

# SYMONS'S MONTHLY METEOROLOGICAL MAGAZINE.

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## CLIMATOLOGICAL DATA FOR THE BRITISH EMPIRE.

IN the year 1873 I was requested by the Editor of *The Colonies* to endeavour to arrange for publishing in that periodical a monthly synoptical table from some of the leading colonies. Through the kindness of the Directors of the various observatories, I was able to commence by giving for January, 1874, meteorological returns from sixteen stations in Europe, Asia, Africa, Australia, and America; and from that time to the present, the system has continued in uninterrupted operation.

Recent changes in *The Colonies and India*, however, led the Editor to decide upon terminating the publication of these tables, and it then became my duty to consider what, in the interest of meteorology at large, was the best course to adopt.

Originally I believed that these tables would be useful, or I would not have undertaken their preparation. Seven years' experience has confirmed that opinion, and therefore I resolved to continue them.

Then arose the questions—how? and where? As regards the first question there could be but one answer—the returns for half of 1881 had been printed in *The Colonies*, the other six months must be prepared in the same form, and it can only be when beginning the tables for 1882 that any modification can be introduced. The place of publication required much consideration. On the one hand there were two arguments in favour of offering them to some Colonial journal:—  
(1) Its greater circulation in the Colonies than that of this Magazine;  
(2) The fact that the cost of preparation and the extra cost for printing tabular matter would then not fall upon me. But, on the other hand, I thought that these tables were too valuable for me to allow them to be lost to the readers of this Magazine, and on that ground I resolved upon their regular appearance in these pages. As the publication has fallen rather into arrear, I shall for a few months give two tables a month so as to bring the publication up as close as the collection of data from such remote parts of the world will allow. At the same time as the publication will in future be entirely under my own control, it will be systematic, and I am sure that I may rely upon the continued kindness of my Colonial friends in making their returns as prompt as they are accurate.

G. J. SYMONS.

## CLIMATOLOGICAL TABLE FOR THE BRITISH EMPIRE, JULY, 1881.

STATIONS.  (Those in italics are South of the Equator.)	Absolute.				Average.				Absolute.		Total Rain.		Aver.
	Maximum.		Minimum.		Max.	Min.	Dew Point.	Humidity.	Max. in Sun.	Min. on Grass.	Depth.	Days.	
	Temp.	Date.	Temp.	Date.									
	°		°		°	°	°	0-100	°	°	inches		
England, London .....	94·6	15	44·3	28	77·9	55·8	52·8	64	137·7	38·3	1·85	14	5·3
Cape of Good Hope ...	78·0	16	33·0	20	64·0	42·3	46·4	80	...	...	2·82	9	3·4
Mauritius .....	76·1	30	59·6	16	73·9	65·1	60·5	74	...	...	4·43	20	5·8
Calcutta .....	91·7	13	76·7	31	87·5	79·0	78·7	87	160·7	75·1	13·42	26	8·2
Bombay .....	86·9	8	75·1	6	84·5	77·7	77·1	88	149·1	74·1	29·47	31	9·2
Ceylon .....	87·6	30	74·0	13	85·2	77·4	74·4	80	148·0	69·0	2·21	7	6·5
Melbourne .....	63·9	21	34·5	28	56·6	42·4	40·9	75	98·4	25·9	·68	10	5·6
Adelaide .....	66·5	21	35·0	14	58·3	43·8	42·4	73	133·0	28·0	2·06	16	...
Wellington .....	60·3	12	35·5	5	53·3	43·4	...	...	106·0	28·0	11·25	18	...
Auckland .....	66·6	...	35·2	...	...	...	...	81	109·1	...	2·76	22	5·9
Falkland Isles .....	44·6	16	18·1	2	40·0	32·8	34·9	94	85·8	15·8	3·09	22	7·8
Jamaica .....	93·8	7	71·8	22	90·0	74·4	72·3	76	...	...	6·05	14	6·4
Barbados .....	84·0	15	71·0	var.	82·0	73·0	73·4	80	150·0	70·0	7·64	21	7·0
Toronto .....	92·1	5	56·1	1	80·3	60·7	59·6	69	148·0	48·5	1·84	9	4·8
New Brunswick, S. John	72·0	15	49·0	7	64·5	52·6	53·7	83	...	...	4·53	15	6·4
Cape Breton, Sydney...	82·7	10	41·3	3	68·5	51·3	54·7	83	...	...	3·93	15	7·1
Newfoundlnd, S. John's	74·3	17	43·3	2	64·6	50·0	53·0	88	147·0	44·0	6·79	11	6·5
Manitoba, Winnipeg ...	93·5	18	39·0	9	82·1	55·6	59·6	68	...	...	·61	10	5·1

## REMARKS, JULY, 1881.

LONDON.—A hot month, temp. being 3°·5 above the average, but especially noticeable for the high temp. in the first week, and also from 11th to 19th. The max. of 94°·6 is without precedent in my records. G. J. SYMONS, F.R.S.

Mauritius.—Rainfall, 1·94 in. above average; mean bar. (corr. and red.), 30·216 in. Mean hourly velocity of wind, 11·9 miles; greatest, 26·9 miles on 22nd; least, 1·7 miles on 30th; prevailing direction of wind, E.S.E. to E.

C. MELDRUM, F.R.S.

Melbourne.—Mean temp. and pressure, 0°·9 and 0·160 in. respectively above the average of 22 years; temp. of dew-point and amount of cloud both below it; rainfall, 1·15 in. below the 22 years' average. Prevailing direction of wind, N., the strongest breezes occurring from that quarter on the 3rd, 4th, 6th, 15th, and 22nd; heavy dew on 8 days, hoar frost on 4 days, and dense fog on 3 days.

R. L. J. ELLERY, F.R.S.

Wellington.—First 3 days wet and stormy from N.W.; fine, bright, pleasant weather from 4th to 15th, the wind being light and changeable. Dull weather commenced on the 16th, and the remainder of the month was generally stormy and cold, with continuous R. T on 3rd; H on 30th. Atmospheric pressure and temp. both above the average of 17 years; rainfall, 5·03 in. above average.

R. B. GORE.

Barbados.—Pressure and temp. both slightly below the average of previous 17 years. Wind, N.E. on 29 days and S.E. on 2 days, the average velocity being 12 miles per hour, and the extremes 17·4 miles and 6·4 miles. Rainfall, 19 per cent. above the average of 25 years; greatest fall in 24 hours, 2·35 in. on 6th; evaporation, 20 per cent. above the average. Ten days were over-cast, TSS on 16th and 24th.

R. BOWIE WALCOTT.

NEWFOUNDLAND.—The first week was fair, but the remainder of the month was unsettled, wet and dry alternately; not good for either agriculture or fishery operations.

J. DELANEY.

## CLIMATOLGICAL TABLE FOR THE BRITISH EMPIRE, AUGUST, 1881.

STATIONS.  (Those in italics are South of the Equator.)	Absolute.				Average.				Absolute.		Total Rain.		Aver.
	Maximum.		Minimum.		Max.	Min.	Dew Point.	Humidity.	Max. in Sun.	Min. on Grass.	Depth.	Days.	
	Temp.	Date.	Temp.	Date.									
	°		°		°	°	°	0-100	°	°	inches		
England, London .....	84·6	5	42·3	28	69·3	51·3	51·3	76	126·3	37·8	4·89	19	6·8
<i>Cape of Good Hope</i> ...	77·0	28	38·4	27	64·8	46·8	50·0	81	...	...	3·54	14	4·5
<i>Mauritius</i> .....	75·4	18	57·5	15	73·6	63·8	58·6	71	...	...	1·72	21	5·4
Calcutta .....	91·5	17	75·8	23*	86·7	78·0	78·8	89	156·7	75·1	19·16	25	8·5
Bombay .....	86·3	29	75·0	var.	84·4	76·9	76·5	87	146·5	73·2	19·06	28	8·9
Ceylon .....	86·7	3	73·8	11	84·9	76·8	74·3	81	149·5	69·0	6·17	13	7·5
<i>Melbourne</i> .....	74·7	16	33·1	24	59·4	45·0	41·5	70	109·0	25·9	2·97	14	6·8
<i>Adelaide</i> .....	70·0	26	35·0	2	60·8	45·8	44·3	71	137·5	75·0	1·45	12	6·5
<i>Wellington</i> .....	60·0	21	35·3	3	53·9	44·5	...	...	115·0	30·0	6·77	18	...
<i>Auckland</i> .....	64·8	...	35·2	...	...	...	...	81	112·0	...	4·31	22	6·3
<i>Falkland Isles</i> .....	49·4	29	24·0	11†	41·0	32·7	36·3	92	96·3	20·7	2·01	20	6·4
Jamaica .....	91·0	23	70·0	14	88·3	73·7	72·9	79	...	...	4·75	11	5·6
Barbados .....	87·0	21	70·0	16‡	83·0	73·0	73·6	76	152·0	70·0	10·57	19	5·0
Toronto .....	91·0	31	52·2	25	79·7	60·1	58·7	68	141·0	44·0	1·51	8	5·3
New Brunswick, S. John	80·0	19	51·0	17	65·4	55·2	57·3	90	...	...	3·17	14	8·2
Cape Breton, Sydney...	83·5	1	40·3	30	71·2	59·3	61·2	88	...	...	4·08	16	7·6
Newfoundlnd, S. John's	79·0	1	44·0	30	67·2	55·4	56·0	93	145·0	41·0	3·91	14	6·0
Manitoba, Winnipeg ...	88·7	25	38·5	6	79·3	52·8	57·0	71	...	...	2·05	12	5·5

\* And 24

† And 12

‡ And 17

## REMARKS, AUGUST, 1881.

LONDON.—Temp. below the average ; rainfall nearly twice the usual amount, and falling on nineteen days, seriously injured the harvest. G. J. SYMONS, F.R.S.

*Mauritius*.—Rainfall ·53in. below average ; mean bar. (cor. and red.) 30·243in. ; mean hourly velocity of wind, 13·2 miles ; greatest, 28·8 miles on 20th ; least, 1·8 miles on 16th ; prevailing direction E.S.E. to E. C. MELDRUM, F.R.S.

CEYLON.—Thunder was heard on 1st and 6th. A. B. FYERS, Col. R.E.

*Melbourne*.—Mean temp., 1°·1 ; mean pressure, ·089in. ; rainfall, 1·09in. ; and amount of cloud, ·7 ; respectively above the average of 22 years. Prevailing winds, W. and N.E. ; strong breezes occurring on 4 days ; hoar frost on 3 days ; heavy dew on 4 days. R. L. J. ELLERY, F.R.S.

*Adelaide*.—Mean pressure 30·216in., slightly above the average. Rainfall between Adelaide and Lake Torrens about the mean, but S. of Adelaide the fall was about 50 per cent. below the mean, and no R was recorded N. of lat. 30°. Mean temp. at Adelaide about 1° below average. C. TODD.

*Auckland*.—Wet dull weather, with S.W. and W. winds, frequently strong ; average velocity 12·7 miles per hour ; greatest in 24 hours, 761 miles on 9th. Max. fall of R, 1·08in. on 15th. E. B. DICKSON.

*Wellington*.—Pleasant weather from 3rd to 14th, with occasional showers, wind chiefly W. and N.W., strong on 7th and 9th ; from 15th to 20th, wet and cold ; next three days fine, then wet and cold again till 27th. S on hills on 23rd ; L on 28th ; very slight earthquake on 8th. Mean pressure about the average ; mean temp. 1°·2 above it. R. B. GORE.

*Barbados*.—Mean pressure and temp. both below the average. N.E. winds prevailed on 24 days, average velocity 6 miles per hour ; extremes 9·9 miles and 2 miles. Rainfall 26 per cent., and evaporation 33 per cent. above the average. TSS on 6 days, and L on 4 other days. Very little ozone. R. BOWIE WALCOTT.

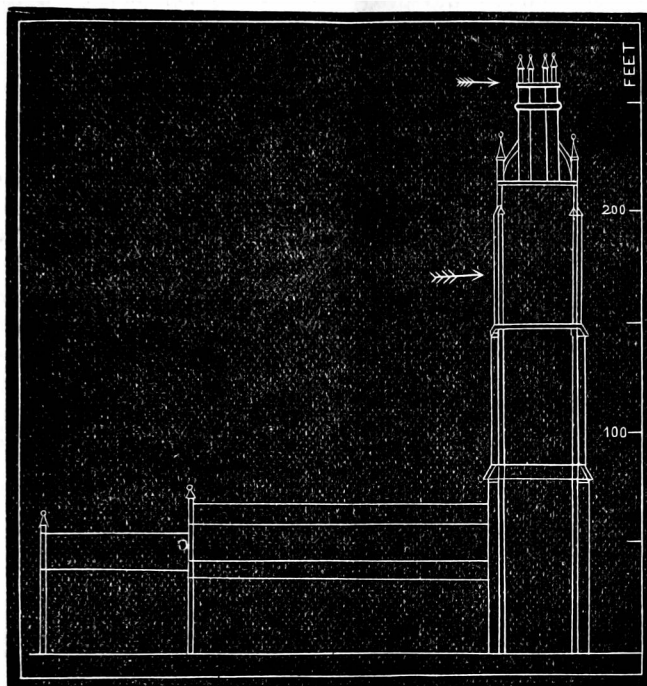
NEWFOUNDLAND.—With the exception of a few days the month was rainy, foggy, and unsettled. J. DELANEY.

## TEMPERATURE OBSERVATIONS AT BOSTON, LINCOLN.

During last year the Council of the Meteorological Society, having regard to the recent rapid progress of statistical meteorology and to the uncertainty that still prevails regarding important points bearing on the physics of the atmosphere, considered it desirable that the Society should supplement the ordinary observations by a series of well-conducted experiments destined to throw light on such questions as the vertical decrement of temperature, the rate of ascension of vapour, the height of cloud-strata, the variation in the velocity of the wind at different elevations, &c. Steps have recently been taken to obtain information upon the first of these questions, by the placing of thermometers at the summit of, part way up, and at the base of, Boston Church Tower, which is 270 feet high. This tower is admirably situated for making such experiments, as it is isolated and free from any obstructions, and the country is quite flat for miles round. By permission of the vicar (the Rev. Canon Blenkin), the instruments have been placed as follows:—At the summit, one of Dr. Siemens' electrical thermometers (kindly placed at the Society's disposal by Messrs. Siemens, Bros. and Co.) and an ordinary thermometer are mounted in a small screen fixed to one of the pinnacles of the tower; on the roof of the belfry, which is 170 feet above the ground, a Stevenson screen has been mounted containing maximum, minimum, dry and wet bulb thermometers. In the churchyard another Stevenson screen has been fixed containing a similar set of thermometers, for comparison with those above. All the thermometers will be read every morning at 9 o'clock. The electrical thermometer consists of a coil of wire wound round a cylindrical piece of wood enclosed in a small brass tube; a third wire is joined to one of the wires, and the three, insulated by gutta percha, form a light cable which is brought down to the base of the tower and connected to a galvanometer, the terminals of which are in connection with the two poles of a six-cell Leclanché galvanic battery. The instrument is read by depressing a key which causes the needle of the galvanometer to deflect; a pointer or vernier (moving a contact roller upon a wire in a circular groove) is then pushed to the right or to the left upon a divided scale until the needle remains stationary on the zero point, when the electrical resistance of the wire is measured upon the scale. The number indicated by the vernier is then read off, and by referring to a table of equivalents the actual temperature in degrees of Fahrenheit is readily ascertained.

Simultaneous readings of the electrical thermometer at the summit of the tower and of the dry bulb thermometer in the churchyard will be made frequently during the day by Mr. E. C. Hackford, the vergier of the church, who, by originally erecting, and commencing a record of the fall of rain by, a gauge at 270 feet above the ground—the highest ever observed—practically suggested the locality of the experiments now commenced.

The following engraving will show clearly the relative situations of the three sets of thermometers, the arrows pointing to the respective positions of the upper sets.



### THE METEOROLOGICAL SOCIETY.

THE usual monthly meeting of this Society was held on Wednesday, the 15th ult., at the Institution of Civil Engineers, 25, Great George-street, Mr. J. K. Laughton, M.A., F.R.A.S., President, in the chair. The following gentlemen were balloted for and duly elected Fellows of the Society:—W. Armstrong, J.P., W. G. Birchby, J. Rand Capron, P. Crowley; F.Z.S., W. W. Culcheth, M. Inst. C.E., D. Cunningham, M. Inst. C.E., F.S.S., S. Cushing, W. N. Greenwood, E. Kitto, J. Mansergh, M. Inst. C.E., G. Oliver, M.D., H. S. H. Shaw, Assoc. M. Inst. C.E., G. W. Stevenson, M. Inst. C.E., F.G.S., and W. H. Tyndall.

The papers read were:—(1). "Notes of Experiments on the Distribution of Pressure upon Flat Surfaces perpendicularly exposed to the wind," by C. E. Burton, B.A., F.R.A.S., and R. H. Curtis, F.M.S. In the present state of aerodynamics, it seems impossible to make an *a priori* investigation of the distribution of pressure on a surface exposed to the impact of the fluid in motion, without introducing such limitations as render the solutions arrived at widely divergent from the results obtained by the experiments hitherto made. The authors, therefore,

proposed to themselves to attack the problem from the experimental side only, by a method which, as far as they know, has not been applied in the case of air—viz., the application of Pitot's tube, suitably modified in form, to the simultaneous measurement of the pressures at the centre, and at any ex-centrally situated point of a pressure plate of known dimensions. The results of the preliminary experiments are given in the present paper.

(2) "The Principle of New Zealand Weather Forecasts," by Commander R. A. Edwin, R.N., F.M.S.

(3) "The high Atmospheric Pressure of the middle of January, 1882," by H. Sowerby Wallis, F.M.S. On January 7th the barometer in London rose to about 30 inches, and for the next few days was rather unsteady, but after each fall it rose higher than before, until on the 12th it was above 30.4 in. From this time it was very steady, rising gradually, 30.900 in. being reached at 3 a.m. on the 17th, and the maximum, 30.955 in. at 10.30 a.m. on the 18th.

At this time an area of high pressure, which had had its centre over the continent for some days had gradually moved westward and reached our islands, the highest readings being in the southern part of England. The following are the max. readings at several stations.

St. Leonards .....	30.990 in.	... 10.23 to 10.37 a.m. on 18th.	
Cheltenham .....	30.984 "	... 10.30 a.m.	"
Macclesfield .....	30.984 "	... 10.30 "	"
Brighton.....	30.983 "	.. 10.30 "	"
Kew .....	30.980 "	... 11.0 "	"
Banbury.....	30.980 "	.. 10.30 "	"
Torquay, Babbacombe	30.980 "	... 11.0 "	"
Maidstone .....	30.979 "	... 10.0 "	"
Falmouth .....	30.979 "	... 10.0 "	"
Tonbridge .....	30.977 "	... 10.15 "	"
Croydon, Addiscombe	30.976 "	... 10.0 to 11 a.m.	"
Greenwich .....	30.975 "	... 10.0 a.m.	"
Weybridge .....	30.970 "	... 10.0 "	"
Sidmouth .....	30.968 "	... 11.15 "	"
Camden Square .....	30.955 "	... 10.30 "	"

At Camden-square the pressure was continuously above 30.9in. (higher than any point previously reached in nearly a quarter of a century) for 43 hours. It was above 30.8in. (a point only twice reached in 23 years) for 90 consecutive hours; above 30.7in. for 6 days 1 hour; above 30.6in. for 7 days 14 hours; and above 30.5in. for 12 days 12 hours.

It is believed that pressures so high for such continuously long periods are quite without parallel.

M. Renou, in a note to the Paris Academy of Sciences, states that the maximum pressure registered at the Parc St. Maur was 786.92<sup>mm</sup>. (30.981in.) at 10 a.m. on the 17th, and adds that during nearly a century only once has a pressure slightly exceeding this been recorded at the Paris Observatory. On February 6th, 1821, at 9 a.m., the height was 787.52<sup>mm</sup>. (31.004in.) and it would appear

that at Paris, with these two exceptions, the bar. has never exceeded 785·1<sup>mm</sup>. (30·910in.) during two centuries. In the *Zeitschrift*, Dr. Hann says—"The max. pressure of the 16th, at 10 a.m., 787·9<sup>mm</sup>. (31·020in.), is probably the highest in Vienna since 1775, for the sea-level pressure of 788·3<sup>mm</sup>. (31·036 in.) on February 8th, 1821, cannot be relied upon as within ·01in. or ·02in. of the truth. With the exception of that occasion, the previous maximum sea-level pressure was only 785·6<sup>mm</sup>. (30·930in.) on Jan. 9th, 1859.

The following table gives the highest readings during January, 1882, published in the daily weather reports for some of the principal continental cities.

Bern .....	787·7	mm.	...	31·012	in.	...	7 a.m.	17th.
Hamburg .....	786·6	"	...	30·969	"	...	8 p.m.	16th.
Brussels .....	786·4	"	...	30·961	"	...	8 a.m.	18th.
Berlin .....	786·0	"	...	30·945	"	...	8 a.m.	16th.
Copenhagen .....	785·4	"	...	30·922	"	{	8 a.m.	16th.
							6 p.m.	16th.
Madrid .....	784·9	"	...	30·902	"	...	7 a.m.	17th.
Munich .....	784·5	"	...	30·886	"	...	8 p.m.	16th.
Rome ..	782·0	"	...	30·788	"	...	7 a.m.	16th.
Lisbon.....	778·5	"	...	30·650	"	{	8 a.m.	17th.
							8 a.m.	18th.

The electrical thermometer, lent by Messrs. Siemens, Bros., for observing the temperature of the air at the summit of Boston Church Tower, was exhibited to the Fellows present at the meeting.

## ANEMOMETERS.

A few years since, at the suggestion of Dr. Tripe, the Meteorological Society resolved upon holding annually in March, an exhibition of Meteorological apparatus; after the first year it was resolved that, in future, efforts should be made to form yearly, a collection of some one class of instrument, as nearly perfect as possible, and to admit in addition thereto only instruments designed within the twelve months preceding the holding of the exhibition.

In 1881, the exhibition was composed specially of hygrometers, forty or fifty were exhibited, and Mr. G. J. Symons, F.R.S., read a paper describing upwards of one hundred different patterns.

This year, the Council decided on collecting anemometers and photographs, &c., relating thereto, and a remarkably fine series has been collected, and, through the courtesy of the Institution of Civil Engineers, arranged in its Library, 25, Great George-street, Westminster. The meeting will be held to-morrow evening (15th), and the President of the Meteorological Society, Mr. J. K. Laughton, F.R.A.S., will give a historical note on the subject of anemometers. The Institution of Civil Engineers have papers on "The design of structures to resist wind pressure" and on "The resistance of viaducts to sudden gusts of winds," the discussion upon which

will probably occupy the evenings of March 14th and 21st; it has therefore been arranged that the apparatus shall remain on view daily until the evening of March 21st.

We are glad to be authorized to state that during this period the exhibition will be open without restriction, not merely to the Fellows of the Meteorological Society and their friends, but to all interested in the measurement of wind force.

## THE LATE WINTER AND THE COMING SUMMER.

*To the Editor of the Meteorological Magazine.*

SIR,—It is a curious fact, which any one may verify for himself, by referring to the Registrar-General's "Weekly Returns," that there were *more mild weeks* in the winter of 1880-81, than in the winter just past. It is a still more curious fact, that in the former winter, the warm weeks exceeded the cold ones by the same number that the cold weeks exceeded the warm ones in the latter season. In the 13 weeks ending the 26th Feb., 1881, there were 7 warm weeks and only 6 cold; but, in the 13 weeks ending the 25th Feb., 1882, 7 were cold and only 6 warm. Except for 4 very cold weeks, the winter of last year would have been a decidedly *mild* one; and but for 4 very mild weeks, the late winter would have been a decidedly *cold* one. In the former winter, the 6 cold weeks more than counterbalanced the 7 warm ones, while in the latter winter, the 6 warm weeks more than counterbalanced the 7 cold ones. Of the 7 cold weeks in the late winter, the least cold was nearly  $2^{\circ}0$  ( $1^{\circ}8$ ) below the average at Greenwich, and the most cold nearly  $4^{\circ}0$  ( $3^{\circ}8$ ) lower than the average. In point of fact the 7 cold weeks of this winter averaged as much as  $2^{\circ}7$  below the Greenwich adopted mean. In the winter of 1880-81 the Greenwich minimum temperature was fractionally over  $12^{\circ}0$ . In the winter of 1881-2 it was fractionally over  $21^{\circ}0$  (another curious reversal of figures).

With regard to the "remarkably high mean atmospheric pressure" of January, 1882, it appears that it was exceeded in January, 1880. According to the mean daily readings published in the "Weekly Returns," the mean pressure for the month of January last, at Greenwich was 30.185 in., but in January 1880 it was as much as 30.204 in. The mean pressure of the air at Greenwich from the 12th of last January to the 23rd of February—a period of rather more than six weeks—was 30.309 in., which, reduced to sea level, would give a pressure only slightly below 30.5 in. Such an elevation, for so long a period as six weeks, appears to have *no parallel in the last 90 years*.

The temperature has not been at all remarkable for excess. In the last 40 years 12 winters have been decidedly milder than the one just past; and 5 others had about the same mean temperature. I may here remark that my prediction for the winter of 1880-81 was exactly



fulfilled in these parts; the temperature having been "not much below the mean" (see *Met. Mag.*, vol. xvi., pp. 57-58).

In every case when extremely high pressure has occurred about the end of December, in January, or early in February, the following summer has been remarkably hot, or the harvest remarkably good. In most instances both occurred. Many meteorologists will know that after the notable barometrical maxima of December, 1778, January 1825, January 1835, February 1849, and January 1859, this was the case. So we may expect a warm summer and a good harvest to gladden us in the present year. A very high max. temp. for so early in the season, ought to occur about the end of next May or in the first ten days of June, unless the very abnormal atmospheric conditions which have not yet ceased to prevail should interfere with the rule.—I am, &c.,

GEORGE D. BRUMHAM.

*Barnsbury, March 3rd, 1882.*

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*To the Editor of the Meteorological Magazine.*

SIR,—The Winter at this elevated station has been so unusually mild, that I have extracted some figures from the Weekly Reports of the Meteorological Office, in order to compare this with average winters over England generally.

Here are the means for 13 weeks, ending February 27th, 1882, and the departure from the average, and a few of my own figures :—

			Aysgarth. 660 ft.			
			1880-1. 1880-2.		Diff.	
London.....	41°·0	... +0°·6	December ...	37°·4 ... 37°·6	... + 0°·2	
Oxford .....	40°·9	... +0°·6	January .....	26°·6 ... 39°·9	... +13°·3	
Nottingham...	40°·1	... +0°·6	February.....	33°·4 ... 40°·5	... + 7°·1	
York.....	40°·2	... +0°·9	3 Months ...	32°·5 ... 39°·3	... + 6°·8	
Durham .....	40°·1	... +1°·5				
Aysgarth .....	39°·3	... +3°·3				

My average for Aysgarth is that of the last 8 years, and is perhaps too low, while the averages which the Meteorological Office discarded at the end of the year 1881, were generally too high. The excess, therefore, at their stations is certainly not less than is shewn above.

I purposely avoid Greenwich averages; I do not understand them. I hear that one set is derived from photographic observations, which, according to the Meteorological Office, are  $1\frac{1}{2}^{\circ}$  too high. I know that from another set our good friend Mr. Brumham made out the winter of 1880-1 to have been almost an average, and I quite expect to hear that the past winter has not been mild at all. There is something too uncanny for simple folk about them.—I am, Sir, your obedient servant,

FENWICK W. STOW.

*Aysgarth, Bedale.*

*To the Editor of the Meteorological Magazine.*

SIR,—Now that the winter proper is over, I may call your attention to Mr. Brumham's predictions.

They were, that the past winter would prove "somewhat colder than the average," and that February would prove decidedly cold. Now the mean temperature of December, January, and February, have been here, and I suppose generally the same in other places, respectively,  $1^{\circ}0$ ,  $4^{\circ}1$  and  $8^{\circ}1$  above the average. I think this confirms my opinion, previously expressed, that prognostications founded on such grounds as Mr. Brumham gives, are entirely untrustworthy.—Yours truly,

S. KING.

*Elswick Lodge, March 1, 1882.*

## DENSE FOG AND BLACK RAIN IN THE ISLE OF MAN.

*To the Editor of the Meteorological Magazine.*

SIR,—A few notes on the fog of Tuesday, February 7th, may be interesting to some of your readers. In the morning the fog gradually crept up from the sea. About noon it became very dense, assuming a yellow tint which gradually deepened into a greenish black, and from 2 to 2.30 p.m., we were enveloped in almost absolute darkness. During this remarkable half hour, a heavy shower of rain and hail fell yielding  $\cdot 12$  in., which on being examined proved to be quite black and to be loaded with minute particles of carbon, which, even after standing for 48 hours, did not fall to the bottom. These black particles were no doubt wafted to us from the "black country" in England and were retained in the atmosphere by the abnormally high barometric pressure which has prevailed so long (*i.e.* the atmosphere was heavy enough to retain these particles which would under ordinary conditions have fallen to the ground). At 2.30 the darkness began to decrease and the fog gradually departed in a northerly direction. From the reports of various correspondents in different parts of the Island I have been able to trace its course—at Port Erin and Castletown there was nothing but a mist; at St. John's and Kirk Michael it was dull and a few drops of rain fell, but there was no fog, while the mountains were enveloped in it; so it was confined to the eastern side of the mountains. At Ramsey there was dense fog with soft hail and rain about 3 p.m., when the gas had to be lit in the shops. Two huge black columns of cloud passed over Andreas and Bride between 3.15 and 4 p.m., and it rained briskly at the same time, but the fog was not very dense. All the "oldest inhabitants" I have "interviewed" combine in saying that they never witnessed such a phenomenon before in the Isle of Man, and this must be my excuse for writing at such length.

Yours truly,

A. W. MOORE.

*Cronkbourne, Isle of Man, Feb. 23, 1882.*

# A "MOCK SUN" AT FALMOUTH.

*To the Editor of the Meteorological Magazine.*

SIR,—I send you an extract from the *Falmouth Packet*, relating to a "mock sun" which appeared here on Thursday morning last, the 16th inst., in case you should think it of sufficient interest to insert in the *Meteorological Magazine*.

I witnessed the phenomenon myself, and can therefore answer for the accuracy of the description given. The sun and "mock sun" as I saw them, were both over the sea.

I saw a similar one some four years ago, towards sunset, and about fourteen years ago a very beautiful phenomenon, consisting of crosses of light in each side of the sun and a "mock sun" above the real sun; both when I was in this neighbourhood. As far, therefore, as my personal experience goes it may be called a "rare phenomenon" as these are the only times that "mock suns" have come under my notice.

Yours very truly,

WILSON L. FOX, F.M.S.

*Falmouth, 20th February, 1882.*

A "MOCK SUN" AT FALMOUTH.—The very rare phenomenon of a parhelion was observed in Falmouth on Thursday morning, 16th February, 1882, soon after sunrise; it lasted for a half-hour, and was exceedingly distinct. Its first appearance was like that of a small part of a rainbow—minus the blue colour—at about 20 degrees west of the sun, and at the same elevation; it speedily gathered itself into a ball of light, a "mock sun," so like the true one that any one not seeing the real sun would not have known but that it was the actual sun. It had, however, this peculiarity—the eastern limb, or side next the sun, was of a dusky red, shading away to a very pale, almost whitish hue on the opposite side. In about 25 minutes it became elongated, again assuming the rainbow appearance, and soon afterwards disappeared. It was not accompanied by any halo round the sun.

## BAROMETRIC EXTREMES IN JANUARY.

ALL the figures quoted, and very nearly all the statements made, in the article under the above title in our last number were correct, but we had overlooked the extremely high pressure of January, 1880. This extreme strengthens our argument as to the rarity of high mean pressure and high mean temperature occurring in the same month. This will be best shown by a short table of all the Januaries with mean pressure above 30·3.

Year.		Mean Pressure. in.		Mean Temp. °		Diff. of Temp. from average. °
1779	.....	30·387	.....	34·8	.....	—2·7
1825	.....	30·324	.....	38·4	.....	+0·9
1858	.....	30·357	.....	37·5	.....	0·0
1880	.....	30·385	.....	33·2	.....	—3·3
1882	.....	30·366	.....	40·0	.....	+2·5

### THE RECENT HIGH BAROMETRIC PRESSURE.

IN connexion with the recent high barometric pressure some noteworthy phenomena have occurred. Thus, at Antibes (a seaport in the South-East of France) the sea level was depressed about a foot, laying bare portions of shore over which boats can usually sail, and exposing surprised sea slugs and other marine animals to the direct rays of the sun. This continued about a fortnight, and is attributed by M. Faye to the high air-pressure. Again, General de Nansouty reports from the Observatory at the top of the Pic du Midi that the lowest temperature there this winter has been only  $-5^{\circ}\text{C}$ , ( $23^{\circ}\text{F}$ ), and during the recent high pressure from January 8th to 20th, the air being in a state of exceptional purity, temperatures as high as  $26^{\circ}\text{C}$ , ( $78^{\circ}\text{F}$ ) were registered. The highest at Bagnères-de-Bigorre is considerably short of this, so that we have here an inversion of temperature altitude. The General states further that from the 1st of January the zodiacal light was distinctly made out; probably this has never happened before in our climates, so near the winter solstice. Once more, the General and his assistants, on January 20th, at 6.30 p.m., saw distinctly the earthshine on the moon and the thin crescent, though only 25 hours 46 minutes old.—*Times*, Feb. 10th.

### A MEMORABLE AUTUMN.

THE weather returns for last autumn show that both October and November were months well worthy of the exceptional year to which they belonged. The former month was signalised by a violent gale on the 14th; but the report makes no special mention of the heavy winds which prevailed later in the year. It is, however, in the matter of temperature that the late autumn of 1881 was by far the most remarkable. October was colder than in any year since 1817, when the mean temp. was registered as  $45^{\circ}$ —that is to say, only  $0^{\circ}\cdot3$  lower than in the past year. There was a colder October in 1876; but the coldest ever remembered was two years earlier, when the mean readings of the thermometer descended to  $43^{\circ}\cdot9$ . This extraordinary lowness of temp., which became still more marked towards the end of October, 1881, naturally led the weather prophets to predict a severe winter. They fancied on the 1st November that the winter had already begun, and would continue without abatement till Christmas; and they were little prepared for the speedy refutation which Nature was preparing for their vaticinations. As the facts turned out, November was still more notable for its high temp. than the preceding month had been for the cold. The thermometer stood at an average of  $48^{\circ}\cdot7$ , or nearly  $3\frac{1}{2}^{\circ}$  higher than in October. If a comparison is made between it and the previous 110 years, the registers show that there have been only two other autumns in which there was so warm a November; and in the warmest of these (1818) the excess over last year amounted to only  $\cdot5$ . It thus appears that although neither of the months stands absolutely at the top or the bottom of the list, yet there have never been two together in which the extremes of heat and cold were nearly so great.

# SUPPLEMENTARY TABLE OF RAINFALL, FEBRUARY, 1882.

[For the Counties, Latitudes, and Longitudes of most of these Stations,  
see *Met. Mag.*, Vol. XIV., pp. 10 & 11.]

Div.	STATION.	Total Rain.	Div.	STATION.	Total Rain.
		in.			in.
II.	Dorking, Abinger .....	2.28	XI.	Castle Malgwyn .....	5.24
"	Margate, Acol .....	1.01	"	Rhayader, Nantgwillt..	6.04
"	Littlehampton .....	1.49	"	Carno, Tybrite .....	3.96
"	St. Leonards .....	1.19	"	Corwen, Rhug .....	3.02
"	Hailsham .....	2.11	"	Port Madoc .....	4.18
"	I. of W., St. Lawrence.	1.13	"	Douglas .....	3.55
"	Alton, Ashdell .....	1.82	XII.	Carsphairn .....	8.62
III.	Great Missenden .....	1.56	"	Melrose, Abbey Gate ..	2.21
"	Winslow, Addington ..	2.02	XIII.	N. Esk Res. [Penicuik]	3.25
"	Oxford, Magdalen Col..	1.75	XIV.	Ayr, Cassillis House ..	2.83
"	Northampton .....	1.71	"	Glasgow, Queen's Park.	3.89
"	Cambridge, Beech Ho..	1.40	XV.	Islay, Gruinart School..	3.38
IV.	Southend .....	.75	XVI.	Cupar, Kembach .....	2.19
"	Harlow, Sheering .....	1.12	"	Aberfeldy H.R.S. ....	2.66
"	Diss .....	1.62	"	Dalnaspidal .....	5.75
"	Swaffham .....	1.65	XVII.	Tomintoul .....	1.65
"	Hindringham .....	1.71	"	Keith H.R.S. ....	1.03
V.	Salisbury, Alderbury ..	1.87	XVIII.	Forres H.R.S. ....	1.44
"	Calne, Compton Bassett	1.84	"	Strome Ferry H.R.S. ...	6.37
"	Beaminster Vicarage ..	2.33	"	Lochbroom .....	4.97
"	Ashburton, Holne Vic..	4.94	"	Tain, Springfield .....	2.02
"	Langtree Wick .....	2.80	"	Loch Shiel, Glenaladale	11.96
"	Lynmouth, Glenthorne.	3.45	XIX.	Lairg H.R.S. ....	4.80
"	St. Austell, Cosgarne ..	3.86	"	Forsinard H.R.S. ....	3.38
"	Taunton, Fullands .....	1.44	"	Watten H.R.S. ....	1.26
VI.	Bristol, Clifton .....	2.44	XX.	Fermoy, Glenville .....	6.16
"	Ross .....	3.12	"	Tralee, Castlemorris ..	3.16
"	Wem, Sansaw Hall .....	1.83	"	Cahir, Tubrid .....	3.51
"	Cheadle, The Heath Ho.	2.79	"	Newcastle West .....	...
"	Worcester, Diglis Lock	2.28	"	Kilrush .....	...
"	Coundon .....	1.72	"	Corofin .....	2.94
VII.	Melton, Coston .....	1.68	XXI.	Kilkenny, Butler House	2.95
"	Ketton Hall [Stamford]	1.60	"	Carlow, Browne's Hill..	3.36
"	Horncastle, Bucknall ..	1.27	"	Navan, Balrath .....	2.91
VIII.	Macclesfield Park .....	2.86	"	Athlone, Twyford .....	2.95
"	Walton-on-the-Hill .....	1.75	XXII.	Mullingar, Belvedere ..	3.08
"	Broughton-in-Furness ..	5.44	"	Ballinasloe .....	2.38
IX.	Wakefield, Stanley Vic.	1.51	"	Clifden, Kylemore .....	6.91
"	Ripon, Mickley .....	1.67	"	Crossmolina, Enniscoe..	3.43
"	Scarborough .....	1.42	XXIII.	Carrick-on-Shannon ...	1.93
"	East Layton [Darlington]	1.22	"	Dowra .....	1.89
"	Mickleton .....	3.48	"	Rockcorry .....	2.29
X.	Haltwhistle, Unthank..	3.53	"	Warrenpoint .....	4.00
"	Shap, Copy Hill .....	7.29	"	Newtownards .....	1.57
XI.	Llanfrechfa Grange .....	3.74	"	Belfast, New Barnsley .	3.00
"	Llandovery .....	5.12	"	Bushmills .....	2.40
"	Solva .....	2.92	"	Buncrana .....	3.17

## FEBRUARY, 1882.

Div.	STATIONS. [The Roman numerals denote the division of the Annual Tables to which each station belongs.]	RAINFALL.						Days on which .01 or more fell.	TEMPERATURE.				No. of Nights below 32°.	
		Total Fall.	Difference from average 1870-9	Greatest Fall in 24 hours.		Deg.	Date.		Deg.	Date.				
				Dpth	Date.									
											Inches.	Inches.	In.	Deg.
I.	Camden Square .....	1.30	— .34	.38	28	8	56.2	26	24.6	2	7	11		
II.	Hunton Court .....	1.30	— .32	.43	28	9	...	...	...	...	...	...	...	
III.	Strathfield Turgiss .....	1.47	— .29	.55	28	12	57.4	14	22.0	2	8	19		
III.	Hitchin .....	1.64	+ .04	.61	14	10	54.0	26	22.0	1	12	...	...	
IV.	Banbury .....	2.02	+ .18	.58	28	14	54.0	26	25.0	4	8	...	...	
IV.	Bury St. Edmunds .....	1.56	— .21	.55	28	10	56.0	26	20.0	1	11	...	...	
V.	Cossey .....	1.44	— .32	.51	14	13	55.5	26	22.0	2	11	11		
V.	Bridport .....	...	...	...	...	...	...	...	...	...	...	...	...	
"	Barnstaple .....	2.72	— .47	.72	25	13	58.0	15	30.0	5	...	...	...	
"	Bodmin .....	4.22	— .65	1.10	28	14	55.0	25	26.0	5	2	7		
VI.	Cirencester .....	1.97	— .67	.53	28	8	...	...	...	...	...	...	...	
"	Woolstaston .....	3.27	+ .77	.73	26	14	54.5	13	29.0	2	2	5		
"	Orleton, Tenbury .....	3.41	+ .94	1.13	28	12	55.7	13	25.0	2	6	7		
VII.	Leicester .....	2.32	...	.81	14	14	55.0	13	27.2	4	3	7		
"	Boston .....	1.48	— .30	.62	14	10	56.0	25	27.0	2	7	...	...	
"	Grimsby .....	1.36	— .44	.62	26	10	55.0	25	28.5	2	2	...	...	
"	Mansfield .....	1.99	— .18	.74	28	12	53.2	18	27.4	2	5	10		
VIII.	Manchester (Ardwick) .....	2.25	+ .06	.97	27	13	54.0	13	28.0	2	2	...	...	
IX.	Ribstone Hall .....	.92	— 1.23	.74	27	4	...	...	...	...	...	...	...	
X.	Arncliffe .....	4.55	— .09	1.23	25	17	54.0	21	25.0	1	...	...	...	
X.	North Shields .....	.53	— 1.31	.25	28	10	58.0	26	28.5	2	6	8		
"	Seathwaite (Borrowdale) .....	14.07	+ 2.62	4.16	25	23	...	...	...	...	...	...	...	
XI.	Ely .....	2.88	— .78	.65	28	13	...	...	...	...	...	...	...	
"	Haverfordwest .....	4.47	+ .02	1.18	28	10	53.5	25	30.0	20	1	4		
"	Plinlimmon (Cwmsymlog) .....	5.40	...	1.32	26	15	...	...	...	...	...	...	...	
"	Llandudno .....	1.66	— .63	.38	27	15	...	...	31.8	2	1	...	...	
XII.	Cargen .....	3.54	— .27	.79	12a	16	55.8	21	50.8	16	1	...	...	
"	Hawick .....	2.67	+ .38	.70	24	14	...	...	...	...	...	...	...	
XIV.	Newmains .....	3.05	— .12	.68	16	18	...	...	...	...	...	...	...	
XV.	Kilmory .....	4.79	+ .40	.65	12	21	...	...	...	...	...	...	...	
"	Appin (Airds) .....	5.85	...	...	...	...	...	...	...	...	...	...	...	
"	Quinish (Mull) .....	...	...	...	...	...	...	...	...	...	...	...	...	
XVI.	Loch Leven Sluices .....	3.90	+ .94	1.00	13	11	...	...	...	...	...	...	...	
"	Arbroath .....	1.51	— .65	.41	26	8	56.0	21	31.0	16	1	...	...	
XVII.	Braemar .....	2.10	— .57	.42	12	14	33.5	21	23.9	15	9	23		
"	Aberdeen .....	.85	...	.25	26	14	56.0	26	27.0	15	3	...	...	
XVIII.	Sligachan .....	14.15	...	3.25	10	22	...	...	...	...	...	...	...	
"	Culloden .....	2.14	+ 1.09	.70	27	9	55.0	25	26.5	16	2	13		
XIX.	Dunrobin .....	2.51	...	.60	16	14	53.9	21	23.5	16	4	...	...	
"	Sandwick .....	3.20	+ .65	.45	17	22	50.0	18	29.6	28	3	6		
XX.	Blackrock .....	5.29	+ .70	1.39	9	19	55.0	17b	30.0	18	3	...	...	
"	Dromore Castle .....	4.95	...	1.38	10	16	51.5	...	39.8	...	...	...	...	
"	Brook Lodge .....	4.64	...	1.10	28	15	57.0	21	31.0	20	1	...	...	
"	Killaloe .....	4.22	...	.87	9	15	59.0	21	30.0	19	1	...	...	
XXI.	Portarlinton .....	2.52	+ .31	.37	10	19	56.0	25	32.0	2	2	...	...	
"	Monkstown .....	1.95	...	.59	28	12	...	...	...	...	...	...	...	
XXII.	Queen's College (Galway) .....	2.71	...	.52	28	18	55.0	13	36.0	3, 15	0	...	...	
XXIII.	Waringstown .....	2.14	— .11	.46	28	19	58.0	26	31.0	2c	3	5		
"	Londonderry .....	3.16	...	.56	12	17	55.0	25	33.0	19	0	7		
"	Edenfel .....	2.31	+ 0.3	.53	12	20	54.0	25	31.0	14	2	...	...	

+ Shows that the fall was above the average ; — that it was below it.

a And 25.

b And 26.

c And 11 and 14.

# METEOROLOGICAL NOTES ON FEBRUARY.

ABBREVIATIONS.—Bar. for Barometer; Ther. for Thermometer; Max. for Maximum; Min. for Minimum; T for Thunder; L for Lightning; T S for Thunderstorm; R for Rain; H for Hail; S for Snow.

## ENGLAND.

STRATHFIELD TURGISS.—An extremely mild and pleasant month, all nature being about one month in advance. Crops wonderfully good and forward. Season so far most favourable. Aurora borealis on 20th. Gale on 28th.

BANBURY.—Mean temp. of month  $40^{\circ}5$ . S and H on 15th; high wind on 8 days.

CULFORD.—The month was unusually mild and dry; most favourable for out-door work, making it very difficult to keep pace with advancing vegetation. S and sleet on 15th.

BODMIN.—This month, like the last, was singularly mild and un-wintry. Average barometric pressure  $30\cdot20$  in. On the 20th the mercury rose to  $30\cdot90$  in., the highest I ever registered, except on the 18th January, when it reached the unprecedented height of  $30\cdot95$  in. Mean temp.  $44^{\circ}4$ .

THE FIRS, CIRENCESTER.—Remarkable absence of severe frost. Wind principally south-east and south-west.

WOOLSTASTON.—A singularly mild and genial month. Mean temp.  $42^{\circ}0$

ORLETON.—The temperature during the month was steady with only a few frosty nights, and the mean was rather more than  $1^{\circ}5$  above the average of 20 years. The weather was generally cloudy and dull, with the bar. very high and steady. On the 20th it stood at  $30\cdot58$  in. (uncorrected), but on the 26th it fell to  $28\cdot73$  in. With the exception of the nights of the 8th and 13th, very little R fell till the 24th, after which the fall was very heavy, especially on the night of the 28th, causing all the rivers to overflow on March 1st. The high hills were covered with S on the morning of the 15th.

GRIMSBY.—Remarkably fine and dry until towards the close of the month.

ARDWICK.—A somewhat dull month, but mild, not at all like a winter month; the temperature ranged rather high; dense fog occurred on several days in the early part of the month.

ARNcliffe.—An unusually dry month, with the exception of the 25th and 26th. Bar. unusually high till the 24th.

SEATHWAITE.—First part of month very mild; very stormy on 12th, with  $2\cdot93$  in. of R. Thunder on 21st, S on 27th.

## WALES.

HAVERFORDWEST.—The high barometric pressure of January continued up to the 7th of February, when a gradual fall of the mercury began, followed by broken weather; the mercury again rose, culminating on the 19th (9 p.m. corrected reading  $30\cdot882$  in.), pressure continued very high up to 9 p.m. on the 22nd, when it stood at  $30\cdot554$  in. (corrected), afterwards it gradually fell. From the 24th to the 28th, very stormy, and much R; heavy gale on the last day of the month, bar. at 9 p.m.,  $28\cdot787$  in. (corrected.) The month was characterized by remarkable mildness, and absence of frost; fields beautifully green, and many primroses and daffodils in bloom. In the remarks for last month, the altitude above sea-level of the bar. at this station was incorrectly stated to be 154ft., it is 54ft.

LLANDUDNO.—On the whole a fine month, and very mild. The mean temperature was about  $5^{\circ}$  above the average. Up to the 20th, there was a fair amount of sunshine (37·8 hours), after that it was more cloudy.

## SCOTLAND.

CARGEN.—Mean temp. of month  $43^{\circ}6$ , or  $3^{\circ}9$  above the average; duration of sunshine 65 hours, 29 hours below the average. Highest bar.  $30\cdot750$  in. on 19th.

HAWICK.—Strong gales, accompanied by R, H, and S, on the 13th and 14th. The hills were whitened again on the 26th and 27th. With these exceptions, the month was a remarkably mild one.

**BRAEMAR.**—A fine open month ; fields ploughed and in readiness for coming operations, an occurrence seldom witnessed in February in this elevated district.

**ABERDEEN.**—Rainfall about an inch and a half below the average. Fine, hard, dry weather, favourable for agricultural operations, was the most noticeable feature of the month. Brilliant aurora on night of 20th. On the 26th the wind shifted to the N.E., followed by sleet and S showers ; the weather continuing squally and unsettled to the close of the month. Gales on 12th and 18th.

**CULLODEN.**—Month very mild, S and frost both being absent. Vegetation everywhere very forward, giving hope of a good season. The first twelve days very dry and particularly fine.

**SANDWICK.**—The temp. of the month was high till the last two days. On the 27th the ground was covered with S for the first time during the winter, but it was thawed by the bright sun during the day. Storms on 15th, 16th, 18th and 22nd, those on 15th and 18th being at the rate of 80 miles an hour, a strength which has been reached only twice before during the whole 20 years that an anemograph has been used here, one occasion being on 6th January last and the other 4 years ago. T and L from 5 to 10 a.m. on 14th.

#### IRELAND.

**CORK.**—Mean temp. of the month,  $44^{\circ}4$ .

**DROMORE.**—Mean temp. of month,  $45^{\circ}5$ .

**WATERFORD.**—Two gales during the month, both from S.W. Rainfall, 0.88 in. above the average of seven years.

**KILLALOE.**—A remarkably fine month. No frosts. Vegetation forward.

**MONKSTOWN.**—The month was characterized by extreme mildness and absence of frost and S.

**LONDONDERRY.**—Month on the whole mild and very favourable for farming operations, which are being carried on rapidly in this district. Wind principally S.W. Bar. : max. 30.733 in. on 21st ; min. 28.828 in. on 26th. Temp. of soil (4 feet below the surface),  $44^{\circ}9$  at the close of the month.

**EDENFEL.**—Another abnormally fine and mild winter month. Barely perceptible frosts on two nights only. Farm labour a month in advance, but vegetation, fortunately, not so premature.

### Thomas Romney Robinson.

FULL of years, for he was nearly 90 ; full of honours, for the Director of Armagh Observatory was D.C.L. (*Oxon.*), LL.D. (*Cantab.*), one of the eighteen Hon. Members of the I.C.E., besides being F.R.S., Hon. F.R.S.E., and holding similar rank in various societies both in Europe and America, Dr. Robinson has passed away. Few more remarkable instances of long intellectual vigour could be afforded than that of him of whom we never heard an unkind word—whose first work, written before he was 13, was printed in 1806 and whose last important work (a masterly re-investigation of the co-efficients of the anemometer, with which his name will long be associated) was published seventy-three years afterwards, or in 1879—while down to the very last his mind was as clear and his heart as just and as kind as ever, is shown by the letter dated December 3rd, 1881, printed on p. 192 of our last volume.