

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Barone Cottage, Rathusay, Duthusay, Bute*, in Lat. $55^{\circ}44'50''$ N, Long. $5^{\circ}46'$ W, Distance from Sea $10\frac{1}{2}$ miles.Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 3 feet.During the MONTH of *January* 188*6*.

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 Bulb. | | 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. | | | Temperature of Well, at foot of test. No. | | | | | | Temperature at Surface, and in Shade. | 9 A.M. 9 P.M. | |
| | | Barometer. * No. | Attached Thermometer. | Barometer. No. | Attached Thermometer. | Max. No. | Min. No. | Max. No. in Sun's rays. | Min. on Grass. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | | | Direction. | Force. | Direction. | Force. | 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. 1 inches. | No. 2 inches. | | | | | | | | | No. 3 inches. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 29.744 | 51 | 29.580 | 52 | 49 | 46 | | | 49 | 48.5 | 49 | 48 | 110 | SW | 1 | NW | 2 | | | | | | | | | | | | | | Dark bly & wet | 1 | | | |
| 2 | 29.734 | 56 | 29.820 | 45 | 50 | 39.5 | | | 43 | 41 | 40.8 | 39 | 115 | N | 5 | W | 5 | | | | | | | | | | | | | | 1/2 clear showers | 2 | | | |
| 3 | 29.450 | 45 | 29.350 | 45 | 51.8 | 39.5 | | | 46.6 | 46.3 | 41.5 | 37.5 | 290 | S | 1 | WNW | 2 | | | | | | | | | | | | | | Dull bly & wet | 3 | | | |
| 4 | 29.340 | 44 | 29.200 | 42 | 42.3 | 34.5 | | | 39.2 | 36.6 | 36.2 | 33.3 | 176 | WSW | 1 | WNW | 1-2 | | | | | | | | | | | | | | 1/2 clear bly, shut snow showers | 4 | | | |
| 5 | 29.100 | 40 | 29.535 | 37 | 41 | 29.8 | | | 36 | 34.2 | 31.8 | 27 | | NW | 2 | NW | 5 | | | | | | | | | | | | | | 3/4 clear cold hail showers | 5 | | | |
| 6 | 29.744 | 34 | 29.980 | 34 | 37 | 25.5 | | | 26 | 24.3 | 25.5 | 25 | | N | 5 | calm | | | | | | | | | | | | | | | clear frosty, fine | 6 | | | |
| 7 | 29.880 | 34 | 29.324 | 40 | 40 | 22 | | | 31.3 | 31 | 39 | 37.8 | 166 | SW | 1 | W | 1-2-3-4 gusty | | | | | | | | | | | | | | | Great blowing, snow showers | 7 | | |
| 8 | 29.430 | 36 | 29.650 | 34 | 40.2 | 28.5 | | | 30 | 30 | 29.6 | 29 | 134 | N | 2 | NNW | 1 | | | | | | | | | | | | | | 1/2 clear fine snow blasts | 8 | | | |
| 9 | 29.910 | 34 | 29.970 | 35 | 36.5 | 29 | | | 29.5 | 29 | 31 | 31 | 084 | NW | 1 | NW | 5 | | | | | | | | | | | | | | | O.C. fine | 9 | | |
| 10 | 29.800 | 35 | 29.570 | 37 | 35.2 | 27.5 | | | 34.5 | 33.8 | 35 | 34.3 | 201 | SE | 1 | calm | | | | | | | | | | | | | | | | Dull & wet | 10 | | |
| 11 | 29.776 | 39 | 30.080 | 37 | 40 | 34 | | | 38.5 | 36.5 | 34 | 31 | 010 | NW | 1 | NW | 1 | | | | | | | | | | | | | | | Clear bly raw frost | 11 | | |
| 12 | 29.874 | 39 | 29.604 | 46 | 46 | 32 | | | 41 | 39.8 | 43 | 43 | 280 | N | 1 | W | 1 | | | | | | | | | | | | | | | Dull & damp | 12 | | |
| 13 | 29.220 | 43 | 29.656 | 41 | 46.5 | 34.5 | | | 35.5 | 35 | 35 | 32.2 | 066 | NW | 2 | NW | 1 | | | | | | | | | | | | | | | 1/4 clear shut hail showers | 13 | | |
| 14 | 29.874 | 38 | 29.540 | 43 | 46.5 | 29.2 | | | 30 | 28.8 | 45.8 | 45.5 | 340 | calm | | WSW | 2 | | | | | | | | | | | | | | | Dull & drizzle | 14 | | |
| 15 | 29.280 | 44 | 29.160 | 41 | 47 | 33.8 | | | 40.2 | 38.8 | 36 | 34 | 100 | WSW | 1.5 | W | 2 | | | | | | | | | | | | | | | 2 clear hail showers | 15 | | |
| 16 | 29.240 | 40 | 28.920 | 40 | 37.5 | 33 | | | 36 | 33.8 | 34 | 33.3 | 325 | WSW | 1 | W | 1-2 | | | | | | | | | | | | | | | Dull bly shut sh. | 16 | | |
| 17 | 28.950 | 38 | 28.826 | 37 | 37 | 30.5 | | | 32.8 | 31.8 | 30.8 | 30.3 | 042 | SW | 1 | W | 5 | | | | | | | | | | | | | | | Hail & snow blasts | 17 | | |
| 18 | 28.890 | 35 | 28.984 | 35 | 32.2 | 21.2 | | | 24.2 | 23.5 | 27.5 | 27 | 504 | NW | 5 | calm | | | | | | | | | | | | | | | | 1/2 clear & cast | 18 | | |
| 19 | 29.236 | 30 | 29.180 | 35 | 36.6 | 26.3 | | | 27 | 25 | 34.5 | 34 | 130 | ENE | | | | | | | | | | | | | | | | | | 1/2 " strong gale | 19 | | |
| 20 | 29.540 | 34 | 29.632 | 35 | 35.2 | 30.5 | | | 32.2 | 30.2 | 35 | 33 | 006 | NE | 5 | ENE | 5 | | | | | | | | | | | | | | | 1/4 " fine " | 20 | | |
| 21 | 29.610 | 39 | 29.610 | 40 | 38 | 34.5 | | | 36 | 34 | 36.2 | 33.5 | | NE | 1 | calm | | | | | | | | | | | | | | | | 1/4 " " raw | 21 | | |
| 22 | 29.600 | 39 | 29.730 | 40 | 40.2 | 34.6 | | | 36.2 | 34 | 31 | 30 | | NE | 5 | E | 5 | | | | | | | | | | | | | | | 1/4 " " " | 22 | | |
| 23 | 29.664 | 36 | 29.600 | 39 | 39 | 29 | | | 35 | 32.3 | 34.5 | 32.5 | 036 | N | 5 | E | 1.5 | | | | | | | | | | | | | | | Cloudy | 23 | | |
| 24 | 29.520 | 37 | 29.432 | 37 | 36 | 32.5 | | | 35 | 33.5 | 33 | 32 | 050 | NE | 1 | E | 1.5 | | | | | | | | | | | | | | | Dull raw | 24 | | |
| 25 | 29.470 | 36 | 29.432 | 41 | 37 | 31 | | | 33 | 32 | 36 | 34 | 093 | E | 1 | E | 1.5 | | | | | | | | | | | | | | | " bly snow sh. | 25 | | |
| 26 | 29.490 | 39 | 29.600 | 40 | 38 | 33.5 | | | 36.6 | 35 | 36.5 | 35 | 010 | ENE | 2 | E | 5 | | | | | | | | | | | | | | | " cold | 26 | | |
| 27 | 29.700 | 40 | 29.800 | 40 | 37.8 | 35 | | | 36 | 34.2 | 37 | 35 | 080 | E | 1 | E | 1 | | | | | | | | | | | | | | | " hail showers cold | 27 | | |
| 28 | 29.660 | 39 | 29.516 | 39 | 38.8 | 34.5 | | | 35.8 | 34.8 | 36 | 35 | 275 | SE | 5 | SE | 1 | | | | | | | | | | | | | | | " " " | 28 | | |
| 29 | 29.300 | 40 | 29.370 | 41 | 40 | 35.2 | | | 39 | 37.8 | 35.2 | 34.2 | 190 | SE | 2 | WSW | 5 | | | | | | | | | | | | | | | Dull damp heavy showers | 29 | | |
| 30 | 29.216 | 39 | 29.024 | 41 | 39.6 | 32.2 | | | 35.8 | 34 | 32.8 | 32 | 158 | SSW | 5 | WSW | 2 | | | | | | | | | | | | | | | " bly snow sh. | 30 | | |
| 31 | 28.806 | 39 | 28.720 | 40 | 36 | 30 | | | 32.8 | 31.2 | 31.5 | 31 | 400 | WSW | 5 | WNW | 5 | | | | | | | | | | | | | | | | Heavy snow | 31 | |
| Sums. | | 18.124 | 16 | 17.124 | 10 | 15.6 | 14.9 | | 15.7 | 14.0 | 14.8 | 12.4 | 4671 | | 5 | 7 | | | | | | | | | | | | | | | | | 18.5 inches snow which lay on the ground | | |
| Means. | | 15.048 | 282 | 14.553 | 29.9 | 07.9 | 54.8 | | 16.37 | 120.7 | 164.8 | 119.4 | 57 | | 30.0 | 30.0 | | | | | | | | | | | | | | | | | | | |
| 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 $\uparrow\uparrow$ for Temp. (Col. 2), = 29.485 ... 29.457

Corrected Mean" of Barometer at 9 P.M., minus the Correction $\uparrow\uparrow$ for Temp. (Col. 4), = 29.469 ... 29.440

Mean at Station, corrected, and at 32°, = 29.448

Correction for height, feet above Mean Sea-level, = 1.27

Mean, reduced to 32°, and Sea-level, = 29.575

Highest Reading, corrected for Index error, on the th, = 30.080

Lowest Do. Do., on the th, = 28.806

Difference, or Monthly Range, = 1.274

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 51.8

Lowest in Month, corrected for Index errors, on the th, = 21.2

Difference, or Monthly Range, = 30.6

"Corrected Mean" of all the Highest, (Col. 5), = 40.3

"Corrected Mean" of all the Lowest, (Col. 6), = 31.8

Difference, or Mean Daily Range, = 8.5

** Calculated Mean Temperature of Month, = 36.0

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), = 35.3

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 33.9

Computed Temperature of Dew-Point, = 31.7

Do. Elastic Force of Vapour, = $.179$

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

Relative Humidity, (Saturation = 100), = 87

RAIN fell on 27 Days; Amount in Inches, = 4.67

| WIND. | | SUMMARY. | | | | | | | | | |
|------------|--|----------|----|---|----|---|----|----|----|-------------------|-------------|
| Direction. | | N | NE | E | SE | S | SW | W | NW | Calm or Variable. | Mean Force. |
| A.M. | | 2 | 4 | 4 | 1 | 3 | 3 | 5 | 4 | | |
| P.M. | | 1 | 7 | 1 | | | | 12 | 5 | | |
| Mean. | | 2 | 2 | 5 | 1 | 1 | 2 | 8 | 5 | 0.97 | 0.94 |

Observations made and
Return verified by*James May*

(Signed)

*James May**H.R.*
H.B.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Barone Cottage, Rubisay, County of But, in Lat. 55° 49' 50" N, Long. 5° 4' 5" W, Distance from Sea 10 miles.Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 3 feet.During the MONTH of February 1886.

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. Max. in Sun rays. Min. on Grass. | | Dry No. Wet No. | | Wet No. | | 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. | Attached Thermometer. | Barometer. | Attached Thermometer. | No. | Min. | No. | Max. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | No. | Amount. | Direction. | Force. | Direction. | Force. | 9 h. A.M. | Amount (0-10), and Direction. | Amount (0-10), and Direction. | Velocity (0-10), and Direction. | Amount (0-10), and Direction. | No. | 12 inches. | | | | | | No. | 22 inches. | | |
| | | * No. | inches. | No. | 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. | |
| | | inches. | ° | inches. | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | | | | | | ° | ° | ° | |
| | 1 | 29.950 | 37 | 29.210 | 39 | 36.6 | 28.5 | | | 33 | 31 | 35 | 33.5 | 345 | W | .5 | NW | 1 | | | 8 | | | | | | | 1 inch snow | 1/4 clear. snow showers | 1 | | | | | |
| | 2 | 29.340 | 37 | 29.392 | 40 | 43 | 31.8 | | | 34 | 32.5 | 33 | 31.8 | | NW | .5 | calm | | | | 3 | | | | | | | | 1/2 " fine | | 2 | | | | |
| | 3 | 29.458 | 37 | 29.840 | 35 | 42.5 | 27 | | | 32 | 30.5 | 27 | 26 | | NE | .5 | calm | | | | 5 | | | | | | | | 3/4 " " frosty | | 3 | | | | |
| | 4 | 30.124 | 34 | 30.250 | 34 | 43 | 22.5 | | | 34.8 | 24.2 | 25 | 23.5 | | WNW | .5 | calm | | | | | | | | | | | | clear | " " | | 4 | | | |
| | 5 | 30.070 | 33 | 29.900 | 37 | 35.6 | 22.5 | | | 30 | 28.5 | 32 | 31.5 | 140 | SE | .5 | SE | .5 | | | | 10 | | | | | | | 1/4 " " | Quill | " | | 5 | | |
| | 6 | 30.050 | 37 | 30.060 | 37 | 35.5 | 32.0 | | | 32 | 30.2 | 33 | 32.3 | 140 | ESE | .5 | SE | .5 | | | | 10 | | | | | | | | " Raw | | 6 | | | |
| | 7 | 30.100 | 37 | 30.230 | 40 | 42 | 32.5 | | | 35.8 | 35 | 41 | 41 | 205 | S | 1.5 | S | 1 | | | | 10 | | | | | | | | " Damp | | 7 | | | |
| | 8 | 30.394 | 43 | 30.400 | 36 | 47 | 41 | | | 43.0 | 43 | 45 | 45 | | SSW | .5 | S | 1 | | | | 9 | | | | | | | | " | | 8 | | | |
| | 9 | 30.370 | 42 | 30.310 | 47 | 47.5 | 43 | | | 44 | 43.5 | 44 | 42.3 | 352 | S | .5 | SW | .5 | | | | 10 | | | | | | | | " mild | | 9 | | | |
| | 10 | 30.280 | 46 | 30.230 | 46 | 48.6 | 35.5 | | | 44.5 | 43 | 35.5 | 30 | 008 | WSW | .5 | calm | | | | | 10 | | | | | | | | 1/2 clear fine | | 10 | | | |
| | 11 | 30.018 | 44 | 29.790 | 42 | 43 | 33.6 | | | 38.6 | 38.2 | 41 | 39 | 062 | S | .5 | SSW | .5 | | | | 10 | | | | | | | | 1/3 " " | | 11 | | | |
| | 12 | 29.710 | 44 | 29.584 | 44 | 44 | 40.2 | | | 41 | 40 | 43 | 42.5 | 060 | S | 1.5 | S | 2 | | | | 10 | | | | | | | | Quill blowing | " | 12 | | | |
| | 13 | 29.500 | 44 | 29.457 | 44 | 45.2 | 37 | | | 44 | 43.5 | 37 | 36.2 | 650 | S | 2 | NNW | .5 | | | | 10 | | | | | | | | " blowing wet | | 13 | | | |
| | 14 | 29.490 | 42 | 29.730 | 41 | 43.6 | 33 | | | 35 | 34.2 | 36 | 34 | 040 | W | .5 | SW | .5 | | | | 10 | | | | | | | | 1/4 clear snow sho | | 14 | | | |
| | 15 | 29.940 | 40 | 30.040 | 39 | 42.8 | 30.5 | | | 32.6 | 32.2 | 34.6 | 33 | | SW | calm | | calm | | | | 10 | | | | | | | | moon halo | 1/2 " large sun halo | | 15 | | |
| | 16 | 30.024 | 38 | 30.000 | 38 | 39.5 | 30.5 | | | 32.3 | 31.2 | 33.2 | 32 | | SW | .5 | ENE | .5 | | | | 3 | | | | | | | | 1/2 " fine cold | | 16 | | | |
| | 17 | 30.020 | 38 | 30.140 | 39 | 44 | 32.5 | | | 35 | 33 | 36 | 33.5 | | NE | .5 | NE | 1 | | | | 8 | | | | | | | | 1/3 " " | | 17 | | | |
| | 18 | 30.230 | 38 | 30.130 | 38 | 38 | 33.6 | | | 35.5 | 33.8 | 34 | 32.5 | 006 | ENE | 1 | E | 1 | | | | 9 | | | | | | | | Quill Raw & cold | | 18 | | | |
| | 19 | 30.000 | 37 | 29.970 | 38 | 37 | 31.5 | | | 33.6 | 32 | 33.5 | 32 | 012 | SE | .5 | SE | .5 | | | | 10 | | | | | | | | " & fine | | 19 | | | |
| | 20 | 29.970 | 37 | 30.030 | 42 | 36.5 | 31 | | | 33 | 32.5 | 35.5 | 34.5 | 180 | ESE | .5 | E | .5 | | | | 10 | | | | | | | | " & much | | 20 | | | |
| | 21 | 30.080 | 38 | 30.146 | 39 | 40.3 | 35.5 | | | 37 | 36 | 38.6 | 38 | 158 | NE | .5 | E | .5 | | | | 10 | | | | | | | | " heavy fine | | 21 | | | |
| | 22 | 30.210 | 40 | 30.260 | 42 | 44 | 35 | | | 38 | 37.3 | 35 | 34 | 016 | NE | .5 | E | 1 | | | | 10 | | | | | | | | " fine | | 22 | | | |
| | 23 | 30.300 | 39 | 30.210 | 37 | 37.5 | 33 | | | 34.2 | 32 | 33 | 30.5 | | ENE | .5 | E | .5 | | | | 10 | | | | | | | | " & cold | | 23 | | | |
| | 24 | 30.150 | 37 | 30.124 | 37 | 37 | 30.3 | | | 32.6 | 30.5 | 32 | 30.2 | | ESE | .5 | E | .5 | | | | 9 | | | | | | | | " | | 24 | | | |
| | 25 | 30.150 | 36 | 30.170 | 35 | 38.3 | 28.5 | | | 31 | 29.5 | 30.2 | 28.5 | | ENE | .5 | ENE | .5 | | | | 8 | | | | | | | | 1/3 clear frosty fine | | 25 | | | |
| | 26 | 30.210 | 35 | 30.194 | 36 | 39 | 28.2 | | | 32 | 30 | 32 | 30 | | ENE | .5 | ENE | 1 | | | | 8 | | | | | | | | 1/4 " " | | 26 | | | |
| | 27 | 30.150 | 35 | 30.180 | 35 | 38.5 | 30.5 | | | 33 | 30 | 32.3 | 30.5 | | E | 1.5 | E | 1.5 | | | | 3 | | | | | | | | Quill lily & cold | | 27 | | | |
| | 28 | 30.212 | 35 | 30.064 | 35 | 38.5 | 30 | | | 33.3 | 32.6 | 31.3 | 30 | | E | 1.5 | E | 1.5 | | | | 3 | | | | | | | | " | | 28 | | | |
| | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | " | | 29 | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | " | | 30 | | |
| | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | " | | 31 | | |
| Sums. | | 8.11.3 | .15 | 9.12.3 | .15 | 15.8 | 9.8 | | | 10.6 | 8.6 | 10.3 | 8.6 | 2374 | | 12 | 7 | | | | | 226 | | | | | | | | | | | | | |
| Means. | | 27.500 | 24.0 | 0.041 | 25.2 | 28.0 | 60.7 | | | 145.6 | 109.7 | 138.7 | 97.8 | 15 | | 19.5 | 18.5 | | | | | 226 | | | | | | | | | | | | | |
| † 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†† = 29.955
for Temp. (Col. 2), = 29.928..... = 29.973
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.973
for Temp. (Col. 4), = 29.991..... = 29.964
Mean at Station, corrected, and at 32°..... = 29.964
Correction for height, feet above Mean Sea-level..... = 1.27
Mean, reduced to 32°, and Sea-level..... = 30.091
Highest Reading, corrected for Index error, on the th..... = 30.400
Lowest Do. Do., on the th..... = 28.950
Difference, or Monthly Range,..... = 1.450

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th..... = 48.6
Lowest in Month, corrected for Index errors, on the th..... = 22.5
Difference, or Monthly Range,..... = 26.1
"Corrected Mean" of all the Highest, (Col. 5),..... = 41.0
"Corrected Mean" of all the Lowest, (Col. 6),..... = 32.2
Difference, or Mean Daily Range,..... = 8.8
** Calculated Mean Temperature of Month,..... = 36.6

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),..... = 35.1

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12),..... = 33.7

†† Computed Temperature of Dew-Point,..... = 31.5

†† Do. Elastic Force of Vapour,..... = .177

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

†† Relative Humidity, (Saturation = 100),..... = 86

RAIN fell on 5 Days; Amount in Inches,..... = 2.37

| WIND. | | SUMMARY. | | | | | |
|------------|---|----------|---|----|---|----|---|
| Direction. | N | NE | E | SE | S | SW | W |
| A.M. | | | | | | | |
| P.M. | | | | | | | |
| Mean. | | | | | | | |

* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S." and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.
† Emending 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

James May

(Signed)

James May

H. R.
H. R.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Barrow Village, County of Butte, in Lat. 55° 49' 50" Long. 5° 45', Distance from Sea 10 miles.

Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 3 feet.

During the MONTH of March 1886.

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. | | | | SUNSHINE. | 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 to Sun's rays & Min. on Grass. | | 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. | Attached Thermometer. | Barometer. No. | Attached Thermometer. | Max. No. | Min. No. | Max. No. | Min. No. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | | | Direction. | Force. | Direction. | Force. | | Velocity (0—10), and Direction. | Amount (0—10), and Species. | Velocity (0—10), and Direction. | | Amount (0—10), and Species. | No. 8 inches. | No. 12 inches. | | | | | No. 22 inches. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AB | 1 | 29.774 | 34 | 29.550 | 33 | 32.528.3 | 30.8 | 30.3 | 30.2 | 28.3 | 27.5 | 100 | ENE | E | | | | | 10 | 10 | | | | | | | | | Dull bly cold fine snow | 1 | | |
| | 2 | 29.416 | 33 | 29.460 | 34 | 32.628 | 31.2 | 31.2 | 30.3 | 31 | 30.5 | 100 | NE | NE | | | | | 10 | 10 | | | | | | | | | " | 2 | | |
| | 3 | 29.700 | 35 | 29.750 | 39 | 42.526.5 | 32 | 32 | 30 | 35 | 33.5 | 013 | NW | NW | | | | | 2 | 10 | | | | | | | | | Clear & fine | 3 | | |
| | 4 | 29.614 | 38 | 29.500 | 39 | 41.533.5 | 38 | 38 | 36.5 | 34 | 33.5 | | W | W | | | | | 9 | 2 | | | | | | | | | 1/4 " slight shower | 4 | | |
| | 5 | 29.330 | 37 | 29.390 | 39 | 39 | 31 | 35 | 33.5 | 33 | 33 | 120 | calm | calm | | | | | 10 | 10 | | | | | | | | | Dull & cold | 5 | | |
| | 6 | 29.708 | 36 | 29.990 | 35 | 38.626.5 | 30.8 | 30.8 | 28.8 | 27 | 26.6 | | NNW | NW | | | | | - | - | | | | | | | | | 3/4 c fine frosty | 6 | | |
| | 7 | 30.074 | 34 | 30.060 | 37 | 38.823 | 31 | 31 | 30.8 | 30.5 | 30.2 | | E | SE | | | | | - | - | | | | | | | | | " | 7 | | |
| | 8 | 30.056 | 34 | 30.130 | 37 | 38.529.5 | 32.2 | 32.2 | 31.5 | 36 | 33 | | SE | SE | | | | | 10 | 10 | | | | | | | | | Atmos. bly cold | 8 | | |
| | 9 | 30.130 | 35 | 30.244 | 37 | 43 | 31 | 31.5 | 28 | 33 | 28.5 | | SE | SE | | | | | 8 | - | | | | | | | | | 1/2 clear frosty fine | 9 | | |
| | 10 | 30.350 | 35 | 30.410 | 37 | 42.628.6 | 34.2 | 34.2 | 30.6 | 33 | 30.2 | | SE | SE | | | | | 2 | 1 | | | | | | | | | clear | 10 | | |
| | 11 | 30.442 | 35 | 30.416 | 35 | 42 | 28 | 32 | 28 | 20 | 28 | | SE | E | | | | | - | - | | | | | | | | | " | 11 | | |
| | 12 | 30.300 | 34 | 30.322 | 34 | 37.327.5 | 30.2 | 30.2 | 28.2 | 30.3 | 28.2 | | E | E | | | | | 10 | - | | | | | | | | | 1/2 " | 12 | | |
| | 13 | 30.370 | 34 | 30.350 | 37 | 44.328 | 35 | 35 | 31 | 30.2 | 30.3 | | NE | E | | | | | 3 | - | | | | | | | | | 1/2 " | 13 | | |
| | 14 | 30.260 | 34 | 30.064 | 36 | 41.630 | 37 | 37 | 32 | 32 | 30 | | SE | SE | | | | | - | 10 | | | | | | | | | 1/3 " bowing | 14 | | |
| | 15 | 30.040 | 36 | 30.080 | 38 | 39.632 | 33 | 33 | 31 | 33.5 | 32 | | E | ENE | | | | | 10 | 6 | | | | | | | | | Dull blowy pale of snow | 15 | | |
| | 16 | 30.014 | 36 | 29.944 | 37 | 37.31.6 | 33.3 | 33.3 | 31 | 33 | 31.2 | 053 | NE | NE | | | | | 10 | 10 | | | | | | | | | " | 16 | | |
| | 17 | 29.934 | 36 | 29.890 | 37 | 37.633 | 33.2 | 33.2 | 31.6 | 33.5 | 31.3 | | E | E | | | | | 10 | 10 | | | | | | | | | " | 17 | | |
| | 18 | 29.816 | 36 | 29.774 | 40 | 39.33.5 | 33.6 | 33.6 | 31.3 | 37.5 | 36.3 | 265 | E | E | | | | | 10 | 10 | | | | | | | | | " | 18 | | |
| | 19 | 29.730 | 40 | 29.634 | 43 | 45.537.5 | 39.5 | 39.5 | 38.5 | 42.3 | 42.2 | 620 | NE | SSW | | | | | 10 | 10 | | | | | | | | | I wet | 19 | | |
| | 20 | 29.650 | 43 | 29.664 | 45 | 47.41.5 | 43 | 43 | 42.8 | 44.8 | 44.5 | 383 | SE | calm | | | | | 10 | 10 | | | | | | | | | heavy & mild | 20 | | |
| | 21 | 29.700 | 45 | 29.830 | 50 | 55.644 | 48.8 | 48.8 | 48.3 | 49 | 48.2 | 065 | SW | SW | | | | | 10 | 10 | | | | | | | | | I mild | 21 | | |
| | 22 | 29.894 | 47 | 29.800 | 48 | 50.342.2 | 45.5 | 45.5 | 45.3 | 42.4 | 45.5 | 455 | S | SE | | | | | 10 | 10 | | | | | | | | | chilly | 22 | | |
| | 23 | 29.808 | 48 | 29.864 | 49 | 52 | 43 | 46.3 | 46 | 48 | 48 | 090 | SSW | SE | | | | | 10 | 10 | | | | | | | | | mild | 23 | | |
| | 24 | 29.864 | 48 | 29.664 | 52 | 57 | 46.2 | 47.2 | 47 | 49.3 | 49.3 | 010 | SSW | SSW | | | | | 10 | 10 | | | | | | | | | " | 24 | | |
| | 25 | 29.604 | 51 | 29.630 | 50 | 54.244 | 46 | 46 | 45.3 | 45 | 44 | 030 | S | SSW | | | | | 10 | 10 | | | | | | | | | 1/4 fine chilly | 25 | | |
| | 26 | 29.420 | 49 | 29.300 | 48 | 46.643 | 45 | 45 | 44 | 45 | 44.3 | 453 | S | NNW | | | | | 10 | 2 | | | | | | | | | " I wet | 26 | | |
| | 27 | 29.364 | 48 | 29.450 | 47 | 44.241 | 46.3 | 46.3 | 44.8 | 41 | 40.5 | 168 | SE | NW | | | | | 10 | 2 | | | | | | | | | " | 27 | | |
| | 28 | 29.722 | 46 | 29.520 | 46 | 51 | 37 | 43.6 | 40.5 | 41.8 | 38 | 068 | WSW | SSW | | | | | 8 | 8 | | | | | | | | | " fine | 28 | | |
| | 29 | 29.330 | 46 | 29.416 | 46 | 47.236.5 | 42 | 42 | 43 | 37.2 | 35 | 145 | WSW | VV | | | | | 8 | 10 | | | | | | | | | chilly | 29 | | |
| | 30 | 29.472 | 43 | 29.214 | 47 | 52.535 | 39.2 | 39.2 | 28 | 39.5 | 36.5 | 500 | S | NW | | | | | 10 | 10 | | | | | | | | | Dull blwy & Rain | 30 | | |
| | 31 | 28.984 | 41 | 29.450 | 43 | 44 | 34.5 | 35 | 34 | 35.5 | 32.5 | 140 | NW | VV | | | | | 10 | 10 | | | | | | | | | " shower | 31 | | |
| Sums. | | 15.11.8 | 18 | 15.13.5 | 17 | 16.10 | 14.6 | 13.6 | 11.8 | 12.5 | 13.8 | 3778 | | | | | | | 140 | 211 | | | | | | | | | | | | |
| Means. | | 29.878 | 39.6 | 29.799 | 41.1 | 42.9 | 34.0 | 37.4 | 35.8 | 37.0 | 35.6 | | | | | | | | 7.7 | 6.8 | | | | | | | | | | | | |
| † Total Corrections for Instrumental Errors. | | | | | | | | | | | | | | | | | | | 7.2 | | | | | | | | | | | | | |
| † 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. | " meteor. | | |
| ci-cu. | " cirro-cumulus. | n. | " nimbus. | | |
| ci-s. | " cirro-stratus. | r. | " rain. | | |
| cu. | " cumulus. | h. r. | " heavy rain. | | |
| cu-s. | " cumulo-stratus. | c. h. r. | " continued heavy rain. | | |
| d. | " dew. | s. | " stratus. | | |
| f. | " fog. | sc. | " scud. | | |
| fr. | " frost. | s. | " sleet. | | |
| h-fr. | " hoar-frost. | s. | " snow. | | |
| h. | " haze. | sol. h. | " solar halo. | | |
| h. d. | " heavy dew. | sq. | " squall. | | |
| h. l. | " hail. | sq. s. | " squalls. | | |
| l. | " lightning. | t. | " thunder. | | |
| li. cl. | " light clouds. | t. s. | " thunder storm. | | |
| li. sh. | " light showers. | w. | " wind. | | |
| lu. co. | " lunar corona. | g. | " gale of wind. | | |
| lu. h. | " lunar halo. | | | | |

| TABLE FOR ESTIMATING FORCE OF WIND. | | | | | |
|-------------------------------------|---------------------|-----------------------|---------------------|-----------------------|---------------------|
| Estimated Force, 0—6. | Common Designation. | Estimated Force, 0—6. | Common Designation. | Estimated Force, 0—6. | Common Designation. |
| 0 | Calm | 1.5 | Light breeze | 4 | Blowing hard |
| 0.5 | Very light air | 2 | Fresh breeze | 5 | Blowing a gale |
| 1 | Light air | 3 | Very fresh | 6 | Violent gale |

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.771
 for Temp. (Col. 2), = 29.771 - 0.30 = 29.471
 Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.765
 for Temp. (Col. 4), = 29.765 - 0.34 = 29.425
 Mean at Station, corrected, and at 32°, = 29.768
 Correction for height, 116 feet above Mean Sea-level, = .127
 Mean, reduced to 32°, and Sea-level, = 29.895
 Highest Reading, corrected for Index error, on the th, = 30.442
 Lowest Do. Do., on the th, = 28.984
 Difference, or Monthly Range, = 1.458

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 57.0
 Lowest in Month, corrected for Index errors, on the th, = 23.0
 Difference, or Monthly Range, = 34.0
 "Corrected Mean" of all the Highest, (Col. 5), = 43.9
 "Corrected Mean" of all the Lowest, (Col. 6), = 34.0
 Difference, or Mean Daily Range, = 9.9
 ** Calculated Mean Temperature of Month, = 39.0

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), = 37.3
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 35.7
 †† Computed Temperature of Dew-Point, = 33.6
 †† Do. Elastic Force of Vapour, = .193
 †† Do. Weight of Vapour in a Cubic Foot of Air, =
 †† Relative Humidity, (Saturation = 100), = 87
 RAIN fell on 19 Days; Amount in Inches, = 3.78

| WIND. | | SUMMARY. | | | | | | | | | |
|------------|--|----------|----|---|----|---|----|---|----|-------------|---------------------------------|
| Direction. | | N | NE | E | SE | S | SW | W | NW | Mean Force. | Mean Velocity in miles per day. |
| A.M. | | 1 | 4 | 6 | 7 | 4 | 1 | 2 | 1 | 5 | |
| P.M. | | 2 | 7 | 7 | 4 | 1 | 4 | 4 | 2 | | |
| Mean. | | 1 | 3 | 6 | 7 | 4 | 1 | 3 | 3 | | |

Observations made and
 Return verified by

James May

(Signed)

James May H.R.
H.R.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Barone Cottage, Ruchlogh*, County of *Bute*, in Lat. *55° 49' N* Long. *5° 41' W*, Distance from Sea *10* miles.

Height of Cistern of the Barometer above Mean Sea-level *116* feet, above Ground *3* feet.

During the MONTH of *April* 188*6*.

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. | | Dry No. Wet No. | | 9 h. A.M. 9 h. P.M. | | 9 h. A.M. 9 h. P.M. | | 9 A.M. P.M. | | 9 h. A.M. | | 9 h. A.M. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Barometer. | Attached Thermometer. | Barometer. | Attached Thermometer. | Max. No. | Min. No. | Max. in Sun-rays. | Min. on Grass. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | No. of hours in which it fell. | Amount in inches. | 9 h. A.M. 9 h. P.M. | 9 h. A.M. 9 h. P.M. | 9 A.M. P.M. | 9 h. A.M. 9 h. P.M. | 9 h. A.M. 9 h. P.M. | 9 h. A.M. 9 h. P.M. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | inches. | ° | inches. | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | | | | | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° |

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction \uparrow = *29.762*
 for Temp. (Col. 2), = *29.810* — *0.048* }
 Corrected Mean " of Barometer at 9 P.M., minus the Correction \uparrow = *29.764*
 for Temp. (Col. 4), = *29.815* — *0.051* }
 Mean at Station, corrected, and at 32°, = *29.763*
 Correction for height, feet above Mean Sea-level, = *.127*
 Mean, reduced to 32°, and Sea-level, = *29.890*
 Highest Reading, corrected for Index error, on the th, = *30.340*
 Lowest Do. Do., on the th, = *28.844*
 Difference, or Monthly Range, = *1.496*

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = *65.0*
 Lowest in Month, corrected for Index errors, on the th, = *31.0*
 Difference, or Monthly Range, = *34.0*
 "Corrected Mean" of all the Highest, (Col. 5), = *52.8*
 "Corrected Mean" of all the Lowest, (Col. 6), = *37.3*
 Difference, or Mean Daily Range, = *15.5*
 ** Calculated Mean Temperature of Month, = *45.0*
 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), = *43.2*
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = *40.8*
 ‡ Computed Temperature of Dew-Point, = *37.9*
 ‡ Do. Elastic Force of Vapour, = *.228*
 ‡ Do. Weight of Vapour in a Cubic Foot of Air, ... =
 ‡ Relative Humidity, (Saturation = 100), = *81*
 RAIN fell on *18* Days; Amount in Inches, = *2.09*

| WIND. | | SUMMARY. | | | | | | | | | |
|------------|--|----------|----|---|----|---|----|---|----|-------------|---------------------------------|
| Direction. | | N | NE | E | SE | S | SW | W | NW | Mean Force. | Mean Velocity in miles per day. |
| A.M. | | 1 | 9 | 3 | | | 4 | 1 | 2 | 10 | 0.95 |
| P.M. | | 1 | 2 | 7 | | 3 | 1 | 5 | 4 | 7 | 0.87 |
| Mean. | | 1 | 6 | 5 | 0 | 1 | 3 | 3 | 3 | 8 | 0.91 = 0.83 lb |

* 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 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

James Kay

(Signed)

James Kay

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Barone Cottage, County of Perth, in Lat. 55° 49' 50", Long. 5° 4' 5", Distance from Sea 10 miles.Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 3 feet.During the MONTH of May 1886.

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. | | Days of Month. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | 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 h. A.M. | 9 A.M. | | P.M. | | 9 h. A.M. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Barometer. * No. | Attach- ed Ther- mometer No. | Barometer. No. | Attach- ed Ther- mometer No. | Max. No. | Min. No. | Max. No. | Min. on Grass. No. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | | | Dirac- tion. | Force | Dirac- tion. | Force | | Velocity (0-5), and Dirac- tion. | Amount (0-10), and Species. | Velocity (0-5), and Dirac- tion. | Amount (0-10), and Species. | Hours. | No. 3 inches. | | | | | | No. 12 inches. | No. 22 inches. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | inches. | ° | inches. | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° |

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction \uparrow for Temp. (Col. 2), = 29.779
Corrected Mean" of Barometer at 9 P.M., minus the Correction \uparrow for Temp. (Col. 4), = 29.773
Mean at Station, corrected, and at 32°, = 29.776
Correction for height, 116 feet above Mean Sea-level, = .127
Mean, reduced to 32°, and Sea-level, = 29.903
Highest Reading, corrected for Index error, on the th, = 30.274
Lowest Do. Do., on the th, = 29.040
Difference, or Monthly Range, = 1.234

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 67.0
Lowest in Month, corrected for Index errors, on the th, = 35.2
Difference, or Monthly Range, = 31.8
"Corrected Mean" of all the Highest, (Col. 5), = 54.6
"Corrected Mean" of all the Lowest, (Col. 6), = 40.9
Difference, or Mean Daily Range, = 13.7
** Calculated Mean Temperature of Month, = 47.8

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), = 46.6
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 45.2
Computed Temperature of Dew-Point, = 43.7
Do. Elastic Force of Vapour, = .285
Do. Weight of Vapour in a Cubic Foot of Air, ... =
Relative Humidity, (Saturation = 100), = 90
RAIN fell on 19 Days; Amount in Inches, = 2.95

| WIND. SUMMARY. | | | | | | | | | | |
|----------------|---|----|---|----|---|----|---|----|-------------------|-----------------|
| Direction. | N | NE | E | SE | S | SW | W | NW | Calm or Variable. | Mean Force. |
| A.M. | | 7 | 5 | 1 | 3 | 4 | 1 | 2 | 8 | 0.87 |
| P.M. | | 1 | 5 | 3 | 1 | 4 | 5 | 6 | 6 | 0.77 |
| Mean. | | 1 | 6 | 4 | 1 | 3 | 2 | 3 | 4 | 0.82 = 0.67 lbs |

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

James Kay

(Signed)

James Kay H.R.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Barone Cottage, Katharine County of Bute, in Lat. 55° 49' 50" N, Long. 5° 41' 5" W, Distance from Sea 10 miles.
Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 3 feet. During the MONTH of June 1886.
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, & Freshly 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.C. or Anemometer. | 9 A.M. | | P.M. | | SUNSHINE. Hours. | 9 h. A.M. | | | | | | | |
| | | Barometer. * No. | Attached Thermometer. | Barometer. No. | Attached Thermometer. | Max. No. | Min. No. | Max. No. | Min. No. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | | | Direction. | Force. | Direction. | Force. | | No. 3 inches. | No. 12 inches. | No. 22 inches. | Temperature of WELL at depth of feet. No. | | Temperature at 1 fathom, and Density. | | | | | | 9 A.M. 9 P.M. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | inches. |
| | | * No. | ° | No. | ° | No. | ° | No. | ° | No. | ° | No. | ° | No. | ° | No. | ° | No. | ° | No. | ° | No. | ° | No. | ° | No. | | | | | | ° | No. |
| 1 | 29.930 | 53 | 29.820 | 53 | 59.5 | 38 | | | | 51.3 | 50 | 45.5 | 45.2 | 0.10 | NE | 1 | NE | 1.5 | | ✓ | | | | | | | | | | | 1 | | |
| 2 | 29.926 | 50 | 30.064 | 53 | 57 | 44.0 | | | | 48.8 | 47.8 | 48.5 | 47.5 | | NE | 5 | NE | 5 | | 10 | | | | | | | | | | | 2 | | |
| 3 | 30.134 | 54 | 30.110 | 56 | 61.5 | 47 | | | | 52.8 | 50.5 | 49 | 48 | | NE | 5 | calm | | | 1 | | | | | | | | | | | 3 | | |
| 4 | 30.140 | 57 | 30.134 | 59 | 65 | 38.5 | | | | 56.3 | 54.5 | 51.5 | 50 | | WSW | 5 | NW | 5 | | - | | | | | | | | | | | 4 | | |
| 5 | 30.084 | 56 | 30.000 | 58 | 58 | 42 | | | | 53.8 | 51.4 | 50.6 | 49 | | W | 1 | N | 5 | | 10 | | | | | | | | | | | 5 | | |
| 6 | 29.930 | 54 | 29.870 | 56 | 58.8 | 46.2 | | | | 51.6 | 50.2 | 50.5 | 50.2 | 0.70 | W | 1 | SW | 5 | | 10 | | | | | | | | | | | 6 | | |
| 7 | 29.884 | 57 | 29.900 | 60 | 67 | 49 | | | | 55.2 | 53.2 | 51.2 | 50.3 | 0.03 | W | 1 | calm | | | 1 | | | | | | | | | | | 7 | | |
| 8 | 29.856 | 57 | 29.780 | 59 | 57.3 | 48.8 | | | | 55.7 | 54.8 | 55 | 53 | 1.00 | S | 5 | S | 5 | | 10 | | | | | | | | | | | 8 | | |
| 9 | 29.734 | 59 | 29.710 | 62 | 67.5 | 50.5 | | | | 59 | 57 | 54.3 | 54.2 | | SE | 5 | SSW | 5 | | 8 | | | | | | | | | | | 9 | | |
| 10 | 29.700 | 57 | 29.780 | 60 | 65.2 | 49.5 | | | | 52 | 51.5 | 54.6 | 54.5 | | E | 1 | NW | 5 | | 10 | | | | | | | | | | | 10 | | |
| 11 | 29.740 | 62 | 29.600 | 60 | 63.8 | 51.5 | | | | 60.6 | 56 | 52.3 | 52 | 0.50 | S | 5 | SSW | 5 | | 6 | | | | | | | | | | | 11 | | |
| 12 | 29.486 | 57 | 29.570 | 57 | 58.8 | 48.5 | | | | 54 | 52 | 49.5 | 47.2 | 0.90 | SSW | 5 | N | 5 | | 9 | | | | | | | | | | | 12 | | |
| 13 | 29.680 | 58 | 29.820 | 58 | 58.5 | 44.8 | | | | 54 | 50.8 | 51 | 49 | 0.56 | WSW | 5 | SW | 5 | | 9 | | | | | | | | | | | 13 | | |
| 14 | 29.674 | 55 | 29.640 | 55 | 56.2 | 46 | | | | 51.5 | 51 | 50 | 47 | 0.35 | S | 1.5 | WNW | 2 | | 10 | | | | | | | | | | | 14 | | |
| 15 | 29.740 | 54 | 29.860 | 54 | 55.5 | 47 | | | | 50 | 48.3 | 48.5 | 46.3 | 0.45 | WNW | 2 | WNW | 2 | | 10 | | | | | | | | | | | 15 | | |
| 16 | 29.960 | 56 | 30.070 | 54 | 56.2 | 46.5 | | | | 50.2 | 47.3 | 49 | 46.5 | | NW | 2 | NW | 1.5 | | 8 | | | | | | | | | | | 16 | | |
| 17 | 30.092 | 53 | 30.110 | 54 | 56 | 43.5 | | | | 50 | 46.5 | 51 | 48.2 | | NW | 1 | WNW | 5 | | 10 | | | | | | | | | | | 17 | | |
| 18 | 30.070 | 54 | 30.020 | 62 | 69.8 | 44 | | | | 57 | 51.5 | 59.2 | 55.5 | | WSW | 5 | calm | | | 9 | | | | | | | | | | | 18 | | |
| 19 | 29.970 | 62 | 30.020 | 65 | 79 | 48 | | | | 68.2 | 60.5 | 61.5 | 55.6 | | W | 5 | NE | 5 | | " | | | | | | | | | | | 19 | | |
| 20 | 30.120 | 64 | 30.090 | 64 | 71.5 | 48.5 | | | | 64.6 | 56.6 | 54.5 | 51 | | SW | 5 | NW | 5 | | 1 | | | | | | | | | | | 20 | | |
| 21 | 30.060 | 60 | 29.940 | 60 | 56.2 | 47.5 | | | | 55 | 50.2 | 51.5 | 49.2 | 0.15 | NW | 1 | NW | 1.5 | | 8 | | | | | | | | | | | 21 | | |
| 22 | 29.794 | 57 | 29.700 | 59 | 56.8 | 49 | | | | 54 | 53.2 | 51 | 47.2 | 0.25 | WSW | 1 | WSW | 5 | | 10 | | | | | | | | | | | 22 | | |
| 23 | 29.524 | 57 | 29.644 | 55 | 57 | 47 | | | | 52.2 | 47.2 | 48.5 | 45.3 | 0.40 | NW | 2 | WNW | 1.5 | | 5 | | | | | | | | | | | 23 | | |
| 24 | 29.750 | 55 | 29.670 | 56 | 56.5 | 47 | | | | 55.5 | 51 | 50 | 49 | 0.15 | WSW | 1 | WSW | 1 | | 8 | | | | | | | | | | | 24 | | |
| 25 | 29.750 | 55 | 29.850 | 58 | 58 | 44 | | | | 53.5 | 49 | 50 | 47 | | SW | 1.5 | WSW | 5 | | 8 | | | | | | | | | | | 25 | | |
| 26 | 29.950 | 58 | 30.060 | 57 | 58.8 | 45.8 | | | | 54.2 | 48 | 45.2 | | | SW | 1 | NW | 1 | | 8 | | | | | | | | | | | 26 | | |
| 27 | 30.110 | 64 | 30.112 | 60 | 61.5 | 40 | | | | 53 | 50.2 | 49.5 | 47 | | SSW | 5 | SSW | 5 | | 8 | | | | | | | | | | | 27 | | |
| 28 | 30.104 | 56 | 30.180 | 59 | 66.5 | 41 | | | | 56.2 | 52.3 | 56.6 | 56 | | WNW | 1 | calm | | | 8 | | | | | | | | | | | 28 | | |
| 29 | 30.240 | 60 | 30.280 | 65 | 70 | 48 | | | | 60 | 54.2 | 58.5 | 54.5 | | W | 1 | NW | 5 | | 2 | | | | | | | | | | | 29 | | |
| 30 | 30.280 | 63 | 30.250 | 66 | 72.5 | 48 | | | | 64.3 | 59 | 60.5 | 57.5 | | W | 5 | WSW | 5 | | " | | | | | | | | | | | 30 | | |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 31 | |
| Sums. | 16 156 | 11 | 15 11 | 14 | 18 10 | 17 7 | | | | 15 11 | 53 4 | 62 3 | 29 7 | 1.554 | | 27 5 | | 11 0 | | 20 4 | | 17 2 | | | | | | | | | | | |
| Means. | 29.914 | 56.7 | 29.922 | 58.5 | 61.9 | 45.9 | | | | 55.1 | 51.8 | 52.1 | 50.0 | | | 0.92 | | 0.70 | | 6.8 | | 5.7 | | | | | | | | | | | |
| † 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†† = 29.838
for Temp. (Col. 2), = 29.914 — 0.076
Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = 29.842
for Temp. (Col. 4), = 29.922 — 0.080
Mean at Station, corrected, and at 32° = 29.840
Correction for height, 116 feet above Mean Sea-level, = 0.127
Mean, reduced to 32°, and Sea-level, = 29.967
Highest Reading, corrected for Index error, on the 30th, = 30.280
Lowest Do. Do., on the 12th, = 29.486
Difference, or Monthly Range, = 0.794

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 79.0
Lowest in Month, corrected for Index errors, on the th, = 38.0
Difference, or Monthly Range, = 41.0
“Corrected Mean” of all the Highest, (Col. 5), = 61.9
“Corrected Mean” of all the Lowest, (Col. 6), = 45.9
Difference, or Mean Daily Range, = 16.0
* Calculated Mean Temperature of Month, = 53.9

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =
“Corrected Mean,” (Col. 7), of Black Bulb, Max. in Sun, =
Lowest at Night, Black Bulb, (corrected for Index errors), on the 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), = 53.6
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 50.9
†† Computed Temperature of Dew-Point, = 48.3
†† Do. Elastic Force of Vapour, = 33.7
†† Do. Weight of Vapour in a Cubic Foot of Air, =
†† Relative Humidity, (Saturation = 100), = 82
RAIN fell on 13 Days; Amount in Inches, = 1.55

| WIND. | | SUMMARY. | | | | | |
|------------|---|----------|---|----|---|----|----|
| Direction. | N | NE | E | SE | S | SW | W |
| A.M. | | 3 | 1 | 1 | 5 | 3 | 13 |
| P.M. | | 1 | 3 | | 4 | 2 | 9 |
| Mean. | 6 | 3 | 1 | 0 | 5 | 2 | 11 |

(Signed)

Observations made and
Return verified byJames KayJames Kay

MA

INSTRUCTIONS

FOR TAKING METEOROLOGICAL OBSERVATIONS,

WITH REMARKS ON THE USE OF INSTRUMENTS.

Kothary
June 1886

To the SECRETARY

Scottish Meteorological Society,

122 George Street,

EDINBURGH.

BOOK POST.

One of the chief objects that the Scottish Meteorological Society proposed to itself when the Society was established in 1855, was to secure uniformity in the system of observation pursued at all its Stations. Uniformity in the Monthly Results is absolutely necessary to justify the publication of the Monthly Results from different observations, it being found that differences between the Returns from two Stations, so very dissimilarly in the position or quite incompatible, as different hours of observation, or even from the use of differently constructed Instruments. It is therefore hoped, that those who kindly furnish Reports to the Society will, by a scrupulous attention to the following Directions, secure for their Monthly Returns an accuracy and value commensurate with the labour and pains involved in making them; and, for the Tables published by the Society, an entire comparableness among the Returns, without which the Society's Reports must inevitably fail in delivering one of the main objects of Meteorological Observation.

The Council recommend that Observations be made precisely at 9 A.M. and 9 P.M. (Greenwich or Railway Time only), as specified in the following remarks, or at the top of the hour of the column of the Schedule. It is hoped that the utmost punctuality in the time of reading the instruments will be observed. Observers, in some few cases, may find this impossible; in such instances, they are specially requested to mark opposite every reading the time at which it was taken, if not at 9 A.M. or 9 P.M. Weather-Glasses and Aneroids, though well-suited to indicate roughly variations of atmospheric pressure, are not fitted for scientific purposes. No Barometer should be used for Meteorological Observation that is not supplied with some means of adjustment or compensation which will secure that the height of the mercury in the tube is accurately measured from the fluctuating surface of the mercury in the cistern.

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

The Barometer originally constructed by Mr. Adie of London, and usually called the Board of Trade Barometer, has the great convenience of requiring no adjustment of the cistern. Its scale-inches are not true inches, but so much shorter as to compensate the error that would otherwise arise from the fluctuations of the surface of mercury in the cistern. This is an excellent Barometer for ordinary Observers, inasmuch as it entirely eliminates the error of observation likely to arise in a few cases in setting the instrument to the zero point of the fixed scale when the light is not good. To show the accuracy with which these Barometers are made, it may be stated, that one was compared, during a whole year, with the Society's Standard Barometer, particular care being given to make the comparison when atmospheric pressure was rising or falling very rapidly, with the result that none of the readings differed from those of the Standard more than 0.005 inch.

A modification of Fortin's Barometer is used at a number of the Society's Stations, by which the inconvenience of the zero point of the surface of the mercury is indicated by a little ivory flat, whose stem passes freely through the slit and case of the tube. When the index line on this ivory flat is brought by the adjusting screw, to the same level as the top of the mercury, the ivory frame of the scale is adjusted. It is then at the exact height from which the scale is graduated. In taking an observation, this preliminary setting may be made with scrupulous accuracy; as a slight error here will vitiate the readings of the vernier.

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

The Barometer should be suspended in as good a light as can be secured, and to facilitate the reading, a piece of white paper may be put behind the tube. It must be hung truly perpendicular, and exposed to neither the sun's direct rays nor the heat of a fire, and must not be hung against a wall heated by a fire. The object being to secure that the whole instrument, including the brass fittings, the contained mercury, and the attached Thermometer, shall be, when read, at one uniform temperature, it is evident that the best position is that which is least liable to sudden changes of temperature.

In taking an Observation, the Attached Thermometer is first noted: the tube must then be gently tapped, and the cistern-adjustment carefully made. The eye, by raising and lowering it, must be brought into the plane of the back and front of the index—usually the lower edge of the vernier, which must be carefully adjusted so as to form exactly a tangent to the convex surface of the mercury in the tube. Observations must be taken quickly, so as to prevent heat from the observer's hands and person from affecting the mercury. The use of a lens will facilitate an accurate adjustment and reading of the Barometer. A mistake not unfrequently made by those beginning to observe, consisting in setting the edge of the vernier to the level of the clear surface of the mercury which is in direct contact with the glass tube, must be carefully avoided.

The errors most frequently made in reading the Barometer are errors of 1.000 inch, 0.500 inch, and 0.050 inch; that is to say, instead of 29.365 inches, either of the following is sometimes set down—viz., as 30.365 inches, 28.365 inches, or 29.815 inches. Experience having shown that even the very best Observers make these mistakes, particular attention is directed to the matter. When a Barometer having adjustable surfaces has to be removed from its fastenings, the ivory peg must first be screwed so as to form a tight plug to the cistern, thus preventing the escape of the mercury. Then screw up the mercury not quite to the top of the tube, but to within a quarter of an inch of it, and take down the instrument; it should then be carried with the cistern uppermost. Before suspending the Barometer for use, it must be ascertained whether the space above the mercury in the tube is a complete vacuum; this is the case if, on inclining the instrument, a sharp tap is produced when the mercury strikes the top of the tube. If a dull tap is heard, there is air in the tube, which must be got rid of.

As Barometers are liable to be damaged by the introduction of air, they should, on removal from place to place, or on being roughly handled, be kept as tight as possible. Observers to know how the air may be expelled, it may be useful to observe that, when the ivory peg is pulled up to prevent the escape of the mercury, the ivory peg fits as to prevent the escape of the mercury; the screw at the top of the tube is about half an inch from the top of the tube, and the ivory peg is slowly inserted the instrument places the top of the cistern with the substance such as the foot and gently tap on the cistern with the palm of the hand, so as to induce the air to ascend through the column to the cistern, whence it may escape. Since there is the weight of two atmospheres—the pressure of the mercury in the Barometer, and the air outside—pressing on any air that may be inside the tube, it is usually a tedious operation to get it wholly expelled. After repeated trials, however, it is generally accomplished; and the clear mercurial strand of the mercury, when gently struck against the top of the glass tube, will show when the whole of the air has been expelled. On hanging up the Barometer, care must be taken to screw down the mercury in the tube before undisturbing the float of the cistern, for, if this be not attended to, the mercury will flow out, and the instrument be seriously damaged.

The Council of the Society recommend that the Self-Registering Thermometer, and the Dry and Wet Bulb Hygrometers, be kept in Stevenson's Lowne-headed Box for the protection of the instruments from rain, and from the effects of the weather, as shown in the past by repeated and annoying breakages of Thermometers of similar construction; and as regards Maximum Thermometers either Negretti and Zambra's or Phillips's, whether they will set 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, the accuracy of which, both as regards Direction and Force, is so essential towards the right discussion of many of the more important problems of the science. A Wind-Vane ought to be elevated at least 12 feet above surrounding objects. When it oscillates incessantly, the mean direction should be taken. In all cases, but especially when the Vane is stationary, and when the wind is feeble, reference may be made to the direction of smoke, etc., in well-exposed situations. Careful observations are recommended to be made on the changes in the direction of the wind; and during storms, extra observations at every hour of Greenwich time. Such a system of simultaneous observation, pursued at different Stations, is likely to give highly valuable and important results, particularly in connection with the system of thick-plumed Stations over a limited district round Edinburgh called STORM STATIONS, in the course of being established by the Society for the systematic investigation of the relation of the force of the wind to 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 also the mean Velocity of the Wind at the time of observation may be ascertained. For indicating the Force of the Wind at any particular hour of observation, the Pressure Anemometers recently brought under the notice of the Society by Mr. T. Stevenson, the Honorary Secretary, and Mr. R. Ballingall, the Society's Observer at Fallaba, 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 shrubs, 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 be placed are towards the wind after their impact on the S.W., N.E., S.E., and S. winds. The rim of the Gauge be levelled, and at least 4 in. so that it will remain level in all weathers, and the height of the foot above ground, over a level, be fixed to a flat the 1/2 inch ought to be fixed down, and the first 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.

When a measuring glass is used, care should be taken to hold it quite perpendicular. The Rain Gauge ought to be read daily at 9 A.M., and the reading entered in the Remarks of the previous day. If the Gauge is read once a month, the reading is to be made on the first of the month, and the amount entered for the previous month. Snow-falls may, for convenience, be registered in the rain columns, under the following conditions:—When a Snow-shower occurs, it should be noted in the 'Remarks,' and the letter S affixed 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 indicated in every column, the Observer cannot be too careful to register observations only; and nothing that partakes of the nature of deduction or inference.

Convenient abbreviations for the nomenclature of Clouds will be found on the other side. The amount of Cloud ought to be estimated from the greater or less obscuration of the sky overhead (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 Clouds' 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, 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:—Thus, in the column Velocity and Direction, 6, S.W. will indicate that the upper strata of Clouds travel with extreme velocity from S.W., and those in the lower regions from W., with one-third the speed of the former. Again, in the second Cloud column, an entry of 2, east, will indicate that the higher regions are covered to the amount of 4-tenths with stratus Clouds; and that the sky is further obscured to the extent of 2-tenths by lower Clouds of the cumulo stratus kind.

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 in the sun's rays cast shadows, should be entered in the proper column. As the germination and growth of crops and plants generally, depend greatly on the temperature of the soil, it is recommended that Observations in this respect be made at 9 A.M., by Thermometers permanently fixed, the 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 sliding glass, to prevent rain water being conveyed to the bulbs by the stems or wooden frames.

A knowledge of the Temperature of the Sea is not only in itself, but in its relations to that of our island, a most important branch of Meteorology. The Council therefore earnestly taken by a properly constructed apparatus, from boats, or carefully taken by a properly constructed apparatus, from boats, or coast, where it is not influenced by that of river water, and as little influenced as possible by currents sweeping along the coast, and thus acquiring the temperature of the land, either greatly heated by the sun or cooled by nocturnal radiation. At or near the time of high tide, the temperature of the sea should be taken in the following manner:—Thus, in the column Velocity and Direction, 6, S.W. will indicate that the upper strata of Clouds travel with extreme velocity from S.W., and those in the lower regions from W., with one-third the speed of the former. Again, in the second Cloud column, an entry of 2, east, will indicate that the higher regions are covered to the amount of 4-tenths with stratus Clouds; and that the sky is further obscured to the extent of 2-tenths by lower Clouds of the cumulo stratus kind.

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heating of the scale of every instrument; the rejection of Thermometers, the frameworks of which are not likely to stand exposure to the weather, as shown in the past by repeated and annoying breakages of Thermometers of similar construction; and as regards Maximum Thermometers either Negretti and Zambra's or Phillips's, whether they will set 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, the accuracy of which, both as regards Direction and Force, is so essential towards the right discussion of many of the more important problems of the science. A Wind-Vane ought to be elevated at least 12 feet above surrounding objects. When it oscillates incessantly, the mean direction should be taken. In all cases, but especially when the Vane is stationary, and when the wind is feeble, reference may be made to the direction of smoke, etc., in well-exposed situations. Careful observations are recommended to be made on the changes in the direction of the wind; and during storms, extra observations at every hour of Greenwich time. Such a system of simultaneous observation, pursued at different Stations, is likely to give highly valuable and important results, particularly in connection with the system of thick-plumed Stations over a limited district round Edinburgh called STORM STATIONS, in the course of being established by the Society for the systematic investigation of the relation of the force of the wind to 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 also the mean Velocity of the Wind at the time of observation may be ascertained. For indicating the Force of the Wind at any particular hour of observation, the Pressure Anemometers recently brought under the notice of the Society by Mr. T. Stevenson, the Honorary Secretary, and Mr. R. Ballingall, the Society's Observer at Fallaba, 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 shrubs, 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 be placed are towards the wind after their impact on the S.W., N.E., S.E., and S. winds. The rim of the Gauge be levelled, and at least 4 in. so that it will remain level in all weathers, and the height of the foot above ground, over a level, be fixed to a flat the 1/2 inch ought to be fixed down, and the first 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.

When a measuring glass is used, care should be taken to hold it quite perpendicular. The Rain Gauge ought to be read daily at 9 A.M., and the reading entered in the Remarks of the previous day. If the Gauge is read once a month, the reading is to be made on the first of the month, and the amount entered for the previous month. Snow-falls may, for convenience, be registered in the rain columns, under the following conditions:—When a Snow-shower occurs, it should be noted in the 'Remarks,' and the letter S affixed 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 indicated in every column, the Observer cannot be too careful to register observations only; and nothing that partakes of the nature of deduction or inference.

Convenient abbreviations for the nomenclature of Clouds will be found on the other side. The amount of Cloud ought to be estimated from the greater or less obscuration of the sky overhead (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 Clouds' 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, 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:—Thus, in the column Velocity and Direction, 6, S.W. will indicate that the upper strata of Clouds travel with extreme velocity from S.W., and those in the lower regions from W., with one-third the speed of the former. Again, in the second Cloud column, an entry of 2, east, will indicate that the higher regions are covered to the amount of 4-tenths with stratus Clouds; and that the sky is further obscured to the extent of 2-tenths by lower Clouds of the cumulo stratus kind.

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 in the sun's rays cast shadows, should be entered in the proper column. As the germination and growth of crops and plants generally, depend greatly on the temperature of the soil, it is recommended that Observations in this respect be made at 9 A.M., by Thermometers permanently fixed, the 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 sliding glass, to prevent rain water being conveyed to the bulbs by the stems or wooden frames.

A knowledge of the Temperature of the Sea is not only in itself, but in its relations to that of our island, a most important branch of Meteorology. The Council therefore earnestly taken by a properly constructed apparatus, from boats, or carefully taken by a properly constructed apparatus, from boats, or coast, where it is not influenced by that of river water, and as little influenced as possible by currents sweeping along the coast, and thus acquiring the temperature of the land, either greatly heated by the sun or cooled by nocturnal radiation. At or near the time of high tide, the temperature of the sea should be taken in the following manner:—Thus, in the column Velocity and Direction, 6, S.W. will indicate that the upper strata of Clouds travel with extreme velocity from S.W., and those in the lower regions from W., with one-third the speed of the former. Again, in the second Cloud column, an entry of 2, east, will indicate that the higher regions are covered to the amount of 4-tenths with stratus Clouds; and that the sky is further obscured to the extent of 2-tenths by lower Clouds of the cumulo stratus kind.

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

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

Too much importance cannot be attached to the electric condition of the atmosphere in connection with terrestrial magnetism, barometrical, thermometrical, and meteorological phenomena generally. A proper Electrometer is, in truth, necessary to every complete meteorological observatory. The Remarks column is unavoidably too narrow. Some of the most valuable Observations that can be taken are those for which no rules can be given nor hours assigned. The use of contractions, ought, therefore, to be taken every advantage of, and a list of such as are in general use are given at the foot of the column. Besides special and extraordinary Observations, great prominence ought to be given in this column to Prevalent Diseases, differences in character, colour, velocity, and direction between the Lower and Upper Strata of Clouds, the Colour of the Sky, etc. Remarks ought to be made on the occurrence of Meteors, Aurora Borealis, remarkable depressions, elevations, and fluctuations of the Barometer, Thunder-Storms, and remarkable falls of Snow, Hail, or Rain, the Hour of Storms of Wind commencing, attaining their maximum, and ending, as well as such notes on Storms as have been limited at above. When lofty hills are in the vicinity of a Station, the Height of Clouds and of the Snow-line in winter should be recorded. By the use of abbreviations, the state of the weather at 9 A.M. and 9 P.M. should be registered either in two columns, otherwise uncoupled, or ruled off for the purpose, from the column of 'Remarks'.

Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with Agriculture, Horticulture, and Natural History. The Council would direct the special attention of Observers to the registration of such phenomena, so that the published Summary may fairly represent the whole of Scotland. Observations ought to be made on individual trees and shrubs; to particular crops of birds, and in the case of crops, to specify the period from year to year, a selected piece of ground and farm, and the species of plants and animals to which special attention is more particularly directed.

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

(By Order)
EDINBURGH, December 1884.

OBSERVATIONS IN CONNECTION WITH THE PERIODICAL RETURN OF THE SEASONS.

| FOREST TREES. | Plow. | First Appear. | In Leaf. | Divested of Leaves. | CROPS. | Sowing or Ploughing. | Harvesting or Above Ground. | In Ear or Blowing. | First Out. |
|--------------------|-------|---------------|----------|---------------------|------------|----------------------|-----------------------------|--------------------|------------|
| Alder. | | | | | Barley. | | | | |
| Beech. | | | | | Oats. | | | | |
| Birch. | | | | | Wheat. | | | | |
| Elm. | | | | | Beans. | | | | |
| Larch. | | | | | Peas. | | | | |
| Lime. | | | | | Potatoes. | | | | |
| Oak. | | | | | Rye Grass. | | | | |
| Sycamore or Plane. | | | | | | | | | |

| SHRUBS, ETC. | First in Blossom. | FRUITS. | First in Blossom. | First in Generally. | First in Ripeness. | First in Generally. | First in Ripeness. | First in Generally. | First in Ripeness. |
|------------------------|-------------------|----------------|-------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
| Barberry. | | Apple. | | Cuckoo. | | House-Swallow. | | Lapwing. | |
| Broom. | | Black Currant. | | Plover. | | Sand-Martin. | | Swallow. | |
| Holly. | | Gooseberry. | | Stirling. | | Swan. | | Rail or Corn Crane. | |
| Laburnum. | | Hawthorn. | | Peach. | | Plum. | | Strawberry. | |
| Liburnum. | | Hazel. | | Gooseberry. | | Peary. | | Strawberry. | |
| Mountain Ash or Rowan. | | Bramble. | | Gooseberry. | | Peary. | | Strawberry. | |
| Myrtle. | | Black Currant. | | Gooseberry. | | Peary. | | Strawberry. | |
| Rod Flowering Currant. | | Black Currant. | | Gooseberry. | | Peary. | | Strawberry. | |
| Rhododendron Ponticum. | | Black Currant. | | Gooseberry. | | Peary. | | Strawberry. | |
| Whin. | | Black Currant. | | Gooseberry. | | Peary. | | Strawberry. | |

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 any have suffered from blight, disease, etc. Whether Epizootic disease prevails among cattle; and the Agricultural condition of the district generally.

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 any have suffered from blight, disease, etc. Whether Epizootic disease prevails among cattle; and the Agricultural condition of the district generally.

The Hours of Observation are of Greenwich Time.

* 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.

† Engraving directions for both capillary and latex Evers.

‡ The Diurnal Range for Scotland is as yet unknown.

§ *Practically, though not absolutely a minima correction.*

|| These "Hygrometrical Deductions" are calculated from Glisher's Hygrometrical Tables, Second Edition only.

¶ While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 4 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)

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Barone Cottage, County of Bute, in Lat. 55° 44' 56", Long. 5° 4' 5", Distance from Sea 10 miles.Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 23 feet.During the MONTH of August 1886.

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. | SEA. Temperature and Direction. | 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 Balls. | | Dry No. — Wet No. — | | 9 h. A.M. | | 9 h. P.M. | | 9 h. A.M. | | 9 h. P.M. | | 9 A.M. | | P.M. | | 9 h. A.M. | | | | | | | | |
| | | Barometer, No. | Attached Thermometer | Barometer, No. | Attached Thermometer | Max. No. | Min. No. | Max. No. | Min. No. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | No. of hours in which it fell. | Amount in inches. | Direction. | Force. | Direction. | Force. | Readings of the H. Cup Anemometer, No. | Velocity (0-5), and Direction. | Amount (0-10), and Species. | Velocity (0-5), and Direction. | Amount (0-10), and Species. | No. 1. | No. 2. | No. 3. | | | | | |
| | | inches. | ° | inches. | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | | | | | |
| | 1 | 29.666 | 57 | 29.650 | 57 | 59.5 | 45.5 | | | 55.5 | 48 | 49 | 47 | | | W | 1 | NN | 1 | | | 3 | 8 | | | | | 1/2 clear breezy fine, chilly | 1 | | | |
| | 2 | 29.666 | 55 | 29.654 | 58 | 58 | 44 | | | 50 | 49.5 | 47 | 44 | | | W | 5 | N | 5 | | | — | — | | | | | clear & cold | 2 | | | |
| | 3 | 29.666 | 55 | 30.070 | 60 | 62.5 | 48.5 | | | 56 | 50 | 48.5 | 45.5 | | | NW | 5 | calm | — | | | 5 | — | | | | | 1/2 fine warm | 3 | | | |
| | 4 | 30.070 | 59 | 30.060 | 60 | 68 | 39 | | | 60 | 54 | 51 | 49 | | | E | 5 | calm | — | | | — | 5 | | | | | clear | 4 | | | |
| | 5 | 29.908 | 58 | 29.760 | 60 | 62 | 47 | | | 57 | 55 | 56 | 54 | | 150 | S | 5 | SW | 5 | | | 10 | 10 | | | | | Dull & mild | 5 | | | |
| | 6 | 29.820 | 59 | 29.820 | 60 | 61 | 53 | | | 55.5 | 55 | 53.2 | 52.5 | | 150 | SW | 5 | SW | 5 | | | 10 | 8 | | | | | | | | 6 | |
| | 7 | 29.700 | 60 | 29.824 | 61 | 63.5 | 52 | | | 58.2 | 57.3 | 53.5 | 52 | | 150 | WSW | 1 | S | 5 | | | 10 | 10 | | | | | | | | 7 | |
| | 8 | 29.830 | 59 | 29.840 | 62 | 64.3 | 53 | | | 58.3 | 56.5 | 53 | 51.3 | | | WSW | 1 | NNW | 5 | | | 8 | 5 | | | | | 1/4 clear bly & fine | 8 | | | |
| | 9 | 29.882 | 59 | 29.870 | 60 | 62.5 | 51.6 | | | 55.8 | 53.2 | 53.5 | 51.5 | | | WSW | 5 | calm | — | | | 10 | 6 | | | | | cloudy | 9 | | | |
| | 10 | 29.696 | 60 | 29.560 | 59 | 60.3 | 49 | | | 56.5 | 53.2 | 52.2 | 51.6 | | 220 | NNW | 5 | W | 5 | | | 8 | 8 | | | | | Dull mild, wet p.m. | 10 | | | |
| | 11 | 29.666 | 57 | 29.740 | 57 | 59.5 | 45.5 | | | 55 | 52.2 | 51 | 50 | | 270 | SW | 1 | W | 5 | | | 8 | 10 | | | | | 1/4 clear heavy showers | 11 | | | |
| | 12 | 29.724 | 57 | 29.556 | 58 | 63 | 49 | | | 57.2 | 55.2 | 53 | 53 | | 220 | W | 1 | calm | — | | | 5 | 10 | | | | | 1/2 " chilly | 12 | | | |
| | 13 | 29.660 | 58 | 29.600 | 58 | 65.5 | 52 | | | 54.5 | 52.5 | 56.3 | 54 | | | NR | 1 | calm | — | | | 10 | 10 | | | | | cloudy & fine | 13 | | | |
| | 14 | 29.810 | 58 | 29.932 | 59 | 65 | 47 | | | 57 | 54 | 47 | 45 | | | SE | 5 | calm | — | | | 8 | 8 | | | | | 1/2 clear | 14 | | | |
| | 15 | 29.720 | 57 | 29.670 | 61 | 58.5 | 44 | | | 56 | 54.3 | 58 | 57.5 | | 300 | SSW | 1 | S | 5 | | | 10 | 10 | | | | | Dull & wet | 15 | | | |
| | 16 | 29.506 | 60 | 29.650 | 59 | 59.2 | 53.5 | | | 57 | 54 | 55 | 53 | | 160 | SW | 1 | NW | 1 | | | 10 | 10 | | | | | blowy showers | 16 | | | |
| | 17 | 29.944 | 59 | 30.084 | 59 | 63 | 47 | | | 57.5 | 53 | 47 | 46 | | 015 | WNW | 1 | NW | 5 | | | 5 | 2 | | | | | 3/4 breezy fine | 17 | | | |
| | 18 | 30.120 | 57 | 30.090 | 58 | 60 | 45 | | | 53 | 52 | 57.2 | 57 | | 150 | E | 5 | SW | 5 | | | 10 | 10 | | | | | Dull & damp | 18 | | | |
| | 19 | 30.180 | 59 | 30.242 | 61 | 66.6 | 57.5 | | | 56.6 | 54 | 54 | 50 | | | NNW | 1 | W | 5 | | | 8 | 2 | | | | | 3/4 clear fine | 19 | | | |
| | 20 | 30.150 | 58 | 30.100 | 62 | 67.2 | 49 | | | 57 | 57.2 | 54.2 | 53 | | 006 | W | 5 | calm | — | | | 10 | 6 | | | | | Dull & damp | 20 | | | |
| | 21 | 30.140 | 58 | 30.120 | 60 | 59.8 | 50.3 | | | 55.5 | 53.2 | 50.5 | 48.2 | | | NW | 5 | calm | — | | | 10 | 10 | | | | | mild | 21 | | | |
| | 22 | 30.124 | 55 | 30.070 | 60 | 66 | 42 | | | 58.2 | 53.5 | 49 | 47.2 | | | WSW | 5 | calm | — | | | — | — | | | | | clear & fine | 22 | | | |
| | 23 | 29.972 | 58 | 29.882 | 62 | 66 | 46.6 | | | 58 | 55.2 | 56.5 | 55.3 | | | calm | — | calm | — | | | 10 | 5 | | | | | Dull & mild | 23 | | | |
| | 24 | 29.850 | 62 | 29.820 | 60 | 64 | 54 | | | 63.2 | 59.2 | 56.5 | 55.5 | | 008 | NSW | 5 | calm | — | | | 8 | 10 | | | | | | | | 24 | |
| | 25 | 29.810 | 60 | 29.710 | 59 | 64.5 | 55 | | | 57.5 | 55 | 55.3 | 54.5 | | 005 | SW | 5 | SW | 1 | | | 10 | 10 | | | | | " damp | 25 | | | |
| | 26 | 29.750 | 60 | 29.850 | 58 | 61.5 | 50 | | | 56 | 55 | 51 | 49.3 | | 270 | SW | 5 | W | 5 | | | 10 | — | | | | | Clear | 26 | | | |
| | 27 | 30.056 | 61 | 30.040 | 58 | 64.5 | 46.5 | | | 59 | 55 | 55 | 53 | | 060 | SW | 1 | calm | — | | | 3 | 10 | | | | | 1/2 clear fine | 27 | | | |
| | 28 | 29.922 | 59 | 29.864 | 62 | 69 | 51.5 | | | 59 | 58 | 56.3 | 56 | | 200 | ENE | 5 | W | 1 | | | 9 | 10 | | | | | Dull mild, wet p.m. | 28 | | | |
| | 29 | 29.872 | 60 | 29.900 | 63 | 70 | 50 | | | 62.5 | 59.2 | 58 | 56.6 | | | SSW | 5 | SSW | 5 | | | 8 | 5 | | | | | 1/4 clear breezy mild | 29 | | | |
| | 30 | 29.840 | 62 | 29.820 | 62 | 61 | 56 | | | 60 | 59 | 57.5 | 56.8 | | 300 | SSW | 1 | SE | 5 | | | 10 | 5 | | | | | " | 30 | | | |
| | 31 | 29.840 | 61 | 30.000 | 60 | 61.5 | 56 | | | 58 | 57 | 57 | 56.5 | | 020 | SW | 5 | calm | — | | | 10 | 10 | | | | | Dull & warm | 31 | | | |
| Sums. | | 1813.5 | 15 | 1613.2 | 12 | 1118 | 14.5 | | | 186 | 154 | 164 | 14.5 | | 2814 | | 9 | | 7 | | | 236 | 213 | | | | | | | | | |
| Means. | | 56.6 | 258 | 26.398 | 293 | 48.0184 | 2 | | | 22.5 | 14.04 | 100.7 | 57.9 | | 18 | | 21.5 | | 11.0 | | | 7.6 | 6.9 | | | | | | | | | |
| † Total Corrections for Instrumental Errors. | | 852 | | 880 | | | | | | 57.2 | 54.5 | 53.2 | 51.9 | | | | 0.69 | | 0.35 | | | | | | | | | | | | | |
| † Corrections for Diurnal Range. | | 29.886 | 58.6 | 29.552 | 59.8 | 62.2 | 49.2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| "Corrected Means." | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. of | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.772
for Temp. (Col. 2), = 29.852 — 0.080 }
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.797
for Temp. (Col. 4), = 29.880 — 0.083 }
Mean at Station, corrected, and at 32° = 29.882
Correction for height, feet above Mean Sea-level, = 127
Mean, reduced to 32°, and Sea-level, = 29.911
Highest Reading, corrected for Index error, on the th, = 30.242
Lowest Do. Do., on the th, = 29.360
Difference, or Monthly Range, = 0.882

* 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 Glathe's Hygrometrical Tables, Second Edition only.
‡‡‡ While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 5 and 6 will be entered as the "Calculated Mean Temperature."
Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 70.0
Lowest in Month, corrected for Index errors, on the th, = 39.0
Difference, or Monthly Range, = 31.0
"Corrected Mean" of all the Highest, (Col. 5), = 63.2
"Corrected Mean" of all the Lowest, (Col. 6), = 49.2
Difference, or Mean Daily Range, = 14.0
** Calculated Mean Temperature of Month, = 56.2

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), = 55.2

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 53.2

† Computed Temperature of Dew-Point, = 51.3

† Do. Elastic Force of Vapour, = 379

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

† Relative Humidity, (Saturation = 100), = 87

RAIN fell on 18 Days; Amount in Inches, = 2.81

| 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 | 3 | 1 | 4 | 7 | 10 | 2 | 1 | 0.69 | |
| P.M. | | | | 1 | 3 | 4 | 6 | 5 | 12 | 0.35 | |
| Mean. | 1 | 1 | 1 | 1 | 3 | 6 | 8 | 4 | 6 | 0.52 | 0.27 |

Observations made and Return verified by

James Kay

(Signed)

James Kay

H.R.
H.R.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Barone Cottage*, County of *Bute*in Lat. $55^{\circ}49'50''$ N, Long. $5^{\circ}45'$ W, Distance from Sea 10 miles.Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 3 feet.During the MONTH of *September* 188*8*.

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. | 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. | ° | inches. | ° | ° | ° | ° | ° | ° | ° | ° | ° | | | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | | | | | ° |
| | 1 | 30.240 | 61 | 30.040 | 61 | 62 | 51 | | | 61 | 61 | 55 | 55 | 0.30 | W | 5 | SE | 5 | | | | | | | | | | fine & east | 1 | | |
| | 2 | 30.080 | 58 | 30.160 | 62 | 64 | 48 | | | 53 | 63 | 49 | 38 | 5 | SW | 5 | NW | 5 | | 5 | | | | | | | | fine | 2 | | |
| | 3 | 30.220 | 58 | 30.200 | 60 | 67 | 54 | | | 54 | 54 | 60 | 60 | | NE | 1 | NW | 5 | | | | | | | | | | clear heavy fine | 3 | | |
| | 4 | 30.120 | 60 | 29.960 | 63 | 70 | 54 | 5 | 3 | 59 | 60 | 61 | 61 | 2.60 | NE | 1 | NE | 1 | | | 1 | | | | | | | warm | 4 | | |
| | 5 | 29.830 | 61 | 29.680 | 62 | 62 | 55 | | | 56 | 5 | 56 | 57 | 57 | 6.30 | NE | 1 | calm | - | | 10 | | | | | | | Dull mild wet from | 5 | | |
| | 6 | 29.660 | 59 | 29.500 | 59 | 59 | 53 | | | 57 | 5 | 57 | 56 | 55 | 5 | SW | 1 | S | 1.5 | | 9 | | | | | | | Twist | 6 | | |
| | 7 | 29.700 | 55 | 29.620 | 58 | 58 | 54 | | | 50 | 5 | 48 | 2 | 55 | 5 | SE | 1.5 | S | 1 | | 10 | | | | | | | Twist in | 7 | | |
| | 8 | 29.368 | 58 | 29.480 | 58 | 60 | 52 | | | 57 | 8 | 56 | 5 | 52 | 5 | SE | 2 | SW | 5 | | 10 | | | | | | | cloudy & mild | 8 | | |
| | 9 | 29.500 | 55 | 29.430 | 57 | 61 | 2 | 47 | 5 | 55 | 5 | 54 | 5 | 53 | 5 | SE | 1 | SW | 1 | | 10 | | | | | | | Dull heavy shower | 9 | | |
| | 10 | 29.500 | 56 | 29.634 | 57 | 60 | 41 | | | 53 | 8 | 52 | 5 | 52 | 5 | SW | 1 | SW | 5 | | 2 | | | | | | | 3/4 clear shower | 10 | | |
| | 11 | 29.532 | 56 | 29.500 | 58 | 60 | 50 | | | 53 | 5 | 53 | 3 | 57 | 5 | S | 1.5 | S | 5 | | 10 | | | | | | | Dull heavy twist | 11 | | |
| | 12 | 29.704 | 59 | 29.926 | 58 | 64 | 48 | | | 63 | 63 | 48 | 5 | 48 | 5 | SW | 5 | calm | - | | 2 | | | | | | | 3/4 fine warm | 12 | | |
| | 13 | 29.950 | 57 | 29.850 | 56 | 54 | 3 | 46 | 5 | 51 | 8 | 51 | 3 | 52 | 5 | calm | - | calm | - | | 10 | | | | | | | Dull mild twist | 13 | | |
| | 14 | 30.070 | 56 | 30.300 | 56 | 59 | 5 | 45 | 8 | 55 | 2 | 54 | 8 | 46 | 4 | NW | 1 | NW | 5 | | 5 | | | | | | | 3/4 clear fine | 14 | | |
| | 15 | 30.530 | 54 | 30.560 | 52 | 59 | 8 | 43 | | 54 | 3 | 53 | 8 | 45 | 4 | ENE | 1 | ENE | 5 | | | | | | | | | | clear | 15 | |
| | 16 | 30.520 | 51 | 30.414 | 53 | 61 | 5 | 37 | 2 | 50 | 2 | 49 | 5 | 44 | 3 | E | 5 | calm | - | | 2 | | | | | | | | " | 16 | |
| | 17 | 30.330 | 53 | 30.256 | 55 | 62 | 3 | 39 | 2 | 53 | | 52 | 5 | 51 | 5 | NE | 1 | ENE | 1 | | | | | | | | | | " | 17 | |
| | 18 | 30.216 | 54 | 30.160 | 55 | 62 | 5 | 48 | | 53 | 6 | 53 | 5 | 48 | 5 | SE | 1 | E | 5 | | 7 | | | | | | | 1/2 " | 18 | | |
| | 19 | 30.120 | 53 | 30.050 | 54 | 62 | 2 | 46 | 5 | 50 | | 49 | 8 | 51 | 5 | NE | 5 | calm | - | | 9 | | | | | | | | 1/2 " | 19 | |
| | 20 | 29.990 | 54 | 29.914 | 54 | 54 | 5 | 48 | 5 | 51 | 3 | 51 | | 49 | 5 | NE | 5 | E | 1 | | 9 | | | | | | | | cloudy changeable | 20 | |
| | 21 | 29.890 | 52 | 29.900 | 52 | 55 | 5 | 46 | | 47 | 5 | 47 | 2 | 47 | 4 | E | 1 | E | 5 | | 8 | | | | | | | | 1/2 clear breezy fine | 21 | |
| | 22 | 29.990 | 52 | 30.050 | 54 | 61 | 3 | 9 | 5 | 50 | | 49 | | 41 | 2 | NE | 5 | E | 5 | | 7 | | | | | | | | 3/4 fine | 22 | |
| | 23 | 30.110 | 51 | 30.120 | 54 | 61 | 2 | 39 | | 51 | | 49 | 8 | 49 | 4 | NE | 5 | calm | - | | 7 | | | | | | | | 1/30 changeable | 23 | |
| | 24 | 30.100 | 53 | 30.050 | 55 | 54 | 4 | 6 | 5 | 50 | | 49 | | 47 | 2 | NW | 5 | calm | - | | 10 | | | | | | | | cloudy, dull | 24 | |
| | 25 | 29.916 | 53 | 29.810 | 54 | 53 | 2 | 46 | 5 | 50 | | 49 | 2 | 51 | 2 | SE | 5 | calm | - | | 9 | | | | | | | | Dull & damp | 25 | |
| | 26 | 29.922 | 54 | 29.810 | 54 | 60 | 4 | 7 | 5 | 55 | | 54 | | 52 | 3 | W | 1 | SW | 1.5 | | 2 | | | | | | | | 1/2 com S.W. from | 26 | |
| | 27 | 29.400 | 56 | 29.536 | 56 | 59 | 5 | 48 | | 55 | 5 | 55 | 5 | 49 | 5 | WSW | 1.5 | WSW | 1.5 | | 10 | | | | | | | | cloudy shower | 27 | |
| | 28 | 29.710 | 54 | 29.780 | 56 | 56 | 5 | 48 | | 52 | 2 | 51 | 8 | 51 | 5 | SW | 1.5 | SW | 1 | | 7 | | | | | | | | 1/40 shower | 28 | |
| | 29 | 29.614 | 53 | 29.564 | 60 | 61 | 4 | 7 | 2 | 49 | | 48 | 5 | 57 | 5 | NE | 1 | SE | 1 | | 10 | | | | | | | | Dull twist | 29 | |
| | 30 | 29.630 | 59 | 29.514 | 59 | 61 | 5 | 6 | | 58 | | 58 | 8 | 56 | 5 | SE | 1 | S | 2 | | 10 | | | | | | | | " mild | 30 | |
| | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 31 |
| Sums. | | 154.3 | 13 | 14.10.3 | 14 | 10.8 | 18.5 | | | | | | | 6.3 | | 7 | | 7 | | | | | | | | | | | | | |
| Means. | | 27.462 | 16.5 | 26.778 | 20.2 | 09.0 | 20.7 | | | | | | | 18 | | 27.0 | | 19.0 | | | 19.0 | | | | | | | | | | |
| † Total Corrections for Instrumental Errors. | | 19.915 | 55.5 | 29.893 | 56.7 | 60.3 | 66.7 | | | | | | | | | 0.90 | | 0.63 | | | 6.3 | | | | | | | | | | |
| ‡ Corrections for Diurnal Range. | | | | | | | | | | | | | | | | 0.6 | | 0.6 | | | 6.2 | | | | | | | | | | |
| “Corrected Means.” | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. of | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |

BAROMETER, “corrected Mean” at 9 A.M., minus the Correction†† for Temp. (Col. 2), = 29.843
Corrected Mean” of Barometer at 9 P.M., minus the Correction†† for Temp. (Col. 4), = 29.818
Mean at Station, corrected, and at 32°, = 29.830
Correction for height, feet above Mean Sea-level, = 1.27
Mean, reduced to 32°, and Sea-level, = 29.957
Highest Reading, corrected for Index error, on the th, = 30.560
Lowest Do. Do. on the th, = 29.368
Difference, or Monthly Range, = 1.192

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

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 70.5
Lowest in Month, corrected for Index errors, on the th, = 37.2
Difference, or Monthly Range, = 33.3
“Corrected Mean” of all the Highest, (Col. 5), = 60.3
“Corrected Mean” of all the Lowest, (Col. 6), = 46.7
Difference, or Mean Daily Range, = 13.6
** Calculated Mean Temperature of Month, = 53.5
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 18 Days; Amount in Inches, = 5.21

| WIND. | | SUMMARY. | | | | | | | | | |
|------------|--|----------|----|---|----|---|----|---|----|-------------------|-------------|
| Direction. | | N | NE | E | SE | S | SW | W | NW | Calm or Variable. | Mean Force. |
| A.M. | | 6 | 3 | 1 | 5 | 3 | 3 | 2 | 7 | 0.90 | |
| P.M. | | 1 | 6 | 2 | 4 | 5 | 1 | 3 | 8 | 0.63 | |
| Mean. | | 0.4 | 4 | 2 | 4 | 4 | 2 | 3 | 7 | 0.76 | 0.58 |

Observations made and Return verified by

James May

(Signed)

*James May**H.R.*

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Baronkettle* County of *North Ayr*in Lat. $55^{\circ} 14' 50''$ N Long. $5^{\circ} 41' 5''$ W Distance from Sea 10 miles.Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 3 feet.During the MONTH of *October* 188*6*

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. | | Dry No. _____ Wet No. _____ | | 9 h. A.M. | | 9 h. P.M. | | 9 h. A.M. | | 9 h. P.M. | | Readings of the H. Opp. Anemometer. | | 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 | Min. on Grass. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | No. of hours in which it fell. | Amount in inches. | 9 h. A.M. | 9 h. P.M. | 9 h. A.M. | 9 h. P.M. | Direction. | Force. | Direction. | Force. | No. _____ | 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. | Temperature of WELL at depth of feet. No. | Temperature at 1 fathom, and Density. | 9 A.M. 9 P.M. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | inches. | ° | inches. | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | | | | | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° |

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† for Temp. (Col. 2), = $29.730 - .065 = 29.665$

Corrected Mean" of Barometer at 9 P.M., minus the Correction†† for Temp. (Col. 4), = $29.733 - .068 = 29.665$

Mean at Station, corrected, and at 32°, = 29.665

Correction for height, feet above Mean Sea-level, = 127

Mean, reduced to 32°, and Sea-level, = 29.792

Highest Reading, corrected for Index error, on the th, = 30.450

Lowest Do. Do. on the th, = 28.760

Difference, or Monthly Range, = 1.680

S.R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 64.5

Lowest in Month, corrected for Index errors, on the th, = 36.5

Difference, or Monthly Range, = 28.0

"Corrected Mean" of all the Highest, (Col. 5), = 56.3

"Corrected Mean" of all the Lowest, (Col. 6), = 45.9

Difference, or Mean Daily Range, = 10.4

** Calculated Mean Temperature of Month, = 51.1

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), = 50.0

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 48.4

†† Computed Temperature of Dew-Point, = 46.7

†† Do. Elastic Force of Vapour, = $.319$

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

†† Relative Humidity, (Saturation = 100), = 89

RAIN fell on 23 Days; Amount in Inches, = 3.90

| 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 | 8 | 5 | 2 | 4 | 3 | 2 | 1 | 5 | 0.81 | |
| P.M. | 1 | 5 | 8 | 1 | 6 | 3 | 3 | 1 | 3 | 0.76 | |
| Mean. | 1 | 7 | 6 | 2 | 5 | 3 | 2 | 1 | 4 | 0.78 | $= 0.61$ |

* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.," and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.

† Embracing corrections for both capillarity and Index Errors.

†† The Diurnal Range for Scotland is as yet unknown.

†† Practically, though not absolutely a minus correction.

†† These "Hygrometric Deductions" are calculated from Glaisher's Hygrometrical Tables, Second Edition only.

†† While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 9 and 11 will be entered as the "Calculated Mean Temperature."

Any observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

Observations made and
Return verified by

James Kay

(Signed)

James Kay

H.R.

OBSERVATIONS,

The Council of the Society recommend that the Self-Registering Thermometers, and the Dry and Wet Bulb Hygrometers, be kept in Stevenson's Louver-boarded Box for Thermometers, painted white inside and outside, and painted white outside, and that the Self-Registering Thermometers be served to four stout posts, also painted white, firmly fixed in the ground. The posts must be such a length that when the Thermometers are hung in position the Bulbs of the Minimum Thermometer, and of the Dry and Wet Bulb Thermometers will be exactly at the same height of four feet above the ground, the Minimum Thermometer being hung immediately above the Minimum Thermometer. The thermometer box is to be placed over a piece of glass, and in a free open space to which the sun's rays have free access, so as to secure the uniformity of conditions enable the Observers to read the Thermometers as suspended on cross-rafts in the interior of the Box, and face the door, which should open to the north. The Council regard the question of UNIFORMITY OF HEIGHT ABOVE GROUND, AND METHOD IN PROTECTING THE THERMOMETERS, as vital in the STANDARDIZATION OF METEOROLOGICAL OBSERVATION, since without it Observations made at different Stations are incompatible, thus rendering it impossible to compare the Climates of places with each other as far as their most important features.

Professor Phillips, and Negretti and Zambra's Maximum Thermometers, and Rubrotherm's Minimum Thermometer are recommended. It is recommended that these Thermometers be graduated on the glass stem. The Maximum Thermometer is liable to two derangements—viz, the occurrence of spirit breaking, and part of the spirit distilling by high temperature and lodging at the top of the tube. This derangement may of occasional occurrence with Protected Thermometers, but is of frequent occurrence with exposed Thermometers. Hence a systematic examination of Minimum Thermometers ought to be a regular part of the work carried on by each Observer.

stations made at ancient Stations are incomparable, thus rendering it impossible to compare the climates of places with each other as we do now. Professor Phillips, and Negretti and Zambra's Maximum Thermometers are the best instruments for the purpose. The Maximum Thermometer is graduated on the glass stem. The Minimum Thermometer is liable to two derangements—viz, the occurrence of spirit breakings, and part of the spirit distilling by high temperature and lodging at the top of the tube. This derangement may be remedied by the use of a syringe, and the thermometer may be of occasional occurrence with Protected Thermometers, but of their occurrence with exposed Thermometers. Hence a systematic examination of Minimum Thermometers ought to be a regular part of the work carried on by each Observer.

These three, then, which the Thermometer should be placed in a situation to observe, are the sun, the sky, and the ground. The thermometer is attached, to allow the rest of the spirit still adhering to the stem, to be allowed 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. The thermometer should be placed in a situation where the spirit will be allowed to be applied slowly and cautiously to the top end of the tube, where the detached portion of spirit is, which, being turned over, will be condensed on the surface of the unbroken portion of spirit. This method must be taken, that the heat is not applied too quickly; for, if it 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 neck of the tube slowly down towards a small charcoal fire, or, if it will not do at hand, a piece of wood.

The bulbs of the Thermometers for registering the greatest heat from the sun's rays, and the least from radiation during night, have a black coating, which may easily be made, or mended, by the application of a mixture of lampblack and printer's ink. They are placed in shallow, open, unglazed boxes, whose sides protect the bulbs from the wind. Maximum should be freely exposed to the sun, and the Minimum should rest on wooden supports a few inches from the surface of the ground. The Thermometers should be placed in the grass, in an open situation. Snow must not be allowed to cover either of these Thermometers; nor the sun's heat to affect the thermometer Thermometer by dissipation. Black-bulbs enclosed in glass mass jackets' may also be used, being added preferable to the others. It must, however, be added, that the whole subject of the observation of Solar and Terrestrial Radiation is not yet in a sufficiently advanced state to warrant the exclusive recommendation of any of these methods.

The Thermometer in use at the Society's Stations consists of two kinds, the *Wet-Bulb* and the *Dry-Bulb*, and is graduated on the *Hygrometric* scale on one frame. As apparently slight deviations from the uniform form of this apparatus seriously vitiate the following Observations, Observers are specially requested to attend to the following conditions:—The bulbs must hang down and be at least an inch free from the scales and frame to which they are attached; the frame must be such as will bring the tubes forward by the neck, so that the bulb may be suspended; the water-moistened muslin must be covered, and altogether placed to the side, and the water must be of the level of the wet bulb, but in no case under the bulbs; the muslin must be of medium thickness, and fastened at the neck of the bulb by the cotton, which also supplies it with water. It must be so placed as to be by the Observer that the muslin is always clean and moist, and the water pure. In frosty weather, observation is a matter of great difficulty, and must be made with great care. The bulb must be exposed to the sun from 11 to 30 minutes before the hour of observation, and then the film of ice so formed evaporation will be arrested as far as possible in this cloth in ordinary circumstances. In reading the Thermometer, great care must be taken to the handling of the bulb, the observer's hands being the cause of the error; the bulb is exactly in the middle of the index or column of degrees, and the reading ought to be taken to the tenths of a degree, and noted in minutes. Thus, if the index be read 39° 0', 40° 0', or 40° 1' or again, 4, 40° 5', 40° 6', according as it indicates a little under, or a little over, or exactly the coincidence with, or a little less or 40° or 40½, respectively. So also, if the index be read 40° 7', 40° 8', or 40° 9', respectively. So also, if the index be read 40° 7', 40° 8', respectively. In reading Rutherford's Minimum Thermometer, the indication of that end of the index which is next to the surface of the spirit is alone noted. On opening the Thermometer, the Dry and Wet Bulb Thermometers are to be first, and usually read, inasmuch as they are readily affected by heat from the observer.

bring the eye exactly opposite the tip of the index to the column of mercury. The reading ought to be taken to tenths of a degree, and noted in decimals. Thus the thermometer will be read -39.9° , 40.6° , or 40.1° ; or again, 40.4° , 40.5° , according as it indicates a little under, an exact, or a little over 40° ; or 40.3° , 40.4° , respectively. So also 40.7° , 40.8° , and 40.9° must be registered 40.7° , 40.8° , and 40.9° , respectively. In reading Rutherford's 40°-30° thermometer the indication of fluid end of the index which is next to the spirit is alone noted. On opening the thermometer the spirit is seen to rise, and the thermometer is then held vertically, as they are readily directed by heat from the eye of the Observer, as they are readily directed by heat from the eye of the Observer.

The Hygrometer is read at 9 a.m. and 9 p.m. The Self-Registering Thermometer is read at 9 a.m. and 9 p.m., only indicating the greatest and least degrees of temperature during the 24 hours preceding. It is not a matter of indifference in the Self-Registering Thermometers are read, since in winter the extremes may occur at any hour; and it is necessary to note their occurrence for their proper meteorological use. In the thermometer's schedules, the indications registered on the 3d are those of the day, and the indications registered on the 2d, and extending 9 p.m. on the 3d.

No instrument ought to be used for Meteorological purposes till it has been carefully tested by comparison with a Standard Thermometer. When such Thermometers are not graduated on the stem, but merely on an attached scale, undergo repairs, they are very liable to be moved on their position on the Scale, and ought never afterwards to be used without being re-tested. The Self-Registering, especially the minimum Thermometers, ought frequently to be compared with the bulb of the Hygrometer. The freezing-point of each thermometer, marked by a scratch on the tube, ought to be tested once a year, in w or melting ice.

In selecting instruments, the following points require attention:—

1. The divisions of the Vernier of Barometers in reference to their scales, the perfect freedom of the Barometer from air; the great num-

tering of the scale of every instrument; the rejection of Thermometers, the frameworks of which are not likely to stand exposed to the weather, as shown in the past by repeated and annoying breakages; the selection of instruments of similar construction; and as regards Maximum Thermometers, either Negretti and Zamboni's or Phillips's, whichever they will act at the highest temperatures they may be required to register. By the laws of the Society, Members and Observers have no right to have their instruments compared by the Secretary, and so to advise with him regarding the purchase of instruments.

Very great care should be bestowed on the Observations of Wind, the accuracy of which, both as regards Direction and Force, is so essential towards the discussion of many of the more important problems of the above-mentioned subject.

A Wind-Vane ought to be elevated at least 12 feet above surrounding objects. When it oscillates incessantly, the height of mean direction should be taken. In all cases, but especially when the Vane is stationary, and when the wind is feeble, reference may be made to the direction of smoke, etc., in well-exposed situations. Careful observations are recommended to be made on the changes in the direction of the wind; and during storms, extra observations at every hour of Greenwich time. Such a system of simultaneous observation, pursued at different Stations, is likely to give highly valuable and important results, particularly in connection with the system of thickly-planted Stations over a limited district round Edinburgh called Groun Sartoris, in the name of being established by the Society for the systematic investigation of the relation of the force of the wind to Barometric Readings, 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 result can also be taken the mean Velocity of the Wind at the time of

Wind.

2. *Anemometer.*
Direction.

2. *Anemometer.*
Velocity.

The Force of the Wind at my particular hour of observation, the Pressure of the Atmosphere, the Direction and Force of the Currents, the Barometrical height of the barometer recently brought under the notice of the Society by Mr. T. Stevenson, the Honorary Secretary; and Mr R. Ballingall, of the Society's Observer at Edinburgh 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 unobscurable 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 in a level piece of ground, in an open situation as the Observer can see free for it. As it is often difficult to obtain a position so free and unobstructed by surrounding objects as is desirable, there should be taken to place it at some distance from shrubs, trees, sheds, buildings, or other obstructions, at least as many feet from them as they are in height. The more important directions, however, which it is most desirable to have a perfect exposure, are in the order of their importance, S.W., N.E., S.E., S. and W. The summit of the Gauge must be perfectly level, and fixed so that it will remain level in all weathers, and be at a height of one foot above the mean level in such places, and at a height of one foot above the surface, where the ground is uneven, and covered with grass. In such a measuring glass is used, care should be taken to hold it quite perpendicular. The Rain Gauge ought to be read daily at about 9 A.M., and the reading entered in the Returns of the previous day. If the Gauge is read once a month, the reading is to be made on the first of the month, and the amount entered for the previous month. Snow-falls may, for convenience, be registered in the rain columns, under the following conditions :— When a Snow-shower occurs, it should be noted in the ' Remarks,' and the depth S added to the depth of water received in Gauge. If the snow must be measured in some open places where the letter S cannot be written, the word 'Snow' may be written.

No drift is observed, and clouds are considered in addition to, but as a check upon, the indications of the Rain-Gauge. For wind, rain, and snow, it is insisted in every column, the Observer cannot be too careful to register his observations only; and nothing that partakes of the nature of deduction or inference.

Convenient abbreviations for the nomenclature of Clouds will be found on the other side. The amount of Cloud ought to be estimated from the greater or less obscuration of the sky overhead (viz., 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 over-head is free from Clouds it is entered 0, when half-covered by Clouds, 5, fully covered, 10, and so on.

Observations of the Clouds are made at 9 A.M. and at sunset, as indicating the condition and currents of the upper and lower regions of the atmosphere. The entries in the schedule are to be made in the following manner—Thus, in the Column Velocity and Direction, S.W. will indicate that the upper strata of Clouds travel with a W. wind.

The same velocity from S.W. and those in the lower regions from N.E. will indicate the speed of the former. Again, in the second column, an entry of $\frac{2}{4}$, st will indicate that the higher strata of Clouds are covered to the amount of 4-tenths with stratous 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 terminology.

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 in the air's rays cast shadows, should be entered in the proper column.

As the germination and growth of crops and plants generally, is very greatly influenced by the temperature of the soil,—the observations in this interesting department should be carefully noted.

Thermometers.—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 rain water being conveyed to the bulbs by the collars, to wooden frames.

A knowledge of the Temperature of the Sea is not only in itself, but in its relations to that of our Island, a most important branch of Meteorology. The Council therefore recommend that the Temperature of the Sea be regularly taken by the properly constructed apparatus, from boats, or from the shore, at the same time that the temperature of the air is observed, and that the observations be taken at the same place, and at the same hour, whenever it is not influenced by that of strong winds, or by currents sweeping along the coast, and thus requiring the temperature of the land, either greatly heated by the action of nocturnal radiation. At or near the time of high or low water, and of the equinoxes, the temperature of the air or cooled by nocturnal radiation.

However, in cases where the observations cannot be taken daily, the observation may be made on the 5th, 15th, and 25th of each month. When convenient, extra Sea Observations might be taken for other days, and greater details, noting always the Temperature of the Air, and the Direction and Force of the Wind. It is also very desirable that Observations on the daily Maximum and Minimum by Thermometers continuously immersed, be instituted at points along the coast, by the method proposed by Mr. Stevenson, and already commenced at Peterhead and Liverpool. The Temperature of the water at the bottom of Wells ought to be taken, when practicable, to be taken, both the depth of the Temperature of Well and of the water being noted. Mention what Pest-Papers are used, Schönbein's or Moffat's, etc. The Paper is affixed by a pin to a board in the A. W. monometer Box, and the indications registered at 9 A.M. and 9 P.M. It is desired that these indications be registered in connection with the force and direction of the wind at the time of the observation, in the following manner:—Thus *sw*, as an Ozome entry in the schedule will indicate that the Ozome Paper is tinted as on the scale, that the wind is from the N.W., and that its force on the scale, 0–5 is 4, or blowing fresh. Too much importance cannot be attached to the electric condition of the atmosphere in connection with terrestrial magnetism, barometrical, thermometrical, and meteorological phenomena generally. A proper Electromagnetic Record is necessary for every complete meteorological observatory. The Remarks column is unavoidably too narrow. Some of the most valuable Observations that can be taken are those for which no rules can be given nor hours assigned. The use of contractions, ought, therefore, to be taken into consideration, and a list of such as are in general use are given at the foot of the column. Besides special and extraordinary Observations, great prominence ought to be given in this column to Pre-

between the Lower and Upper Strata of Clouds, the Colour of the Sky, &c. Remarks ought to be made on the occurrence of Meteors, Auroræ Boreales, remarkable depressions, elevations, and fluctuations of the Barometer, Thunder-Storms, and remarkable Falls of Snow, Hail, or Rain, the Hour of Storms of Wind commencing, attaining their maximum at above, and ending, as well as such notes on Storms as have been transmitted to him.

If any lofty hills are in the vicinity of a Station, the height of the tops of the Snow-line in winter should be recorded. By the use of abbreviations, the state of the weather at 9 A.M. and P.M. should be registered either in two columns, otherwise unoccupied, or ruled off for the purpose, from the column of Remarks.

Observations in connection with the Periodic Return of the Seasons, possess not only great scientific value, but are of considerable importance in connection with the Periodic Return of Agriculture, Horticulture, and Natural History. The Council would direct the special attention of Observers to the registration of such phenomena, so that the collected Summaries may fairly represent the whole of Scotland.

Observations ought to be confined to individual trees and shrubs; particular species of birds, and, in the case of crops, to specified areas returned from year to year on a selected piece of ground or farm.

The Annual Table, published yearly in the Society's Journal, will indicate the spots of plants and animals to which special attention more particularly directed.

The Council recommend

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

A. B.
(By Order)

Ensign, December 1884.

| Kind of Crops. | Kind of manuring. | Grass, or other manure. | Sowing or planting. | Appearance above ground. | In buds or flowers. | First cut or raised. |
|---------------------|----------------------|----------------------------------|---------------------------|-----------------------------|------------------------------|-------------------------------|
| Rye Grass, . . . | | | | | | |
| Turneps, . . . | | | | | | |
| Potatoes, . . . | | | | | | |
| Pease, . . . | | | | | | |
| Beans, . . . | | | | | | |
| Wheat, . . . | | | | | | |
| Oats, . . . | | | | | | |
| Boro or Bigg, . . . | | | | | | |
| Barley, . . . | | | | | | |


| PORETS TREES. | In | Leaf buds | First appear. | In leaf. | Dis- |
|--------------------|----|-----------|---------------|----------|------|
| Alder, | | | | | |
| Ash, | | | | | |
| Beech, | | | | | |
| Birch, | | | | | |
| Blm., | | | | | |
| Larch, | | | | | |
| Time, | | | | | |
| Oak, | | | | | |
| Gycamore or Plane, | | | | | |

To the SECRETARY

Scottish Meteorological Society,

122 George S

BOOK POST.



rect,

EDINBURGH.

[illegible]

| | | | | | | | |
|------------------------|---|--------------------|---|----------------|---|-------------|---|
| Barberry, | . | Bornitee or Elder, | . | Black Currant, | . | Apple, | . |
| Hazel, | . | Hawthorn, | . | Gooseberry, | . | Cherry, | . |
| Broom, | . | . | . | Grain, | . | . | . |
| . | . | . | . | Peach, | . | Pear, | . |
| Laburnum, | . | . | . | Rum, | . | Strawberry, | . |
| Mazezon, | . | . | . | . | . | . | . |
| Mountain Ash or Rowan, | . | . | . | . | . | . | . |
| Red Flowering Currant, | . | . | . | . | . | . | . |
| Rhododendron Ponticum, | . | . | . | . | . | . | . |
| Whin, | . | . | . | . | . | . | . |

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|------------------------|---|
| Mountain Ash or Rowan, | . |
| Red Flowering Currant, | . |
| Rhododendron Ponticum, | . |
| Whin, | . |

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at *Baron Cottage, Rochesay*, County of *Bute*, in Lat. *55° 49' 50"*, Long. *5° 45'*, Distance from Sea *116* miles.
Height of Cistern of the Barometer above Mean Sea-level *116* feet, above Ground *3* feet. During the MONTH of *November* 188*6*.

The Hours of Observation are of Greenwich Time.

| ELECTRICITY. | Days of Month. | BAROMETER. | | | | SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M. | | | | HYGROMETER. No. — | | | | WIND. | | | | RAIN. | | CLOUDS. | | | | THERMOMETERS under Ground. | | | SEA. | OZONE. | GENERAL REMARKS. | | Days of Month. | | | | | |
|--|----------------|------------|-----------------|------------|-----------------|---|------|------------------------|------|----------------------|-----------|-----------|-----------|------------|--------|------------|--------|---|-------------------------|--|---------------------------------------|--|---------------------------------------|-------------------------------|---|---------------|------|--------|--|--|-----------------------------------|--------------------------|----------------------------------|-----|-----|-----|
| | | 9 h. A.M. | | 9 h. P.M. | | Protected in Shade, 4 feet above Ground. | | Exposed Bare Bulbs. | | 9 h. A.M. | | 9 h. P.M. | | 9 h. A.M. | | 9 h. P.M. | | 9 A.M. | | P.M. | | 9 h. A.M. | | | Temperature of Wet Bulb at 50° F. Wet Bulb at 60° F. | 9 A.M. 9 P.M. | | | 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. | | | | | | |
| | | Barometer. | Atmos- phere | Barometer. | Atmos- phere | Max. | Min. | Max. | Min. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | Direction. | Force. | Direction. | Force. | No. of hours in which it fell. | Amount in Inches. | Velocity (0—10), and 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. | | | |
| | | * No. | ° | No. | ° | No. | No. | No. | No. | ° | ° | ° | ° | ° | ° | ° | ° | No. | No. | No. | No. | No. | No. | No. | | | | | | | | No. | No. | No. | No. | No. |
| | | inches. | ° | inches. | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | ° | | | | | | | | ° | ° | ° | ° | ° |
| | 1 | 29.650 | 52 | 29.680 | 52 | 52.5 | 47 | | | 49 | 45 | 50.6 | 47.5 | SW 1. | S 2. | | | 0.20 | 10 | 10 | | | | | | | | | 1/2 clear fine | 1 | | | | | | |
| | 2 | 29.684 | 52 | 29.940 | 51 | 52.5 | 45 | | | 48 | 45 | 47.3 | 44.5 | SW 1. | SW 1. | | | 1.65 | 2 | 5 | | | | | | | | | " " blowy | 2 | | | | | | |
| | 3 | 29.420 | 52 | 29.440 | 52 | 52.8 | 42.5 | | | 51 | 50 | 44.8 | 41.5 | S 2-3. | W 1. | | | 9.35 | 10 | 5 | | | | | | | | | Bull, gale, wet | 3 | | | | | | |
| | 4 | 29.474 | 50 | 29.480 | 52 | 49.2 | 40.5 | | | 45.2 | 42 | 40.8 | 39 | SW 1-2. | | | | 3.65 | 5 | 5 | | | | | | | | | 1/2 clear shower | 4 | | | | | | |
| | 5 | 29.320 | 47 | 29.180 | 47 | 44 | 39.2 | | | 41.6 | 41 | 43 | 41 | SE 1. | NE 1. | | | 1.05 | 5 | 10 | | | | | | | | | Bull & Rain | 5 | | | | | | |
| | 6 | 29.200 | 45 | 29.264 | 45 | 48 | 38.5 | | | 43 | 38.5 | 39 | 36.5 | NW 1. | NNW 1. | | | — | 8 | 5 | | | | | | | | | 1/2 clear breezy & cold | 6 | | | | | | |
| | 7 | 29.530 | 42 | 29.532 | 44 | 44.5 | 33.5 | | | 36.2 | 34 | 42 | 39.5 | NW 1. | SW 1. | | | 0.50 | 2 | 10 | | | | | | | | | " " | 7 | | | | | | |
| | 8 | 29.240 | 47 | 29.250 | 47 | 47 | 39 | | | 46 | 42.2 | 39.5 | 38.2 | SW 1. | SW 1. | | | 2.30 | 10 | 8 | | | | | | | | | Bull & damp | 8 | | | | | | |
| | 9 | 29.300 | 46 | 29.584 | 47 | 47 | 38 | | | 42.5 | 42 | 44 | 42 | NE 1. | NE 1. | | | — | 10 | 9 | | | | | | | | | | 3 c fine | 9 | | | | | |
| | 10 | 29.630 | 45 | 29.600 | 46 | 48 | 38 | | | 41 | 39 | 43.2 | 40 | N 1. | NE 1. | | | — | 10 | 6 | | | | | | | | | | " " | 10 | | | | | |
| | 11 | 29.770 | 47 | 29.500 | 48 | 47 | 37.5 | | | 42 | 39 | 38.5 | 37.5 | SE 1. | SW 1. | | | 5.60 | 8 | 10 | | | | | | | | | 3 c & clear fine | 11 | | | | | | |
| | 12 | 29.380 | 46 | 29.400 | 46 | 50 | 38 | | | 41.6 | 40.5 | 38.5 | 37.2 | NW 1. | NW 1. | | | 0.80 | 8 | 5 | | | | | | | | | 3 c fine | 12 | | | | | | |
| | 13 | 29.282 | 46 | 29.310 | 52 | 49.8 | 38.5 | | | 44.5 | 43.5 | 45.2 | 44.5 | NNW 1. | NW 1. | | | 1.72 | 9 | 10 | | | | | | | | | 3 c shower | 13 | | | | | | |
| | 14 | 29.410 | 47 | 29.510 | 52 | 50.5 | 39.5 | | | 44 | 43.5 | 50 | 49 | calm | SW 1. | | | 5.20 | 10 | 10 | | | | | | | | | | Bull & damp | 14 | | | | | |
| | 15 | 29.144 | 50 | 29.110 | 52 | 51.5 | 46 | | | 50.8 | 50.2 | 47.2 | 46.5 | S 1. | VV 1. | | | 5.70 | 10 | 9 | | | | | | | | | " mild wet | 15 | | | | | | |
| | 16 | 29.380 | 50 | 29.360 | 46 | 48.5 | 36 | | | 38 | 36.3 | 39 | 37 | W 1. | WSW 1. | | | 1.65 | 2 | 8 | | | | | | | | | | " " | 16 | | | | | |
| | 17 | 29.300 | 47 | 29.490 | 46 | 40 | 36.5 | | | 40.2 | 38 | 42 | 41 | NNW 1. | NW 1. | | | 0.90 | 3 | 2 | | | | | | | | | | 3 c shower | 17 | | | | | |
| | 18 | 29.864 | 44 | 29.920 | 46 | 50.5 | 38.5 | | | 40 | 38 | 44.6 | 42.5 | NW 1. | S 1. | | | 1.52 | — | 10 | | | | | | | | | | 3 c & clear fine | 18 | | | | | |
| | 19 | 29.900 | 47 | 29.950 | 51 | 53.5 | 44 | | | 50.8 | 50 | 52 | 50.6 | SE 1. | S 1. | | | 0.10 | 10 | 10 | | | | | | | | | | Bull & mild | 19 | | | | | |
| | 20 | 29.980 | 53 | 30.120 | 51 | 54.2 | 44 | | | 52 | 50 | 45.5 | 42 | SE 1. | NW 1. | | | 0.10 | 10 | 10 | | | | | | | | | | " " | 20 | | | | | |
| | 21 | 30.320 | 48 | 30.320 | 45 | 50 | 47 | | | 36.3 | 35.5 | 39 | 37.5 | NW 1. | SW 1. | | | 0.06 | 1 | 6 | | | | | | | | | | 3 c fine | 21 | | | | | |
| | 22 | 30.280 | 46 | 30.330 | 50 | 48.5 | 38 | | | 43.3 | 42.5 | 48 | 47.3 | SE 1. | calm | | | 0.30 | 10 | 10 | | | | | | | | | | Bull & heavy | 22 | | | | | |
| | 23 | 30.440 | 50 | 30.530 | 51 | 51 | 43 | | | 45.6 | 45.5 | 49 | 49 | calm | NW 1. | | | — | 10 | 10 | | | | | | | | | | " mild | 23 | | | | | |
| | 24 | 30.640 | 50 | 30.650 | 52 | 52.5 | 47 | | | 49 | 48 | 49 | 48.3 | NNW 1. | W 1. | | | 0.02 | 8 | 5 | | | | | | | | | | 3 c shower & drizzle | 24 | | | | | |
| | 25 | 30.610 | 53 | 30.530 | 51 | 51 | 45 | | | 48.5 | 46.5 | 47 | 46 | NNW 1. | NW 1. | | | — | 2 | — | | | | | | | | | | 3 c fine | 25 | | | | | |
| | 26 | 30.450 | 49 | 30.400 | 49 | 51 | 38.5 | | | 41.3 | 41.5 | 44 | 43 | calm | calm | | | — | 5 | 10 | | | | | | | | | | 3 c very fine | 26 | | | | | |
| | 27 | 30.350 | 48 | 30.260 | 51 | 46.5 | 42.5 | | | 44 | 43.3 | 45.8 | 44.5 | SE 1. | SW 1. | | | — | 10 | 10 | | | | | | | | | | Bull & Rain | 27 | | | | | |
| | 28 | 30.064 | 49 | 29.582 | 50 | 49.5 | 45.5 | | | 47 | 44 | 47 | 44 | SW 1. | SW 1. | | | 1.00 | 10 | 10 | | | | | | | | | | blow | 28 | | | | | |
| | 29 | 29.870 | 47 | 29.830 | 47 | 50.0 | 40 | | | 45.5 | 43.3 | 40.6 | 38 | WSW 1. | W 1. | | | 2.85 | 10 | 5 | | | | | | | | | | 3 c force blasts | 29 | | | | | |
| | 30 | 29.540 | 45 | 29.720 | 43 | 48.8 | 38.8 | | | 38.8 | 35.5 | 35 | 34 | NW 2. | NNW 1. | | | 0.70 | 2 | 8 | | | | | | | | | | 3 c fine cold | 30 | | | | | |
| | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 31 | | | | |
| Sums. | | 14.122 | 14 | 14.121 | 11 | 14.9 | 11.7 | | | 12.7 | 12.6 | 16.7 | 16.3 | 9 | 9 | 53 | 51.39 | 210 | 221 | | | | | | | | | | | | NOTATION USED IN GENERAL REMARKS. | | | | | |
| Means. | | 22.178 | 24.4 | 22.292 | 26.6 | 29.0 | 28.0 | | | 12.7 | 12.4 | 12.1 | 11.8 | 21.5 | 19.0 | | | | | | | | | | | | | | | | | a. denotes aurora. | | | | |
| † Total Corrections for Instrumental Errors. | | 29.739 | 48.1 | 29.743 | 48.9 | 49.7 | 49.9 | | | 44.3 | 42.5 | 44.0 | 42.3 | 0.72 | 0.63 | | | 7.0 | 7.7 | | | | | | | | | | | | ci. " cirrus. | | | | | |
| ‡ Corrections for Diurnal Range. | | | | | | | | | | | | | | 0.6 | 0.6 | | | | | | | | | | | | | | | | ci.-cu. " cirro-cumulus. | | | | | |
| "Corrected Means." | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ci.-s. " cirro-stratus. | | | | |
| 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 | cu. " cumulus. | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | cu.-s. " cumulo-stratus. | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | fr. " fog. | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | fr. " frost. | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | h.-fr. " hoar-frost. | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | h. " haze. | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | h. d. " heavy dew. | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | h. " 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. " squall. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | s. " sleet. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | so. ha. " solar halo. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | sq. " squall. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | sqs. " squalls. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | t. s. " thunder. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | th. s. " thunder storm. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | w. " wind. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

BAROMETER, “corrected Mean” at 9 A.M., minus the Correction†† = *29.687*
for Temp. (Col. 2), = *29.739* — *0.052* = *29.687*
Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = *29.688*
for Temp. (Col. 4), = *29.743* — *0.055* = *29.688*
Mean at Station, corrected, and at 32°, = *29.688*
Correction for height, feet above Mean Sea-level, = *1.27*
Mean, reduced to 32°, and Sea-level, = *29.815*
Highest Reading, corrected for Index error, on the th, = *30.650*
Lowest Do. Do., on the th, = *29.110*
Difference, or Monthly Range, = *1.540*

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = *56.0*
Lowest in Month, corrected for Index errors, on the th, = *33.5*
Difference, or Monthly Range, = *22.5*
“Corrected Mean” of all the Highest, (Col. 5), = *49.7*
“Corrected Mean” of all the Lowest, (Col. 6), = *40.3*
Difference, or Mean Daily Range, = *9.4*
** Calculated Mean Temperature of Month, = *45.0* = *44.8*

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), = *44.2*
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = *42.4*
† Computed Temperature of Dew-Point, = *40.3*
† Do. Elastic Force of Vapour, = *0.250*
† Do. Weight of Vapour in a Cubic Foot of Air, = *—*
† Relative Humidity, (Saturation = 100), = *86*
RAIN fell on 23 Days; Amount in Inches, = *5.14*

| WIND. | | SUMMARY. | | | | | | | | | | |
|------------|---|----------|---|----|---|----|---|----|-------------------|-------------|---------------------------------|--|
| Direction. | N | NE | E | SE | S | SW | W | NW | Calm or Variable. | Mean Force. | Mean Velocity in miles per day. | |
| A.M. | 1 | 1 | 3 | 2 | 5 | 6 | 5 | 6 | 0.72 | | | |
| P.M. | 3 | | | 5 | 4 | 6 | 6 | 6 | 0.63 | | | |
| Mean. | 0 | 2 | 0 | 2 | 3 | 5 | 6 | 6 | 0.68 | 0.46 | | |

Observations made and
Return verified by

James Roy

(Signed)

James Roy

H.R.
H.R.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Barrow Cottage, County of North, in Lat. 55° 44' 50" Long. 5° 45', Distance from Sea 10 miles.
Height of Cistern of the Barometer above Mean Sea-level 116 feet, above Ground 3 feet. During the MONTH of December 1886.
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. | | | | SUNSHINE. | 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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | 9 h. A.M. | | 9 h. P.M. | | Protected in Shade 4 feet above Ground. | | Exposed Black Bulb. | | 9 h. A.M. | | 9 h. P.M. | | | 9 h. A.M. | | 9 h. P.M. | | 9 A.M. | | P.M. | | | 9 h. A.M. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Barometer. | Attach- ed Ther- mometer | Barometer. | Attach- ed Ther- mometer | Max. | Min. | Max. | Min. | Dry bulb. | Wet bulb. | Dry bulb. | Wet bulb. | | No. of hours in which it fell. | Direction. | Force. | Direction. | Force. | Readings of the H. Cup Anemometer. No. _____ | Velocity (0—6), and Direction. | Amount (0—10), and Species. | | Velocity (0—6), and Direction. | Amount (0—10), and Species. | No. _____ 8 inches. | | | | | No. _____ 12 inches. | No. _____ 22 inches. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | * No. _____ | _____ | No. _____ | _____ | No. _____ | No. _____ | No. _____ | No. _____ | _____ | _____ | _____ | _____ | | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | | _____ | _____ | _____ | | | | | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | 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BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† for Temp. (Col. 2), = 29.451
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† for Temp. (Col. 4), = 29.457
Mean at Station, corrected, and at 32°, = 29.454
Correction for height, feet above Mean Sea-level, = 1.27
Mean, reduced to 32°, and Sea-level, = 29.581
Highest Reading, corrected for Index error, on the th, = 30.350
Lowest Do. Do., on the th, = 27.750
Difference, or Monthly Range, = 2.600

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the th, = 51.5
Lowest in Month, corrected for Index errors, on the th, = 20.0
Difference, or Monthly Range, = 31.5
"Corrected Mean" of all the Highest, (Col. 5), = 41.1
"Corrected Mean" of all the Lowest, (Col. 6), = 30.9
Difference, or Mean Daily Range, = 10.2
** Calculated Mean Temperature of Month, = 36.0
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 ("exp. 1"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 35.2
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 34.0
† Computed Temperature of Dew-Point, = 32.1
† Do. Elastic Force of Vapour, = .182
† Do. Weight of Vapour in a Cubic Foot of Air, =
† Relative Humidity, (Saturation = 100), = 88
RAIN fell on 23 Days; Amount in Inches, = 4.47
WIND. SUMMARY.
Direction. N NE E SE S SW W NW
A.M. 7 4 2 3 1 4 8 2 0.82
P.M. 2 3 2 2 9 9 4 0.68
Mean. 4 4 2 0 1 2 6 9 3 0.75 = 0.56

Observations made and
Return verified by

(Signed)

H.N.
H.B.

