do. Do. on the 25 th, ..... = 28.100  
Difference, or Monthly Range, ..... = 1.700

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, ..... =  
Lowest in Month, corrected for Index errors, on the 9 th, ..... = 20.0  
Difference, or Monthly Range, ..... =  
"Corrected Mean" of all the Highest, (Col. 5), ..... =  
"Corrected Mean" of all the Lowest, (Col. 6), ..... = 30.6  
Difference, or Mean Daily Range, ..... =  
\*\* Calculated Mean Temperature of Month, ..... =  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, ..... =  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, ..... =  
Lowest at Night, Black Bulb, (corrected for Index errors), on the th, ..... =  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, ..... =  
Difference of above Means or Range ("exposed"), ..... =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), ..... = 37.0  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), ..... = 35.7  
†† Computed Temperature of Dew-Point, ..... = 33.9  
†† Do. Elastic Force of Vapour, ..... = 1.84  
†† Do. Weight of Vapour in a Cubic Foot of Air, ... =  
†† Relative Humidity, (Saturation = 100), ..... = 89  
RAIN fell on 13 Days; Amount in Inches, ..... = 0.96

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	9	19				
P.M.						4	10	16				
Mean.	0	0	0	0	0	3	10	13	0			

Observations made and  
Return verified byGeorge A. Smyth

(Signed)







# SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Abegwe Carthe County of Aberdeen, in Lat. \_\_\_\_\_, Long. \_\_\_\_\_, Distance from Sea 57 miles.  
Height of Cistern of the Barometer above Mean Sea-level 453.8 feet, above Ground 14 feet.  
During the MONTH of December 1883.  
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, & at above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer. No. —		No. of hours in which it fell.	Amount in inches.	9 A.M.		P.M.					9 h. A.M.			Temperature of WELL at depth of feet. No.	Temperature at 1 fathom and Density.	0—10.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
		Barometer. * No. —	Attach- ed Ther- mometer	Barometer. No. —	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun's rays	Min. on Grass.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direc- tion.	Force	Direc- tion.	Force	No. —	Velocity (0—10), and Direc- tion.			Amount (0—10), and Species.	Velocity (0—10), and Direc- tion.	Amount (0—10), and Species.					No. —	No. —	No. —																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
																																			9 h. A.M.			9 h. P.M.			9 h. A.M.			9 h. P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
																																			inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† for Temp. (Col. 2), = 29.506 - 39 = 29.467  
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† for Temp. (Col. 4), = 29.485 - 43 = 29.442  
Mean at Station, corrected, and at 32°, = 29.455  
Correction for height, feet above Mean Sea-level, = 507  
Mean, reduced to 32°, and Sea-level, = 29.962  
Highest Reading, corrected for Index error, on the 30 th, = 30.150  
Lowest Do. Do., on the 11 th, = 28.450  
Difference, or Monthly Range, = 1.700

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 16.0  
Lowest in Month, corrected for Index errors, on the 8 th, = 16.0  
Difference, or Monthly Range, = 16.0  
"Corrected Mean" of all the Highest, (Col. 5), = 28.8  
"Corrected Mean" of all the Lowest, (Col. 6), = 28.8  
Difference, or Mean Daily Range, = 28.8  
\* Calculated Mean Temperature of Month, = 28.8  
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, = 28.8  
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 28.8  
Lowest at Night, Black Bulb, (corrected for Index errors), on the th, = 28.8  
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 28.8  
Difference of above Means or Range ("exposed"), = 28.8

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 3.69  
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 3.53  
†† Computed Temperature of Dew-Point, = 33.9  
†† Do. Elastic Force of Vapour, = 1.90  
†† Do. Weight of Vapour in a Cubic Foot of Air, = 87  
†† Relative Humidity, (Saturation = 100), = 87  
RAIN fell on Days; Amount in Inches, = 2.14

WIND.		SUMMARY.			
Direction.	N NE E SE S SW W NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.	
A.M.					
P.M.					
Mean.					

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

(Signed) George D. Sutherland



Have the goodness also to state any information you may be able to collect relative to the crops of grain, blight, disease, etc. Whether turnips, rutab, or in perfection; and the agricultural condition of the district generally.