

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Oswald Road, Edinburgh County of Midlothian, in Lat. _____, Long. _____, Distance from Sea _____ miles.

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

During the MONTH of January 1887

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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.		No. of hours in which it fell.	Amount in inches.	9 h. A.M.		9 h. P.M.		Readings of the H. Cap Anemometer. No. ——— 9 h. A.M.	9 A.M.		P.M.		Sunshine. Hours.	9 h. A.M.						Temperature at 1 foot and Depth of Wind, No.	Temperature at 1 foot 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 Sunrays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.			Direction.	Force.	Direction.	Force.		Velocity (0-10), and Species.	Amount (0-10), and Species.	Velocity (0-10), and Species.	Amount (0-10), and Species.		No. 8 inches.	No. 12 inches.							No. 22 inches.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.633
for Temp. (Col. 2), = 29.687 ... = 0.054
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.629
for Temp. (Col. 4), = 29.688 ... = 0.059
Mean at Station, corrected, and at 32° = 29.631 = 29.629
Correction for height, 3 feet above Mean Sea-level, ... = 0.178
Mean, reduced to 32°, and Sea-level, ... = 29.809 = 29.826
Highest Reading, corrected for Index error, on the 6 th, ... = 30.300
Lowest Do. Do., on the 5 th, ... = 28.706
Difference, or Monthly Range, ... = 1.594

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, ... = 53.8
Lowest in Month, corrected for Index errors, on the th, ... = 21.8
Difference, or Monthly Range, ... = 32.0
"Corrected Mean" of all the Highest, (Col. 5), ... = 44.0
"Corrected Mean" of all the Lowest, (Col. 6), ... = 34.3
Difference, or Mean Daily Range, ... = 9.7
** Calculated Mean Temperature of Month, ... = 39.2
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), ... =
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), ... =
†† Computed Temperature of Dew-Point, ... =
† Do. Elastic Force of Vapour, ... =
† Do. Weight of Vapour in a Cubic Foot of Air, ... =
† Relative Humidity, (Saturation = 100), ... =
RAIN fell on Days; Amount in Inches, ... = 0.24

WIND.	SUMMARY.										Mean Force.	Mean Velocity in miles per day.
	Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.		
A.M.		1	1				6	12	10	1		
P.M.			3	2			8	12		6		
Mean.		0	2	1	0	3	10	11	1	3		

Observations made and
Returned by

(Signed)

Robert Grant

H.A.
H.A.

Greatest daily range = 17.9 on the 15th

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Howards Road, Edinburgh, County of Midlothian, in Lat. _____, Long. _____, Distance from Sea _____ miles.
 Height of Cistern of the Barometer above Mean Sea-level _____ feet, above Ground _____ feet. During the MONTH of February 1887.
 The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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.		No. of hours in which it fell.	Amount in inches.	9 h. A.M.		9 h. P.M.		Readings of the H.Cup Anemometer No. —	9 A.M.		P.M.		SUNSHINE. Hours.	9 h. A.M.								
		Barometer.	Attach- ed Ther- mometer	Barometer.	Attach- ed Ther- mometer	Max.	Min.	Max. in Sun's rays	Min. on Grass.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.			Direction.	Force.	Direction.	Force.		Velocity (0—10), and Direction.	Amount (0—10), and Species.	Velocity (0—10), and Direction.	Amount (0—10), and Species.		No. 3 inches.					No. 12 inches.	No. 25 inches.		
		* No. —	No. —	No. —	No. —	No. —	No. —	No. —	No. —	No. —	No. —	No. —	No. —			No. —	No. —	No. —	No. —		No. —	No. —	No. —	No. —		No. —					No. —	No. —	No. —	No. —
		inches.	°	inches.	°	°	°	°	°	°	°	°	°			°	°	°	°		°	°	°	°		°					°	°	°	°
	1	29.514	51	29.740	51	40.8	25.5			35.8	34.5	35	35.7			W.				W.	0	W.	0	37.3	41	45.5								
	2	563	49	234	50	40.6	33.3			35.8	36	35.5	34.5			S.	W.			S.	0	W.	0	35	39.3	41				2				
	3	164	51	337	52	40.8	34.5			45.5	36	45.5	35.5			S.W.				S.W.	0			40	38.9	40.2				3				
	4	850	51	870	54	40.8	30.7			44	41.5	43.5	32.8			0				W.	0	W.	0	39	40.2	40.5				4				
	5	914	54	30.210	53	53.1	41.8			42.5	41.5	42.2	39.3	91		S.W.				S.W.	0			42.5	41.3	40.2				5				
	6	30529	49	5.275	51	44	28.5			43	42.5	34.2	32.7			S.W.				S.W.	0	0		38.5	39	41				6				
	7	506	48	625	49	40.2	27.5			33.8	32	35.3	33			W.	S.			W.	—	S.	0	34	38	40				7				
	8	572	47	567	47	38.3	25.5			26.5	26.6	30.2	30			0	S.			0	0	—	0	33	36.5	39.2				8				
	9	550	45	482	46	34.5	20			23.5	23	26.8	26			W.	—			W.	0	—	0	32.4	36	38.2				9				
	10	448	46	435	47	34.5	23.3			34.5	33	30.2	30			S.W.	W.			W.	0	—	0	32	36.2	38				10				
	11	455	46	483	47	42.8	25.8			32	32	36.5	35.7			E.	—			E.	0	—	0	32	35	38				11				
	12	544	47	569	48	37.8	31.5			34.9	33.3	36.5	35.4	0		E.	0			W.	0	—	0	32.5	35	37				12				
	13	578	48	425	48	40.8	32.5			38.5	38.5	35.7	35.5			E.	0			E.	0	—	0	32.2	35	37.3				13				
	14	222	47	210	49	43.0	33.3			37.6	35.5	35.5	35.5			W.	—			W.	0	—	—	32.8	35	37.2				14				
	15	315	48	337	48	39	30.7			33.5	32.9	35.2	33			S.W.	—			S.W.	0	—	0	33	35.2	37				15				
	16	234	48	239	48	35.5	34.2			36.6	34.5	35.5	34.7			S.W.	0			S.W.	0	—	—	33	35.4	37.2				16				
	17	170	48	29.880	51	41.2	34.1			39.8	39.8	47	45.1			S.W.	W.			S.W.	0	S.W.	—	36	36.3	37.5				17				
	18	29.722	51	30.033	51	48.1	33.3			48.7	44.8	35	34.2			W.	0			W.	0	W.	—	40.2	37.5	38				18				
	19	30.116	51	0.38	53	47.8	33.3			38.7	36.6	40.4	40.1	112		S.W.	S.W.			S.W.	0			38.2	38.5	39				19				
	20	29.785	51	29.738	54	48.4	35.5			48.5	46	37	36.5			S.W.	—			S.W.	0			39.3	39	39				20				
	21	797	51	800	53	45.2	36.5			38.6	35.4	42.5	40			S.W.	W.			S.W.	0	S.W.		37	39.2	39.3				21				
	22	620	53	468	55	46.2	39			46.3	44.5	35.5	37			S.W.	S.W.			S.W.	0	S.		40.3	39.8	39.7				22				
	23	458	55	500	56	52.3	45.7			51.4	50.2	47.8	46.5			S.W.	—			W.	0	W.		44	41.0	40.5				23				
	24	444	57	400	58	52.2	45			51.5	47.8	47.2	46.1			S.W.	S.W.			S.W.	0	S.W.		44	42.5	41				24				
	25	680	55	30.143	54	52.8	40			41	39	39	35.8			W.	W.			W.	0	W.	0	43.5	43	43.8				25				
	26	30.170	54	144	54	46.3	32			41.8	36.6	30.2	37.6	121		S.	W.			S.	0	W.	0	37	41	42				26				
	27	289	54	290	54	53	31.5			47.8	41	38.3	39.5			S.W.	—			S.W.	0	W.	0	38	41.5	41				27				
	28	260	53	207	53	57.5	34.5			39.5	36.1	36.5	33			W.	W.			W.	0	W.	0	37	40.3	41				28				
	29																														29			
	30																														30			
	31																														31			

Sums.		13.13.11	13	14.11.11	13	15.11	12.10	15.14	13.10	15.1	13.8	15.14	13.10	15.1	13.8	15.14	13.10	15.1	13.8	15.14	13.10	15.1	13.8	15.14	13.10	15.1	13.8	15.14	13.10	15.1	13.8
Means.		29.744	28.8	29.8	31	3	4	15.7	106.8	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5
Total Corrections for Instrumental Errors.																															
Corrected Means.		29.744	28.8	29.8	31	3	4	15.7	106.8	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5	27.6	11.5
No. of Column.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction for Temp. (Col. 2), = 29.994
 Corrected Mean of Barometer at 9 P.M., minus the Correction for Temp. (Col. 4), = 29.904
 Mean at Station, corrected, and at 32°, = 29.999
 Correction for height, feet above Mean Sea-level, = .178
 Mean, reduced to 32°, and Sea-level, = 30.177
 Highest Reading, corrected for Index error, on the 8 th, = 30.578
 Lowest Do. Do., on the 3 th, = 29.164
 Difference, or Monthly Range, = 1.414

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 57.5
 Lowest in Month, corrected for Index errors, on the th, = 20.0
 Difference, or Monthly Range, = 37.5
 "Corrected Mean" of all the Highest, (Col. 5), = 45.6
 "Corrected Mean" of all the Lowest, (Col. 6), = 33.8
 Difference, or Mean Daily Range, = 11.8
 ** Calculated Mean Temperature of Month, = 39.7
 S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =
 "Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, =
 Lowest at Night, Black Bulb, (corrected for Index errors), on the 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), = 39.1
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 37.2
 # Computed Temperature of Dew-Point, = 34.7
 # Do. Elastic Force of Vapour, = .202
 # Do. Weight of Vapour in a Cubic Foot of Air, = 2.33
 # Relative Humidity, (Saturation = 100), = 85
 RAIN fell on Days; Amount in Inches, = 1.29

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Mean Force.	Mean Velocity in miles per day.
A.M.											
P.M.											
Mean.		0	2	2	1	2	12	5	2	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.
 § 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 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) Robert Crossair H.R.
H.R.

Greatest daily range = 23.0 on the 28th

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Oswald Road, Edinburgh*, County of *Midlothian*, in Lat. _____, Long. _____, Distance from Sea _____ miles.
Height of Cistern of the Barometer above Mean Sea-level _____ feet, above Ground _____ feet. During the MONTH of *March* 188*7*.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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.		No. of hours in which it fell.	Amount in inches.	9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer.	9 A.M.		P.M.		9 h. A.M.							
		Barometer. * No.	Attached Thermometer	Barometer. No.	Attached Thermometer	Max. No.	Min. No.	Max. in Sun's rays.	Min. on Grass.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.			Direction.	Force.	Direction.	Force.		Velocity (0-10), and Direction.	Amount (0-10), and Species.	Velocity (0-10), and Direction.	Amount (0-10), and Species.	No. 3 inches.	No. 12 inches.	No. 22 inches.					
																																inches.
1		30.282	54	30.365	56	54	38.5			41.5	44.5	46.5	46	0	N.	N.					N.	Ca.	W	0	40.2	43	41				1	
2		30.276	56	30.360	56	49	44.5			47.5	47.2	46.5	45.9	0	N.	N.					N.	Ca. S	W.	0	41.4	42.4	41				2	
3		30.258	55	30.235	55	57	45.3			46.5	45.6	44.4	41.1	0	W.	N.					N.	Ca.	W	0	44.6	43.5	42				3	
4		30.305	54	29.735	54	48.4	40.5			42.3	40.5	35.5	35	0	S.	N.					NS	Ca.	N	0	40.5	43	42.5				4	
5		200	53	104	54	49.5	28.3			32.6	30.5	34.5	34	0	W.	W					0	0	W	0	36.4	41.5	42.2				5	
6		100	52	188	52	49.5	34.4			35.5	35	34	36.7	0	N.	N.					0	0	0	0	38.2	40.3	41.5				6	
7		250	51	214	52	38.4	34.2			38	34	36.3	36	0.2	E.	-					E.	Ca.	-	-	39	40.5	41				7	
8		138	50	29	95	51	48.9	30.5		36.5	36	38.2	34.5	0	SE.	-					SE.	0	-	-	34.8	40.5	41.5				8	
9		29	89	51	30	01	51	39.8	35.4	38.5	36.5	31.5	30.9	0	N.W.	-					-	Ca.	-	-	38.2	40	41				9	
10		30	03	50	29	90	49	40.8	32.	36.9	32.5	32.9	31.2	0	SE.	-					-	Ca.	-	-	37.4	40	41				10	
11		29	82	48	85	48	36.6	30		31.8	30.4	30.5	29.5	0	SE.	-					-	-	-	Ca.	36	39	40.2				11	
12		98	46	30	08	45	31.2	26		30.5	30.1	26.3	25.2	0	SE.	-					SE.	Ca.	-	-	32.8	34.5	40				12	
13		30	06	42	29	98	43	37.6	20.5	28.5	24.8	31	30	0	N.W.	N.					N.W.	0	W.	0	33.2	36.8	39.5				13	
14		29	75	44	74	44	36.5	28.		32.8	32	30.3	29	0	N.W.	N.					N.W.	Ca.	0	0	33	36	38.8				14	
15		74	44	78	46	37	25			29.7	29.5	34.8	32	0	N.W.	N.W.					-	Ca.	0	-	32	35.6	38				15	
16		93	44	30	00	45	32.3	29.		31.4	31	27.3	24	0	N.W.	-					N.W.	0	-	-	33	35.4	38				16	
17		30	04	44	04	47	40.5	23.		32.5	32.5	35.2	34.8	0	N.W.	N.					N.W.	Ca.	-	0	33	35.2	38				17	
18		07	43	12	45	44	32.1			34	33.9	34.5	36	0	N.	0					N.	Ca.	0	0	34	35.5	38.1				18	
19		16	44	15	51	44	29.5			34.5	33.5	33	32.5	0	N.W.	0					N.W.	0	0	0	34.8	34.5	38.2				19	
20		06	48	29	32	50	47.8	31.4		33.5	33.4	33.1	30.4	0	S.W.	0					S.W.	0	0	0	36.5	37.8	38.7				20	
21		29	70	48	44	51	41.1	28.5		32.5	32.1	32	31.6	0	S.	0					S.	Ca.	0	0	34.8	37.9	38.8				21	
22		13	48	10	48	40	6	27.7		23.9	32.4	40	34.5	0	S.W.	-					S.W.	Ca.	0	0	34.5	37.6	38.8				22	
23		28	93	47	01	48	40.8	35.5		24.8	37	40.8	40	0	S.	0					S.	Ca.	0	0	36.3	37.2	38.8				23	
24		29	08	48	08	49	46.4	34.8		41	37.9	39.1	38.2	0	N.	1-					-	0	0	37	38.5	39				24		
25		23	50	66	51	45	36			40	39.5	40	38.5	0	N.	N.W.					N	Ca.	0	0	38.2	39.3	39.4				25	
26		84	35	69	52	48	35.5			42.5	40	42	40	0	N	N.W.					0	0	0	0	38	40	39				26	
27		50	53	66	53	49	42			44.5	43	48	48	0	S.W.	N.W.					0	Ca.	0	0	43	41.5	40				27	
28		88	52	30	11	53	49.5	39.5		45	13.5	46.5	45.9	0	N.W.	1-					-	Ca.	0	0	40	41.8	41				28	
29		30	17	54	19	56	55	38.9		46.8	44	46	43.	0	N.W.	-					N.W.	Ca. S	0	0	41.5	42.4	41.4				29	
30		22	55	10	57	52	38.5			45	43.2	46	44.3	0	N.W.	0					-	0	0	0	42.5	43.2	42				30	
31		29	98	56	29	66	54	55		42.5	40.5	38	35.5	0	N.W.	-					-	Ca. N.	0	0	44	44	42.3				31	
Sums.		13 15 12 12	28.320	294	28.157	18	149	1088		243	20	45	257	1856	145										23.5	24.7	24					
Means.			29.914	44.5	29.908	50.6	44.8	33.5		37.8	36.6	37.3	36.0											37.6	39.5	40.1						
† Total Corrections for Instrumental Errors.																																
† 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†† = 29.857
for Temp. (Col. 2), = 29.914 - 0.57
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.849
for Temp. (Col. 4), = 29.908 - 0.59
Mean at Station, corrected, and at 32°, = 29.853
Correction for height, feet above Mean Sea-level, = 1.78
Mean, reduced to 32°, and Sea-level, = 30.031
Highest Reading, corrected for Index error, on the 2 th, = 30.376
Lowest Do. Do., on the 23 th, = 28.930
Difference, or Monthly Range, = 1.446

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 1 th, = 57.0
Lowest in Month, corrected for Index errors, on the 13 th, = 20.5
Difference, or Monthly Range, = 36.5
"Corrected Mean" of all the Highest, (Col. 5), = 44.8
"Corrected Mean" of all the Lowest, (Col. 6), = 33.5
Difference, or Mean Daily Range, = 11.3
** Calculated Mean Temperature of Month, = 39.2
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), = 37.6
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 36.3
† Computed Temperature of Dew-Point, = 34.5
† Do. Elastic Force of Vapour, = 2.00
† Do. Weight of Vapour in a Cubic Foot of Air, = 2.33
† Relative Humidity, (Saturation = 100), = 89
RAIN fell on 3 Days; Amount in Inches, = 1.45

WIND.	SUMMARY.									
	Direction.	N	NE	E	SE	S	SW	W	NW	Mean Force.
A.M.	2	1	1	2	3	3	8	11		
P.M.			1		3		12	5		
Mean.	1	0	1	1	3	2	10	8	5	

Observations made and
Returned by

(Signed)

Greatest Daily Range = 21.2 on the 5th

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Oswald Road Cairn*, County of *Midlothian*, in Lat. _____, Long. _____, Distance from Sea _____ miles.

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

During the MONTH of *April* 188*7*.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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, & 1 foot above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.		Amount in inches.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer.		9 A.M.		P.M.						9 h. A.M.			
		Barometer. * No.	Atmos- phere.	Barometer. No.	Atmos- phere.	Max. No.	Min. No.	Max. in Sun's rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	No.	Amount in inches.	Direction.	Force.	Direction.	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.						No.	No.		
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°						°	°	°	°
	1	29.875	53	29.796	54	52	36.5			40.2	36	41.2	38.2	0.6	1.6	0.5	1.6									39.6	42.5	42.5			1				
	2	28.8	54	28.7	57	48.8	38.1			45.5	42.4	42.5	41	0	1.6	0	0.6									40.5	42.5	42.6			2				
	3	28.6	56	28.5	56	54.5	40.8			48.5	45.4	39.7	38.2	0	1.6	0.5	1.6									42.5	44.5	42.6			3				
	4	38.4	55	38.3	56	49.8	38.8			45.6	43.2	35.5	32.5	0	1.6	0.3	1.6									44.8	44	41.3			4				
463	5	29.463	53	29.824	53	48.4	29.			38.5	35	37.2	34	0	1.6	0	1.6									38.8	42	41.3			5				
	6	30.073	52	30.128	51	4.3	33			36	33	35.8	32.2	1.2	1.6	0	1.6									34.	41	41.2			6				
	7	14.7	50	213	51	40.5	34.8			36.7	34	37.5	36	0	1.6	0	1.6									38.2	41.3	41.2			7				
	8	210	52	166	54	42.5	35			39.8	37.2	35.8	35	0	1.6	0	1.6									40	41	41.5			8				
	9	214	53	200	56	52.5	33			42.5	40.5	35.5	33	0	1.6	0	1.6									42.1	42.5	42			9				
	10	196	53	135	53	44	29			41.3	39.5	41	39.5	0	1.6	0	1.6									42.5	43	40.5			10				
	11	121	53	036	55	30.4	30.6			38.5	39.2	40.5	40	0	1.6	0	1.6									43	44	43			11				
	12	060	53	096	53	34.6	31.5			39.5	39.5	38.5	33.5	0	1.6	0	1.6									35.5	35	33.5			12				
	13	167	53	218	52	48.8	34.8	32.8		38.8	35.5	37	32	0	1.6	0	1.6									42.5	44	42.5			13				
	14	291	51	248	51	42.6	33.5			36.5	32.5	37	34	0	1.6	0	1.6									40	43	43.4			14				
	15	244	50	330	52	44.2	31			41.2	38.5	42	39.8	0	1.6	0	1.6									39.5	42.5	41.3			15				
	16	448	51	462	52	49	30			45.9	40.6	43.7	41.8	0	1.6	0	1.6									40.5	42.6	43.2			16				
	17	465	52	378	53	51.9	31.3			48.5	42.3	45	42.1	0	1.6	0	1.6									41.8	44	43.2			17				
	18	302	54	175	56	59	42.3			47.1	44	46.5	44.8	0	1.6	0	1.6									44.8	45	43.5			18				
	19	30.100	56	29.970	58	66	44.8			48	44	46.5	45.3	0	1.6	0	1.6									45.5	45.5	44.5			19				
	20	29.823	57	874	57	54	46			47.6	46.5	47.2	45.8	0	1.6	0	1.6									44.2	46	44.5			20				
	21	688	54	360	56	52	34.3			41.2	41	48	45.5	0	1.6	0	1.6									43	45	44.5			21				
	22	210	57	29.125	57	51.9	40			49.4	46.5	43.5	42.5	0.3	1.6	0	1.6									46.5	46	45			22				
	23	011	56	28.998	57	55	39.9			43	41.8	43.1	41	1.4	1.6	0	1.6									46	47	45			23				
	24	032	55	29.268	54	52.6	40			46	41.6	44	46	0.5	1.6	0	1.6									46.5	47	45.5			24				
	25	374	53	536	53	50.9	34			41.2	34.5	36.6	34	0	1.6	0	1.6									43	46	45.5			25				
	26	422	52	548	53	44.2	31.3			40.5	39.1	36	34.2	0	1.6	0	1.6									42	44.5	45			26				
	27	538	51	524	51	47.5	30			39.8	36.5	36.5	35	0.1	1.6	0	1.6									40.2	44	44.5			27				
	28	670	51	783	51	44.4	30			41.5	42	39.8	38	0	1.6	0	1.6									42.8	43.6	44.1			28				
	29	29.830	51	950	51	49	30.5			40.8	40.4	41.5	40.4	0.4	1.6	0	1.6									42	44.5	44.2			29				
	30	30.025	52	997	52	46.8	30.4			42.1	39	40	38.2	0	1.6	0	1.6									45	45.5	44.5			30				
	31																															31			
Sums.		26.037	93	26.316	115	24.1	16.25			67.494	5	174.605	0.98														64.0	108.8	9.25						
Means.		29.868	53.1	29.877	53.6	49.8	35.4			42.2	39.8	40.6	38.7														42.1	43.6	43.1						
† Total Corrections for Instrumental Errors.																																			
† 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.		
ci-s.	" cirro-stratus.	r.	" rain.		
cu.	" cumulus.	li r.	" heavy rain.		
cu-s.	" cumulo-stratus.	c. h. r.	" continued heavy rain.		
d.	" dew.	s.	" stratus.		
f.	" fog.	sc.	" squall.		
fr.	" frost.	s.	" sleet.		
h. fr.	" hoar-frost.	sn.	" snow.		
h.	" haze.	so. h.	" solar halo.		
h. d.	" heavy dew.	sq.	" squall.		
hl.	" 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. ha.	" lunar halo.				

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

NOTATION USED IN GENERAL REMARKS.

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

TABLE FOR ESTIMATING FORCE OF WIND.

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

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† for Temp. (Col. 2), = 29.802
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† for Temp. (Col. 4), = 29.810
Mean at Station, corrected, and at 32°, = 29.806
Correction for height, 162 feet above Mean Sea-level, = 1.78
Mean, reduced to 32°, and Sea-level, = 29.984
Highest Reading, corrected for Index error, on the 17th, = 30.465
Lowest Do. Do., on the 23rd, = 28.998
Difference, or Monthly Range, = 1.467

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 18th, = 59.0
Lowest in Month, corrected for Index errors, on the 5th, = 29.0
Difference, or Monthly Range, = 30.0
"Corrected Mean" of all the Highest, (Col. 5), = 49.8
"Corrected Mean" of all the Lowest, (Col. 6), = 35.4
Difference, or Mean Daily Range, = 14.4
** Calculated Mean Temperature of Month, = 42.6

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the _____, = _____
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = _____
Lowest at Night, Black Bulb, (corrected for Index errors), on the _____, = _____
"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), = 41.4
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 39.2
†† Computed Temperature of Dew-Point, = 36.5
†† Do. Elastic Force of Vapour, = 216
†† Do. Weight of Vapour in a Cubic Foot of Air, = 250
†† Relative Humidity, (Saturation = 100), = 83
RAIN fell on 9 Days; Amount in Inches, = 0.98

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.		1	3	1	4	1	4	5	9	2	
P.M.											
Mean.		1	3	1	4	1	4	5	9	2	

Observations made and
Return verified by

(Signed)

Robert Grossart
Greatest Daily Range = 23.1 on the 12th

7.4
J. B.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Orwaed Road Edinburgh County of Midlothian, in Lat. _____, Long. _____, Distance from Sea _____ miles.
Height of Cistern of the Barometer above Mean Sea-level _____ feet, above Ground _____ feet.
During the MONTH of May 1887.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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 & just above Ground.		Exposed Black Bulbs. Grass.		Dry No. — Wet No. —		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.		Amount in inches.		9 h. A.M.		9 h. P.M.		Readings of the Cup Anemometer.		9 A.M.						P.M.		9 h. A.M.		Temperature of Wet Bulb of Fahrenheit Scale.		Temperature and Density.		0—10. 9 A.M. 9 P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		Barometer.	Atta- ched Ther- mometer	Barometer.	Atta- ched Ther- mometer	Max. No.	Min. No.	Max. in Sun-rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force	Direction.	Force	No. —	No. —	Direction.	Force	Velocity (0—10), and Direction.	Amount (0—10), and Species.	Velocity (0—10), and Direction.	Amount (0—10), and Species.	Hours.	No. —					No. —	No. —	Temperature of Wet Bulb of Fahrenheit Scale.	Temperature and Density.	0—10. 9 A.M. 9 P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		* No. —	inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°					°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.870
for Temp. (Col. 2), = 29.946 - .076
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.866
for Temp. (Col. 4), = 29.943 - .077
Mean at Station, corrected, and at 32° = 29.868
Correction for height, 162 feet above Mean Sea-level, = 178
Mean, reduced to 32°, and Sea-level, = 30.046
Highest Reading, corrected for Index error, on the 14th, = 30.363
Lowest Do. Do., on the 20th, = 29.150
Difference, or Monthly Range, = 1.213

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 15th, = 68.0
Lowest in Month, corrected for Index errors, on the 2nd, = 29.1
Difference, or Monthly Range, = 38.9
"Corrected Mean" of all the Highest, (Col. 5), = 57.1
"Corrected Mean" of all the Lowest, (Col. 6), = 41.1
Difference, or Mean Daily Range, = 16.0
** Calculated Mean Temperature of Month, = 49.1
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), = 48.2
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 45.4
Computed Temperature of Dew-Point, = 42.3
Do. Elastic Force of Vapour, = .270
Do. Weight of Vapour in a Cubic Foot of Air, = 3.10
Relative Humidity, (Saturation = 100), = 81
RAIN fell on 0 Days; Amount in Inches, = 2.03

WIND.		SUMMARY.										
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.	
A.M.	3	3	4	3	3	1	5	9				
P.M.	0	1	7	2	4	2	2	5	8			
Mean.	2	2	5	2	4	1	4	7	4			

* 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.
† "Preliminary," though not absolutely a minor correction.
† 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)

Greatest Daily Range = 25.4 on the 2nd

OBSERVATIONS,

Have the goodness also of sale and any information you may be able to collect relative to the crops of grain, hay, potatoes, turnips, fruits, etc., whether plentiful, or in perfection; and the Agricultural condition of the district generally.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Leith Road Edinburgh, County of Midlothian, in Lat. _____, Long. _____, Distance from Sea _____ miles.
Height of Cistern of the Barometer above Mean Sea-level _____ feet, above Ground _____ feet. During the MONTH of June 1887.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.								SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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.		No. of hours in which it fell.	Amount in inches.	9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer. No. ———		9 A.M.		P.M.		9 h. A.M.								
		Barometer.	Atta- ched Thermometer	Barometer.	Atta- ched Thermometer	Max. No.	Min. No.	Max. in Sun-rays	Min. on Grass.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.			Direction.	Force.	Direction.	Force.	Velocity (0—10), and Direction.	Amount, (0—10), and Species.	Velocity (0—10), and Direction.	Amount, (0—10), and Species.	No. 1. 3 inches.	No. 2. 12 inches.	No. 3. 22 inches.								
		* No.	inches.	°	inches.	°																												
	1	29.990	58	29.826	60	62.1	34			54.5	50	49	46	0	8.	15	8.	0			8.	0	8.	0	53.8	56.5	52.				1			
	2	827	58	818	57	64.5	34			44.5	46.1	43.8	42	0	8.	5	8.	5			8.	5	8.	5	56	56.3	53.				2			
	3	830	57	814	58	44.8	47.5			46.5	44.5	44.6	43.5	0	8.	10	8.	15			8.	15	8.	15	53.3	54.4	52.8				3			
	4	813	58	852	58	53.4	45.5			50.3	49.5	44.8	47.6	0	8.	5	8.	0			8.	5	8.	0	52.5	52.5	51.5				4			
	5	903	59	925	61	55.	44			56.	54.	54.5	53.	26	W.	5	W.	15			W.	15	W.	15	52.	53.2	54.				5			
	6	904	62	842	62	68	49.8			60	56.6	53.6	54.	0	W.	0	W.	5			W.	0	W.	5	58	53.5	52.5				6			
	7	618	63	628	63	63.4	56.2			59.5	56.3	63.5	62.5	0	S.W.	0	S.	5			S.W.	0	S.	5	58.4	56.5	53.				7			
	8	736	63	782	63	65.8	49.5			54.5	56.5	58.2	52.3	14	W.	2.0	S.W.	0			W.	2.0	S.W.	0	56.5	53.6	52.3				8			
	9	774	62	804	63	63.8	50			56.6	54.4	51.8	49.5	0	W.	1.5	W.	5			W.	1.5	W.	5	56.5	53.6	52.4				9			
	10	30.278	62	283	64	62	44.9			59.	57.6	55.	52.5	0	0	0	W.	0			W.	0	W.	0	56.2	55.5	53.6				10			
	11	185	63	174	64	63.8	50			54.8	53.4	54.9	52.3	0	W.	1.5	W.	5			W.	1.5	W.	5	54.5	56.5	53.8				11			
	12	29.902	62	29.828	63	60.7	53			58.3	56.5	54.5	52.5	1	W.	5	W.	5			W.	5	W.	5	54.	55.8	54.6				12			
	13	908	64	900	63	66.6	54.8			54.5	52.1	53.5	54.5	0	W.	5	W.	5			W.	5	W.	5	58.5	56.8	54.				13			
	14	30.120	63	30.090	64	62.5	46.5			52.8	56.5	53.	52	0	8.	0	S.	0			8.	0	S.	0	58.7	54.	52.4				14			
	15	156	64	248	64	65.6	53			55.6	53.2	54.	52.5	0	W.	0	W.	0			W.	0	W.	0	59.	54.	54.5				15			
	16	248	64	234	67	63.5	50.6			66.	60.8	66.4	60	0	0	0	W.	0			0	0	0	0	59.9	54.5	54.4				16			
	17	258	67	228	68	46.4	51.3			69.2	62.5	65	62.5	0	W.	0	S.W.	0			W.	0	S.W.	0	62	54.6	53.7				17			
	18	240	67	237	69	43.2	52.			72.4	65.8	57.5	50.6	0	W.	15	W.	0			0	0	S.W.	0	62.3	60.1	56.2				18			
	19	292	66	342	64	83	50.4			51.5	51.6	51.1	49.1	0	8.	0	8.	0			8.	0	8.	0	61.2	61.	56.9				19			
	20	400	64	406	66	62.5	44.8			53.	50.	50	42	0	8.	5	W.	0			8.	5	W.	0	59.4	59.5	54.				20			
	21	339	64	318	65	63.1	40.6			63.1	53.4	57.5	49.4	0	W.	0	W.	0			W.	0	W.	0	58.5	59.8	54.				21			
	22	332	64	297	67	44	46.2			68.5	54.	54.	52.5	0	W.	0	8.	0			W.	0	8.	0	57.3	60.8	62.4				22			
	23	304	66	307	66	49.6	44			61.1	54.	52.5	52	0	8.	0	8.	0			8.	0	8.	0	63.5	62.	58.8				23			
	24	312	65	282	66	68.5	50			62.8	52.1	53	53	0	8.	0	W.	0			8.	0	W.	0	65.2	63.4	58.4				24			
	25	242	64	218	65	71.	48.5			67.9	58.8	53.	52.6	0	0	0	W.	0			0	0	W.	0	65.8	64.	59.5				25			
	26	235	64	125	65	44	51.5			54.5	52.8	55.5	53.9	0	W.	1.5	W.	0			W.	1.5	W.	0	65.2	64.2	59.7				26			
	27	058	65	087	66	63.4	49.4			60.5	51.8	61	56	0	W.	1.0	W.	0			W.	1.0	W.	0	63.4	63.5	59.8				27			
	28	153	65	223	65	62.6	48.2			60.4	56.6	53.8	53.3	0	W.	1.0	W.	5			W.	1.0	W.	5	62.2	62.3	59.5				28			
	29	336	66	347	67	69.5	48.5			67.2	60.9	63	54.5	0	W.	0	8.	0			0	0	8.	0	63.6	62	59.1				29			
	30	348	66	274	69	75.5	52.5			61.8	55.1	64.9	64.5	0	W.	6	0	0			W.	6	0	0	65.1	63.5	59.5				30			
	31																															31		
	Sums.	14 11 12	14	12 13 14	15	15 11	14 10			15 12	12 13	14 11	12 9	0.37	14.8	5	5					17 11	15 12	16 12										
	Means.	30.100	63.2	30.098	64.1	66.8	48.5			59.35	54.65	54.29		0.47	0.25						59.45	58.75	53.9											
	+ Total Corrections for Instrumental Errors.																																	
	+ 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^{††} for Temp. (Col. 2), = 30.007
Corrected Mean" of Barometer at 9 P.M., minus the Correction^{††} for Temp. (Col. 4), = 30.003
Mean at Station, corrected, and at 32°, = 30.005
Correction for height, 162 feet above Mean Sea-level, = .178
Mean, reduced to 32°, and Sea-level, = 30.183
Highest Reading, corrected for Index error, on the 20 th, = 30.406
Lowest Do. Do. on the 7 th, = 29.618
Difference, or Monthly Range, = 0.788

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 19 th, = 83.0
Lowest in Month, corrected for Index errors, on the 19 th, = 37.0
Difference, or Monthly Range, = 46.0
"Corrected Mean" of all the Highest, (Col. 5), = 66.8
"Corrected Mean" of all the Lowest, (Col. 6), = 48.5
Difference, or Mean Daily Range, = 18.3
** Calculated Mean Temperature of Month, = 57.7
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, =
Lowest at Night, Black Bulb, (corrected for Index errors), on the 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), = 57.4
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 53.8
Computed Temperature of Dew-Point, = 50.5
Do. Elastic Force of Vapour, = 1368
Do. Weight of Vapour in a Cubic Foot of Air, = 4.241
Relative Humidity, (Saturation = 100), = 84.78
RAIN fell on 3 Days; Amount in Inches, = 0.37

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	0	7	1	2	1	8	7	3	0.47	
P.M.	1	3	8	1	3	1	2	4	2	0.25	
Mean.	1	2	7	1	3	1	7	6	2	0.36	= 0.13

* 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 Journal Range is unknown, the Arithmetical Mean of Cols. 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, must be marked as such by the observer, in each Schedule. See over.

Observations made and
Return verified by

(Signed)

Robert Brown

Greater daily range = 32.6 on the 19th & 23rd

J.F.
J.F.

~~2~~

~~2~~

Foran
J.C. S. S.
Inducted
30

* 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.
† Enfracting corrections for local 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 known, the Arithmetical Mean of Cols. 6 and 7 will be entered as the "Calculated Mean Temperature."
‡ 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, 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"),		=

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	0	2	0	0	7	10	7	3	0.73	
P.M.	0	0	0	0	1	5	18	3	4	0.53	
Mean.	1	0	1	0	1	6	14	5	3	0.63	= 0.40 <i>all</i>

(Signed)

Greatest daily range = 26.8 on the 18th

J. F.

J. F.

E. Chas. Burgh
July 1897

bering of the scale of every instrument ; the position of Thermometers, the framework of which are not likely to stand exposed to the weather, as shown by the sun's position, and above the framework of Thermometers of similar construction, and as far as possible Maximum Thermometers, either Negretti and Zamboni'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 compared 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 — *What the state and of what sort, both as regards direction and force, is so essential to the right*

discussion of many of the more important problems of this science. A Wind-Vane ought to be elevated, at least 12 feet above surrounding objects, so that it indicates accurately the direction of the wind, in all cases, and is not materially affected by the velocity of the wind, especially when the Wind is variable.

Direction.

The wind is feeble reference may be made to the direction of the wind, in well-expected situations. Careful observations are recommended to be made on the changes in the direction of the wind ; during storms, extra observations at every hour of Greenwich. Such

various made at different Stations are incompatible, thus rendering it impossible to compare the Climates of places with each other as regards their most important features.

Professor Phillips, and Negretti and Zambra's Maximum Thermometers, and Rudberfs Minimum Thermometers, are recommended. It is recommended that these Thermometers be graduated on the glass stem. The Minimum Thermometer is liable to two demerits—viz, the column of spirit breaking, and part of the spirit distilling by high temperature and lodging at the top of the tube. This demerit may be overcome by using the protected Thermometers, but of these we have no experience. The Maximum Thermometers, because a systematic intercourse with excess of heat renders them a systematic examination of Minimum Thermometers ought to be a regular part of the work carried on by each Observer, may be easily set right by any

one, when the column of spirit advances to separate. Let the The-
monster be taken in the hand by the end farthest from the bulb,
raised above the head, and then forcibly swung down towards the
feet; the object being, on the principle of centrifugal force, to send
down the detached portion of spirit till it unites with the column.
A few throws, or swinging strokes will generally be sufficient for the

purpose; after which the Thermometer should be placed in a similar position, to allow the rest of the spirit still adhering to a stratum of the tube to drain down to the column. But another method must be adopted, if the portion of spirit in the top of the tube be small. Heat should be applied slowly and cautiously to the top end of the tube where the detached portion of spirit is, which, being turned into vapor by the heat, will condense on the surface of the unbroken column of spirit. Care must be taken that the heat is not applied too quickly; for, if this be done, the tube will break and the instrument be destroyed. The best way to apply the requisite amount of heat is by bringing the end of the tube slowly down towards a minute flame from a gas-jar; or, if gas be not at hand, a piece of heated iron may be used.

The bulbs of the thermometers requiring the greatest heat are heated from the sun's rays, and the less from the fire.

Black-Bub Thermometers

during night, have a black coating, which may easily be made up as needed, by the application of a mixture of lampblack and printer's ink. They are placed in shallow blackened boxes, whose sides protect the bulbs from the wind. The maximum should be freely exposed to the sun, and the minimum thermometer should be placed in the shade. One end of the glass in an open station "Snow must not be allowed to cover either of these thermometers; nor the sun's heat to affect the minimum thermometer by dissilation. Black-bubs enclosed in glass jackets may also be used, being indeed preferable to the above. It must, however, be added, that the whole aspect of the

The Hygrometer in use at the Society's Stations consists of two Thermometers usually, but not necessarily, mounted on a single frame. As apparently slight deviations from the approved form of this apparatus seriously vibrate the Hygrometrical Observations, Observers are specially requested to attend to the following conditions:—The bulbs must hang down, and be free from any extraneous matter; the bulb of the

by a task to their feet from the sculls that handle with the arms forward by the sides; the frame must be such as will bring the fibres toward by an incl from any board on which it may be suspended; and the water-cup must be covered, and altogether placed to the side, and a little below the level of the wet bulb, but in case under the bulbs; the thermometer must be of medium fineness, and listened at the neck of the bulb by the cotton, which also supplies it with water. It must be seen by the Observer that the mists in always clean and moist, and the water pure. In frosty weather, observation is a matter of much delicacy, and must be made with great care. The bulb must be moistened by immersion from 15 to 30 minutes before the hour of observation. From the time of rise thus formed evaporation will proceed as from the moist cloth in ordinary circumstances.

In reading the Thermometer great care must be taken to bring the eye exactly opposite the tip of the index or column of mercury. The reading ought to be taken to tenths of a degree, and noted in decimals. Thus the Thermometer will be read— $39^{\circ} \cdot 2$, $40^{\circ} \cdot 0$, or $40^{\circ} \cdot 1$; or again, $40^{\circ} \cdot 4$, $40^{\circ} \cdot 5$, according as it indicates a little under, an exact coincidence with, or a little over 40° ; or $40^{\circ} \cdot 5$ respective. So also

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

24 hours preceding. It is not a matter of indifference when the Self-Registering Thermometers are read, since, in winter at least, the extremes may occur at any hour; and it is necessary to enter their extremes to their proper meteorological day. In the Society's schedules, the indications registered on the 31st of those months of placement commencing at 9 p.m. on the 24th and extending till 9 a.m. on the 31st ought to be used for Meteorological purposes till it has been definitely ascertained by comparison with a Verification of Standard Thermometers, when the Meteorometers, as are not graduated on the stem, but only on the bulb, detached scale, undergo repairs, they are very liable to be out of 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 marked by the Hygrometer. The freezing-point of each Thermometer, struck by a sentinel on the tube, ought to be tested once a year, in snow or melting ice.

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

bering of the scale of every instrument ; the position of Thermometers, the framework of which are not likely to stand exposed to the weather, as shown by the sun's position, and above the framework of Thermometers of similar construction, and as far as possible Maximum Thermometers, either Negretti and Zamboni'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 compared 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 — *What the nature of what* both as regards direction and force. It is so essential to the right discussion of many of the more important problems of this science. A *Wind-Vane* ought to be elevated, at least 12 feet above surrounding objects, so that it indicates accurately the direction of the wind, in all cases, and is not materially influenced by the direction of the wind in feeble reference may be made to the direction of the wind in well-expected situations. Careful observations are recommended to be made on the changes in the direction of the wind ; during storms, extra observations at every hour of Greenwich. 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-placed Stations, over a limited repeated route. Although called *Spirit Stations*, in the original report, they are not intended to be used for the purpose of figuring the relation of the force of the Wind to Barometric Gradients, 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 they also the mean Velocity of the Wind at the time of its Prevalence.

Force of the Wind at any particular hour of observation, the Society by means of the following questions, have been enabled to detect Anomalies recently brought under the notice of the Society by Mr. T. Stevenson, the Honorary Secretary, and Mr R. Balling, the Secretary of the Glasgow and Edinburgh Societies. In reply to Mr. T. Stevenson, 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, care should be taken to place it at some distance from stables, trees, buildings, or other obstructions, at least as many feet from their base as they are in height. The more important directions towards which it is most desirable to have a free exposure, are the order of their importance, S.W., N.E., S.E., S., and W. The rim of the Gauge must be perfectly level and fixed so that it will remain level in all weathers, and be at a height of six foot above

with a measuring rod attached to a float, through a hole in the snow down, and the float rise to its height only at the time the instrument is read, it being found that a stem projecting above the rim of the gauge seriously interferes with the proper measurement of the rain-fall. When a measuring glass is used, care should be taken to hold it quite perpendicular, and the gauge ought to be read daily at 9 a.m. The reading entered in the log should be the average of the first of the gauge is read, and the amount entered for the previous month. Snow-falls may, for convenience, be registered in the rain columns, under the following conditions:—

Snow-falls

and the letter S alluded to the depth of water received in Gauge. The depth of the snow must be measured in some open place where no drift is observed, and registered in addition to, and as a check upon, the indications of the Rain-Gauge. For wind, rain, and snow, as indeed in every column, the Observer cannot be too careful to register observations only; and nothing that partakes of the nature of deduction or inference.

Convenient abbreviations for the nomenclature of Cists will be

Clouds. The amount of Cloud ought to be estimated from the greater or less observation of it upon the other side. The strata of Clouds ought to be estimated (*i.e.*, within 20° or 30° of the zenith). The strata of Clouds that appear near the horizon are viewed obliquely; and thus, being unable to judge of their amount, we ought not to take them into account in the Cloud's column, though their appearance and changes may be noted among the Remarks. The amount of Cloud is entered from a scale of 0 to 10; thus, when the sky overhead is free from Clouds it is entered 0, when half covered by Clouds, 5, wholly covered, 10, and so on.

Observations of the Clouds are made at 9 A.M. and at sunset, as illustrating the condition and currents of the upper and lower regions of the atmosphere. The entries in the schedule are to be made in the following manner :—The first in the column Velocity and Direction, 6, S.W., will indicate that the upper strata of Clouds travel with a westerly velocity from S.W., and those in the lower regions from W., with one-third the speed of the former. Again, in the second

Cloud column, an entry of $\frac{1}{2}$ or $\frac{3}{4}$ will indicate that the higher regions are covered to the amount of 2-fourths with stratus clouds; and that the sky is further obscured to the extent of 2-tenths by Lower Clouds of the cumulo stratus kind.

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

The approximate number of Hours in which objects the sun's

Sunbath. As the germination and growth of crops and plants generally, depend greatly on the temperature of the soil,—its amount and constancy,—the Council recommend that Observations in this interesting department be made at 9 A.M., by Thermometers permanently fixed in the soil, their bulbs being sunk to depths of 3, 12, and 22 inches, and the stems above ground protected from the sun's rays, and fitted with sloping tin collars, to prevent rain water being conveyed to the bulbs by the stems or wooden frames. Temperature of the Sea is not only in itself, a knowledge of that condition, but of the relation of the temperature of the sea to the atmosphere of the island, a most important branch of the subject. The Council therefore recommend that the Thermometers of the Sea be carefully taken by a properly constructed apparatus, from boats or from the shore, at least twice a day, at the same place, and at the same hour, 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 those of high

E. Chas. Trench
July 1897

To the SECRETARY

Scottish Me

BOOK POST.

street.

EDINBURGH.

[illegible][illegible][illegible]

FRUIT.	First in Blossom.	Barberry,	Black Cherry,	Apple,
		Bountree or Elder,	Black Cherry,	Black Cherry,
		Broom,	Cherry,	Cherry,
		Hazel,	Gean,	Gooseberry,
		Hawthorn,	Gooseberry,	Gooseberry,
		Holly,	Gooseberry,	Gooseberry,
		Laburnum,	Gooseberry,	Gooseberry,
		Lilac,	Gooseberry,	Gooseberry,
		Measeon,	Gooseberry,	Gooseberry,
		Mountain Ash or Rowan,	Gooseberry,	Gooseberry,
		Red Flowering Currant,	Gooseberry,	Gooseberry,
		Rhododendron Ponticum,	Gooseberry,	Gooseberry,
		Whin,	Gooseberry,	Gooseberry,

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

FOREST TREES.	In Flower.	In Leaf buds.	In Leaf.	Dissected of Leaves.	CROPS.	Sowing or Planting.	Soiling or sowing Ground.	In Flower.	First Cut
Alder,					Barley,				
Beech,					Bere or Brgs.				
Birch,					Oats,				
Elm,					Wheat,				
Larch,					Beans,				
Lime,					Pease,				
Oak,					Potatoes,				
Sycamore or Plane,					Turnips,				
					Rye Grass,				

SHRUBS, ETC.	Flowers.	First in	FRUIT.	Flowers.	First in	FRUIT RIPS.	Generally.	First Arrival.	Departure.
Barberry,			Apple,			Cuckoo,			
Bourtee or Elder,			Black Currant,			Curtew,			
Broom,			Cherry,			House-Swallow,			
Hazel,			Cean,			Lapwing,			
Hawthorn,			Gooseberry,			Plover,			
Holly,			Peach,			Sand-Martin,			
Laburnum,			Pear,			Starling,			
Lilac,			Plum,			Swan,			
Mazoeon,			Strawberry,			Rail or Corn Crane,			
Mountain Ash or Rowan,									
Red Flowering Currant,									
Rhododendron Ponticum,									
Vib.									

MIGRATORY BIRDS.	First Arrival.	Departure.
Cuckoo,		
Curtew,		
House-Swallow,		
Lapwing,		
Plover,		
Sand-Martin,		
Starling,		
Swan,		
Rail or Corn Crane,		

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

EDINBURGH. December 1884.

A. B.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Dunard Road Edinburgh*, County of *Hidlothian*, in Lat. _____, Long. _____, Distance from Sea _____ miles.

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

During the MONTH of *August* 188*7*.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				CLOUDS.				THERMOMETERS under Ground.			SUNSHINE. Hours.	TEMPERATURE of WELL at depth of feet. No.	STPA. Temperature at 1 fathom, and Density.	OZONE. 0-10.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.	
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.	Amount in inches.	9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer. No. 9 h. A.M.	9 A.M.		P.M.		9 h. A.M.								
		Barometer. * No.	Attached Thermometer	Barometer. No.	Attached Thermometer	Max. No.	Min. No.	Max. in Sun/rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.			Direction.	Force.	Direction.	Force.		Velocity (0-10), and Direction.	Amount, (0-10), and Direction.	Velocity (0-10), and Direction.	Amount, (0-10), and Direction.	No. 3 inches.	No. 12 inches.							No. 22 inches.
		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
	1							64.6	44.8			60	54.5	52.2	49	15	7.4	5	7	0			1.1	6.4	7	6.4	54.8	59.4	59			1	
	2							60	53			59	56	53	49.8	0	7.4	5	7	5			7	6.4	6	6.4	60	58.5	54			2	
	3							66.8	48.2			59.5	54.5	53.3	52	0	7.4	0	5	0			0	0	5	6.4	58	60.5	54.5			3	
	4							69.5	44			68	60	59.8	51.5	0	11	0	5	0			7	6.4	5	6.4	59.2	60	55.2			4	
	5							73.4	43.5			63.6	60.2	66	60	0	6	0	0	0			6	6.4	0	6	61	66.2	59.8			5	
	6							79	59.5			62.2	58.5	57.5	56	0	5	5	0	0			5	6.4	0	5	62.5	62.5	60			6	
	7							64.5	56			59.8	54.8	58	55.5	36	7	2-0	5	2-0			7	6.4	5	6	60	61.6	61.4			7	
	8							66.5	54.4			59.9	58.5	56.3	55	0	7.5	2-0	5	2.5			8	6.4	5	6	61	61.8	66			8	
	9							63.5	56			62.2	54.8	52.8	49	0	7	3-0	2	5			7	6.4	5	6	59.8	60.5	59.4			9	
	10							64.4	44			54	57	59	44.5	0	7.4	2-0	1	1-0			1	6.4	5	6	54.5	60.5	59.5			10	
	11							66.6	42.5			56.2	50.4	60	48.2	0	11	5	7	5			1	6.4	5	6	54.4	60	59.5			11	
	12							64.3	44.8			52.5	49.4	55.8	45.3	0	7	1-5	5	5			7	6.4	5	6	57.2	59.8	59.3			12	
	13							66.2	44.1			50	46.4	50	42.5	39	1.5	0	5	5			1	6.4	5	6	56.4	59.1	58.5			13	
	14							59.1	42			54.5	49.3	49.8	46.2	0	11	5	7	1-5			1	6.4	5	6	55.5	59	58.5			14	
	15							60.5	43			54	49	51	48.5	0	7.5	1-0	0	0			1	6.4	5	6	55.5	59	58.5			15	
	16							63.5	40.4			59.5	54	52.5	49.2	0	5.4	5	5	5			1	6.4	5	6	55.8	60.1	59			16	
	17							64.2	44			58.5	55.1	53.5	51	0	7	2.5	7	1.5			1	6.4	5	6	56.1	58.7	58			17	
	18							67.2	40			58.5	53	53.5	53.5	27	7	1-5	5	5			1	6.4	5	6	53	59.5	58			18	
	19							67	48.1			55	52	52.5	52.5	21	7	1-5	5	5			1	6.4	5	6	54	59.4	58.2			19	
	20							64.1	44			53.5	52	44	45.5	0	5	5	7	6			1	6.4	5	6	58	60	58			20	
	21							66.5	46.3			53.2	50	59	54.2	0	5	1.5	7	5.5			1	6.4	5	6	56.5	59.5	58.3			21	
	22							66.8	40.5			57.3	52	56	53.8	0	7	0	7	5.5			1	6.4	5	6	56	58.7	58			22	
	23							66.5	54			63.1	61	58	57	10	7	1.5	7	5			1	6.4	5	6	59	57.5	54.1			23	
	24							70	48			54.5	54	60	54.5	10	1.4	5	7	5			1	6.4	5	6	58	60	58			24	
	25							70	50			62	59.5	57.2	55.1	0	7	5	4	5			1	6.4	5	6	59	60	58			25	
	26							73.9	52.3			62.1	61.8	59	53.2	0	5	5	7	5			1	6.4	5	6	60.4	60.5	58.5			26	
	27							75	53.2			61.8	59.5	56.8	54	0.4	5.4	5.5	5	5			1	6.4	5	6	60	61	58			27	
	28							74.7	50.8			68.1	62.3	61	54	0	5	5	5	0			1	6.4	5	6	59.4	61	59.5			28	
	29							74.2	54.1			58.5	54	59	56.4	10	5	0	5	5			1	6.4	5	6	59.4	62	62.4			29	
	30							63.5	58.8			60	54.5	57.2	54.5	0.8	5.4	1-5	7	1-5			1	6.4	5	6	60.2	61.4	59.8			30	
	31							63.4	51.5			60	58.5	58.8	54	18	5	0	7	1-0			1	6.4	5	6	60	60.8	59.5			31	
	Sums.							1611	1099			159	148	176	167	4	1.6	0	7					1	6.4	5	6	1554	1076	1070			
	Means.							67.6	49.2			58.8	54.9	56.3	52.2		0.85		0.70								58.36	0.2589					
	† Total Corrections for Instrumental Errors.																																
	‡ 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†† for Temp. (Col. 2), = _____

Corrected Mean” of Barometer at 9 P.M., minus the Correction†† for Temp. (Col. 4), = _____

Mean at Station, corrected, and at 32°, = _____

Correction for height, 162 feet above Mean Sea-level, = _____

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

Highest Reading, corrected for Index error, on the _____ th, = _____

Lowest Do. Do., on the _____ th, = _____

Difference, or Monthly Range, = _____

* 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 6 th, = 79.0

Lowest in Month, corrected for Index errors, on the 22nd = 40.85

Difference, or Monthly Range, = 38.5

“Corrected Mean” of all the Highest, (Col. 5), = 67.6

“Corrected Mean” of all the Lowest, (Col. 6), = 49.2

Difference, or Mean Daily Range, = 18.4

** Calculated Mean Temperature of Month, = 58.4

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), = 57.6

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 53.6

†† Computed Temperature of Dew-Point, = 50.2 49.9

†† Do. Elastic Force of Vapour, = 361

†† Do. Weight of Vapour in a Cubic Foot of Air, = 4.02

†† Relative Humidity, (Saturation = 100), = 76

RAIN fell on // Days; Amount in Inches, = 1.95

WIND.	SUMMARY.									
	Direction.	N	NE	E	SE	S	SW	W	NW	Mean Force.
A.M.		7	1	2	0	6	3	15	4	0.85
P.M.		0	0	0	1	6	5	13	2	0.70
Mean.		0	1	1	0	6	4	14	3	0.78 = 0.6111

Observations made and
Return verified by

(Signed)

Greatest Daily Range = 26.3 on the 22nd

J. F. M.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Cornwall Road, Edinburgh, County of Midlothian, in Lat. _____, Long. _____, Distance from Sea _____ miles.
Height of Cistern of the Barometer above Mean Sea-level _____ feet, above Ground _____ feet. During the MONTH of September 1884.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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.		No. of hours in which it fell.	Amount in inches.	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.	9 h. A.M.	Velocity (0-5), and Direction.	Amount (0-10), and Species.	Velocity (0-5), and Direction.	Amount (0-10), and Species.	No. 3 inches.	No. 12 inches.					No. 23 inches.
inches.	°	inches.	°	°	°	°	°	°	°	°	°	°																			
1	29.403	66		61.6	52.5			58.8	54.4	54.2	54.8		11	7.	0-5	SE	3-0		W.	bi.	S.	A.	58	60.	59.			1			
2	28.956	65		66.8	54.4			54.4	56.5	54.5	52.		55	SE	0	S	3-		S	bu.	S.	bu.	59.6	60.	59			2			
3	29.502	65		60.9	51.5			59.3	56.5	52.5	52.5		06	SW	2-	SE	0-		SW	bu.	S.	bu.	58.5	58.5	58.5			3			
4	500	64		61.9	51.			54.8	54.5	52.	52.		23	SW	0-	SW	0-		SW	N.	SW	bu.	58.5	59.	58.			4			
5	268	64		54.1	51.5			56.	55.2	51.5	51.5		20	S	1-	SE	-5		SW	bu.	0	0	58.	58.5	56.8			5			
6	262	64		54.5	40.5			49.	54.2	50.2	50.		41	SW	1-5	SE	-5		SW	bu.	0	0	54.	56.	50.5			6			
7	307	62		54.1	47.5			48.5	48.4	42.5	40.6		34	S	1-5	SE	-0		S	bu.	0	0	52.8	55.	53.2			7			
8	301	61		54.5	40.			55.	49.	51.	45.8		0	SW	-5	N.	-0		SW	bu.	S	bu.	51.5	56.	51.			8			
9				61.5	53.			60.	54.5	50.	46.5		0	SW	2-0	S	2-		SW	N.	S	bu.	54.2	56.	56.1			9			
10				61.4	45.5			52.5	49.5	51.	49.8		06	SW	1-5	SW	1-5		SW	bu.	S	bu.	52.5	56.	56.6			10			
11				58.5	44.9			48.5	48.5	50.	48.1		24	SW	0-	0	3-5		SW	N.	0	0	54.4	55.5	56.			11			
12				63.5	43.			48.	46	43.5	42.4		08	SW	-5	SW	0-		N	bu.	0	0	54.4	56	56.			12			
13			29.790	58	55.3	39.1		49.7	40.2	50.	41.4		19	SW	-5	SW	0-		SW	bu.	0	0	60.3	54.5	55.5			13			
14	29.742	55		710	57	59.6	46	44.6	44.5	44.5	43.5		25	SW	0	N.	0-		SW	bu.	SW	N.	52	54.1	55.			14			
15	693	57		712	57	61.9	45.5	50.5	49.5	46.4	46.2		46	SW	0	0	0		SW	bu.	0	0	52.	53.9	54.5			15			
16	763	57		890	57	59.6	44.8	50.8	49.4	51.	50		20	SW	0	E.	0		SW	N.	0	0	53.	54.4	54.5			16			
17	30.061	57	30.203	58	54.5	45.1		55.	52.5	50.	48.4		02	SW	1	SE	0		SW	bu.	SE	bu.	53.5	54.	54.5			17			
18	376	56	406	61	59.5	40.		51.2	50.	49.8	48.4		0	SE	1-0	N.	-5		SE	bu.	0	0	50.	54	55.			18			
19	371	58	295	59	68.8	44.5		51.4	48.2	51.6	48.4		08	N.	-5	SW	0-5		N	bu.	0	0	52.	54.5	54.5			19			
20	290	58	302	59	62.	41.		50.3	52.	48.3	46.		0	SW	-0	N.	0-5		SW	bu.	0	0	52.3	55.	54.5			20			
21	256	58	257	59	64.3	50.5		51.	50	48	43.4		0	SE	-0	N.	0		SE	N.	0	0	54.5	56.	55.			21			
22	222	60		63.	49.4			53.2	51.8	51.	49.2		0	S.	0	SE	0-8		S	bu.	SW	N.	49.8	55.1	54.5			22			
23				60.9	41.4			51.	50.	51.	50.3		0	SW	0	0	0		SW	bu.	0	0	52.1	54.4	54.5			23			
24				64.6	44.			50.	48.5	49.8	47.9		0	E.	0	SE	-5		E	N.	SE	bu.	54.	53	54.8			24			
25				60.5	46.5			51.4	52.8	50.	48.1		0	SW	-5	N.	0		SW	bu.	S	bu.	53.8	54.4	54.8			25			
26				54.	52.5			56	55.	53.	52.2		05	N.	-0	N.	1-0		N.	N.	N.	bu.	54.5	55.	54.5			26			
27				59.8	33.9			42.8	42.	41.2	40.9		04	SW	-5	SW	0		N.	bu.	SW	N.	53.1	52.	54.			27			
28				59.	33.1			42.	41.	40.	39.4		04	N.	0	SW	1-0		N.	bu.	SW	N.	53.	52.	52.5			28			
29				54.1	41.5			52.	49.3	55.5	53.4		34	E.	0-5	SE	3-5		E.	bu.	SE	N.	54.2	51.4	53.2			29			
30	29.466	58	30.053	59	58.9	40.		49.5	48.8	50.8	48.5		06	N.	1-0	N.	0-5		N.	bu.	N.	N.	51.	53.4	53.2			30			
31																											31				
Sums.				163	153.1			55.4	11.3	29.2	25.5		44.0			15.5							125.5	158.9	149.7						
Means.				60.5	45.1			51.8	50.4	49.7	47.9					0.52							54.2	55.3	55.0						
† Total Corrections for Instru- mental Errors.																06															
‡ Corre- ctions for Diurnal Range.																															
"Cor- rected 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	

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Ararat Road, Edinburgh, County of Midlothian, in Lat. _____, Long. _____, Distance from Sea _____ miles.
Height of Cistern of the Barometer above Mean Sea-level _____ feet, above Ground _____ feet.
During the MONTH of October 1887.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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 least above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.	Amount in inches.	9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer No. —	9 A.M.		P.M.		9 h. A.M.							
		Barometer.	Attached Thermometer.	Barometer.	Attached Thermometer.	Max.	Min.	Max.	Min.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.			Direction.	Force.	Direction.	Force.		Velocity (0-10), and Direction.	Amount (0-10), and Species.	Velocity (0-10), and Direction.	Amount (0-10), and Species.	No.	3 inches.					12 inches.	22 inches.
		* No. —	inches.	°	inches.	°	°	°	°	°	°	°	°			°	°	°	°		°	°	°	°	°	°					°	°
	1	30.126 56		30.203 58		60	42.			50	49	48.2	48	20	W	5	W	5	W	5	W	5	W	5	W	5	W	5				1
	2	255 57		305 58		60	44.			50.6	49.5	52.5	49.4	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				2
	3	323 58		318 58		60.8	44.6			52.5	51.4	53.3	49.4	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				3
	4	312 57		286 58		61.8	34.			48.5	44.4	49.5	46.4	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				4
	5	255 56		178 60		60.1	40.9			51.	50	50.	48.5	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				5
	6	072 58		29.970 60		54.9	44.9			50.4	49.5	50.8	49.4	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				6
	7	29.850 58		900 58		54.8	44.3			52.4	50.4	51.2	50.	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				7
	8	930 57		29.880 56		52.4	39.1			42.3	40.2	38.8	36.	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				8
	9	29.799 55		686 54		49.8	36.2			44.	40.2	49.5	44.5	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				9
	10	603 52		630 55		46.5	34.			34.7	34.5	34.8	33.9	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				10
	11	606 51		628 52		46.7	31.2			32.5	30.	32.	31.	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				11
	12	525 50		630 51		38.	28.			43.5	40.	41.	39.	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				12
	13	863 50		918 53		46.2	38.3			43	40	40	38.9	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				13
	14	762 52		988 51		45.8	38			40.9	38.4	39.1	38.4	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				14
	15	20 052 50		30.267 51		46.8	34			40.	36.8	37.	34.5	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				15
	16	283 50		374 51		50	33			42	40	45	44.8	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				16
	17	455 52		422 53		54	41			48.1	46.4	52.5	50.2	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				17
	18	361 54		308 56		55.	46.5			49.1	44.	51.1	49.8	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				18
	19	161 55		000 55		52.5	46.5			50.	49.5	52.5	50.2	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				19
	20	182 56		267 56		54.1	42.5			46.2	44.3	39.	35.5	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				20
	21	438 54		445 53		46.7	34.3			44.	38.8	33.	32.1	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				21
	22	304 54		160 53		48.8	30.			46.5	42.5	46.5	43.5	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				22
	23	29.904 55		29.864 55		50.	45.5			46.5	43.8	48.5	40.1	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				23
	24	30.110 52		30.277 51		51.4	32			50.8	42.2	33.	29.5	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				24
	25	512 51		367 51		41.2	31.5			34.4	31.2	36.3	34.1	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				25
	26	060 49		29.770 52		45.4	33.8			44.3	40.	49.2	45.3	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				26
	27	29.604 53		424 56		33.7	41.8			52.5	51.5	50.2	49.9	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				27
	28	361 55		333 55		60.	46.5			49.	45	48.2	44.	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				28
	29	210 53		240 54		59.9	39.			44.5	42.2	49.	46.5	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				29
	30	083 54		056 54		48.	38.3			42	40.2	42.	44.3	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				30
	31	158 52		340 52		49.5	38.8			40	30.	34.5	30.5	0	W	5	W	5	W	5	W	5	W	5	W	5	W	5				31
	Sums.	12.139	12	14.142	12.14	14.12	16.10			10.10	12.8	15.8	13.12																			
		29.519	116	29.454	14.2	16.2	25.2			16.9	19.3	15.8	14.5																			
	Means.	29.952	53.7	29.950	54.6	52.5	39.2			45.5	43.0	44.4	42.0																			
	† Total Corrections for Instrumental Errors.																															
	‡ 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†† = 29.885
for Temp. (Col. 2), = 29.952 - 0.067...
Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = 29.880
for Temp. (Col. 4), = 29.950 - 0.070...
Mean at Station, corrected, and at 32°, = 29.882
Correction for height, 162 feet above Mean Sea-level, = 178
Mean, reduced to 32°, and Sea-level, = 30.060
Highest Reading, corrected for Index error, on the 26th, = 30.512
Lowest Do. Do., on the 30th, = 29.056
Difference, or Monthly Range, = 1.456

* 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 Journal Range for Scotland is as yet unknown.
†† Practically, though not absolutely a minus correction.
‡‡ These “Hygrometrical Deductions” are calculated from Glashier’s Hygrometrical Tables, Second Edition only.
§ While the Journal Range is unknown, the Arithmetical Mean of Cols. 9 and 10 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, = 61.8
Lowest in Month, corrected for Index errors, on the _____ th, = 28.0
Difference, or Monthly Range, = 33.8
“Corrected Mean” of all the Highest, (Col. 5), = 52.5
“Corrected Mean” of all the Lowest, (Col. 6), = 39.2
Difference, or Mean Daily Range, = 13.3
** Calculated Mean Temperature of Month, = 45.8
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the _____ th, = _____
“Corrected Mean,” (Col. 7), of Black Bulb, Max. in Sun, = _____
Lowest at Night, Black Bulb, (corrected for Index errors), on the _____ 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), = 45.0
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 42.5
† Computed Temperature of Dew-Point, = 39.62
† Do. Elastic Force of Vapour, = 243
† Do. Weight of Vapour in a Cubic Foot of Air, = 280
† Relative Humidity, (Saturation = 100), = 82
RAIN fell on 10 Days; Amount in Inches, = 1.76

WIND.												SUMMARY.		
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.			
A.M.	2	1				1	5	6		0.95				
P.M.	1	1				3	18	5		0.65				
Mean.	1	1	0	0	0	4	17	6	2	0.80	0.64			

Observations made and Return verified by _____

(Signed) Robert Grocott

Greatest Daily Range = 24.8 on the 4th

77.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Orwell Road, Edinburgh, County of Midlothian, in Lat. _____, Long. _____, Distance from Sea _____ miles.
Height of Cistern of the Barometer above Mean Sea-level _____ feet, above Ground _____ feet. During the MONTH of November 1887.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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.		No. of hours in which it fell.	Amount in inches.	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.			Direc- tion.	Force.	Direc- tion.	Force.	Readings of the H. Cup Anemometer. No.	9 h. A.M.	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.
1	28.950	52	28.830	51	47	34.4			42	41	45	42	0	SW	1-5	SW	1-5	SW	1-5	SW	1-5	SW	1-5	SW	1-5	SW	1-5	SW	1-5	1		
2	930	52	830	51	45.4	41.6			42.8	42.5	43	41.8	19	S	0.5	W	0	S	0.5	W	0	S	0.5	W	0	S	0.5	W	0	2		
3	440	52	29.530	51	46.8	38.4			39.3	34.8	49.5	45.8	0	SW	1-5	SW	1-5	SW	1-5	SW	1-5	SW	1-5	SW	1-5	SW	1-5	SW	1-5	3		
4	28.734	52	29.012	51	45.9	40.			42	41.8	44	42.	0	S.	0.5	W	0	S	0.5	W	0	S	0.5	W	0	S	0.5	W	0	4		
5	29.164	51	170	53	44.2	38.			46	41.6	41.5	40.3	0	W.	0.5	SW	0.5	W	0.5	SW	0.5	W	0.5	SW	0.5	W	0.5	SW	0.5	5		
6	237	51	562	53	49	39.9			45.3	44.4	45.5	45.4	18	E.	1-0	SE	2-0	E	1-0	SE	2-0	E	1-0	SE	2-0	E	1-0	SE	2-0	6		
7	725	53	833	53	46.6	44.			46.8	45	46.	46.	12	E. & S.	2-0	E	1-0	E	1-0	SE	1-0	E	1-0	SE	1-0	E	1-0	SE	1-0	7		
8	30.050	54	30.128	55	46.8	43.8			46.1	46.1	44.4	44.3	8	SE	1-0	SE	1-0	SE	1-0	SE	1-0	SE	1-0	SE	1-0	SE	1-0	SE	1-0	8		
9	160	54	070	54	46.5	42.8			43.5	43.5	42.3	41.3	24	E.	0.5	E	0.5	E	0.5	E	0.5	E	0.5	E	0.5	E	0.5	E	0.5	9		
10	29.950	53	29.974	54	44.	38.			39.6	34.5	40	39.5	0	S	0	0	0	S	0	0	0	S	0	0	0	S	0	0	0	10		
11	30.050	54	30.118	52	40.5	34.2			40.3	40.3	42.2	40.2	0	SE	0	0	0	SE	0	0	0	SE	0	0	0	SE	0	0	0	11		
12	120	52	062	52	44.	38.5			39.5	38.5	37.5	35.5	0	W.	0	0	0	W.	0	0	0	W.	0	0	0	W.	0	0	0	12		
13	29.985	53	29.908	53	42.4	36.5			38.4	34.	36.2	35.	0	W.	0	0	0	W.	0	0	0	W.	0	0	0	W.	0	0	0	13		
14	302	52	30.012	50	42	36.4			36.5	35.5	35	33.	0	W.	0.5	SE	0.5	W	0.5	SE	0.5	W	0.5	SE	0.5	W	0.5	SE	0.5	14		
15	30.178	47	168	47	38.2	34.5			30.3	28.5	32.8	29.8	0	W.	0	W.	0	W	0	W.	0	W	0	W.	0	W	0	W.	0	15		
16	012	46	29.968	48	41.8	38.5			34.8	35.5	33.2	32.	17	SW	1-5	W.	0.5	SW	1-5	W.	0.5	SW	1-5	W.	0.5	SW	1-5	W.	0.5	16		
17	29.813	48	602	50	42.	38.			34.8	40.3	40.	39.1	0	SW	1-0	W	0	SW	1-0	W	0	SW	1-0	W	0	SW	1-0	W	0	17		
18	258	50	106	51	42.5	38.			35.5	34.1	38.	35.2	0	SE	-5	0	0	SE	-5	0	0	SE	-5	0	0	SE	-5	0	0	18		
19	168	49	414	53	39.8	33.5			34.8	35.8	34.8	34.	0	SE	0	SW	0	SE	0	SW	0	SE	0	SW	0	SE	0	SW	0	19		
20	503	48	480	49	44.3	34.			34.8	36.	35.	33.	0	SW	0	SW	0.5	SW	0	SW	0.5	SW	0	SW	0.5	SW	0	SW	0.5	20		
21	512	49	630	52	44.3	30.			33.9	33.9	38.1	34.	0	SE	0	0	0	SE	0	0	0	SE	0	0	0	SE	0	0	0	21		
22	818	50	30.088	50	42.	33.			41.8	41.8	39.1	34.	19	E. & S.	1-0	SE	1-5	E	1-0	SE	1-5	E	1-0	SE	1-5	E	1-0	SE	1-5	22		
23	30.100	49	29.954	49	41.8	38.4			39.3	34.8	38.2	38.	22	W. & S.	1-0	SE	0.5	W	1-0	SE	0.5	W	1-0	SE	0.5	W	1-0	SE	0.5	23		
24	29.623	47	410	48	42	36.			38.5	33.8	42.5	41.3	0	W	0.5	SW	0.5	W	0.5	SW	0.5	W	0.5	SW	0.5	W	0.5	SW	0.5	24		
25	337	48	380	50	43.5	34.2			39.7	38.	42.	40.5	0	W. & S.	1-0	SW	1-0	W	1-0	SW	1-0	W	1-0	SW	1-0	W	1-0	SW	1-0	25		
26	100	51	166	49	51.	34.8			30.4	48.5	46.6	45.	0	SW	3-0	SW	1-0	W	3-0	SW	1-0	W	3-0	SW	1-0	W	3-0	SW	1-0	26		
27	018	52	438	52	51.5	41.5			42.5	40.3	38.5	34.	31	SW	2-5	SW	0.5	0	0	SW	2-5	SW	0.5	0	0	SW	2-5	SW	0.5	27		
28	650	51	652	50	48	36.5			38.	36.8	37.5	36.5	12	SW	0	0	0	0	0	SW	0	0	0	0	0	0	0	0	0	28		
29	574	49	532	49	44.5	29	AB		38	34.	32.5	32.3	0	SW	0.5	0	0	SW	0.5	0	0	SW	0.5	0	0	SW	0.5	0	0	29		
30	608	48	626	49	44.	28.5	AB		45.2	43.9	44.5	46.	0	SW	0	SW	0.5	SW	0	SW	0.5	SW	0	SW	0.5	SW	0	SW	0.5	30		
31																														31		
Sums.	16.624	15	17.703	29	1378	1720			22.5	238	126	272.4	354																			
Means.	29.554	50.3	29.590	51.0	44.6	35.7			40.7	39.1	40.4	39.1																				
+ Total Corrections for Instru- mental Errors.	-0.32		-0.32																													
+ Corrections for Diurnal Range.																																
"Cor- rected 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.

ci. cirrus.

ci-cu. cirro-cumulus.

ci-s. cirro-stratus.

cu. cumulus.

cu-s. cumulo-stratus.

d. dew.

f. fog.

fr. frost.

h-fr. hoar-frost.

h. d. haze.

h. d. heavy dew.

hl. hail.

l. lightning.

li. cl. light clouds.

li. sh. light showers.

lu. co. lunar corona.

lu. ha. lunar halo.

m. denotes meteor.

ms. meteors.

n. nimbus.

r. rain.

h. r. heavy rain.

c. h. r. continued heavy rain.

s. stratus.

sc. scud.

s. sleet.

s. snow.

so. ha. solar halo.

sq. squall.

sq. squalls.

t. thunder.

t. s. thunder storm.

w. wind.

g. gale of wind.

TABLE FOR ESTIMATING FORCE OF WIND.

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

NOTATION USED IN GENERAL REMARKS.	
a. denotes aurora.	m. denotes meteor.
ci. cirrus.	ms. mists.
ci-cu. cirro-cumulus.	n. nimbus.
ci-s. cirro-stratus.	r. rain.
cu. cumulus.	h. r. heavy rain.
cu-s. cumulo-stratus.	c. h. r. continued heavy rain.
d. dew.	s. stratus.
f. fog.	sc. scud.
fr. frost.	s. sleet.
h. fr. hoar-frost.	s. snow.
h. haze.	so. ha. solar halo.
h. d. heavy dew.	sq. squall.
h. l. hail.	sqs. squalls.
l. lightning.	t. thunder.
li. cl. light clouds.	t. s. thunder storm.
li. sh. light showers.	w. wind.
li. co. lunar corona.	g. gale of wind.
li. la. 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

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.464
for Temp. (Col. 2), = 29.522 - 0.058
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.499
for Temp. (Col. 4), = 29.558 - 0.059
Mean at Station, corrected, and at 32°, = 29.481
Correction for height, 162 feet above Mean Sea-level, = .178
Mean, reduced to 32°, and Sea-level, = 29.659
Highest Reading, corrected for Index error, on the 15th, = 30.178
Lowest Do. Do. on the 3 th, = 28.440
Difference, or Monthly Range, = 1.738

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 27 th, = 51.5
Lowest in Month, corrected for Index errors, on the th, = 27.5
Difference, or Monthly Range, = 24.0
"Corrected Mean" of all the Highest, (Col. 5), = 44.6
"Corrected Mean" of all the Lowest, (Col. 6), = 35.7
Difference, or Mean Daily Range, = 8.9
** Calculated Mean Temperature of Month, = 40.2
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), = 40.6
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 39.2 39.1
†† Computed Temperature of Dew-Point, = 37.2
†† Do. Elastic Force of Vapour, = 2.02
†† Do. Weight of Vapour in a Cubic Foot of Air, = 2.57
†† Relative Humidity, (Saturation = 100), = 88
RAIN fell on 5 Days; Amount in Inches, = 3.54
WIND. SUMMARY.
Direction. N NE E SE S SW W NW
A.M. 2 4 3 5 7 5 4
P.M. 4 3 1 9 3 2 8
Mean. 1 2 4 1 3 8 4 3 4 0.62 = 0.38

* 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.
† Enhancing corrections for both capability and Index Errors.
†† The Diurnal Range for Scotland is as yet unknown.
††† These "Hygrometrical Deductions" are calculated from Glasgow's Hygrometrical Tables, Second Edition only.
While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 5 and 6 will be entered as the "Calculated Mean Temperature."
Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

Observations made and
Return verified by

(Signed) Robert Grover
Greatest Daily Range
= 18.1 on the 3rd

MA

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Leura Road, Edin.*, County of *Midlothian*, in Lat. _____, Long. _____, Distance from Sea _____ miles.

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

During the MONTH of *December* 188*7*

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				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.		No. of hours in which it fell.	Amount in inches.	9 h. A.M.		9 h. P.M.		Readings of the H.Cup Anemometer. No. —	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.		Velocity (0-10), and Direc- tion.	Amount (0-10), and Direc- tion.	Velocity (0-10), and Direc- tion.	Amount (0-10), and Direc- tion.	No. — 3 inches.	No. — 12 inches.	No. — 22 inches.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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BAROMETER, “corrected Mean” at 9 A.M., minus the Correction†† = 29.518
for Temp. (Col. 2), = 29.566... - 0.48...
Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = 29.526
for Temp. (Col. 4), = 29.576... - 0.50...
Mean at Station, corrected, and at 32°, = 29.522
Correction for height, 162 feet above Mean Sea-level, = 1.78
Mean, reduced to 32°, and Sea-level, = 29.700
Highest Reading, corrected for Index error, on the th, = 30.180
Lowest Do. Do. on the th, = 28.730
Difference, or Monthly Range, = 1.450

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 51.0
Lowest in Month, corrected for Index errors, on the th, = 23.0
Difference, or Monthly Range, = 28.0
“Corrected Mean” of all the Highest, (Col. 5), = 42.0
“Corrected Mean” of all the Lowest, (Col. 6), = 32.6
Difference, or Mean Daily Range, = 9.4
** Calculated Mean Temperature of Month, = 37.3

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), = 36.4
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 35.3
†† Computed Temperature of Dew-Point, = 33.7
†† Do. Elastic Force of Vapour, = 1.94
†† Do. Weight of Vapour in a Cubic Foot of Air, = 2.25
†† Relative Humidity, (Saturation = 100), = 90
RAIN fell on 12 Days; Amount in Inches, = 1.31

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.		1	1			3	6	9	11		0.45
P.M.			1	1			5	20	4		0.52
Mean.		1	0	1	0	2	5	15	7	0	0.48 = 0.23

Observations made and
Return verified by

(Signed)

Robert Cross

Greatest Daily Range = 16.1 on the 12th

