

Symons's Meteorological Magazine.

No. 508.

MAY, 1908.

VOL. XLIII.

THE EASTER SNOWSTORM OF 1908.

MR. BRODIE'S article on the weather of the month gives due prominence to the remarkably wintry character of April, 1908; but the snowstorms of the last ten days of April claim special treatment. We have received a large amount of correspondence on the subject, a selection from which is given below, and we may note, in passing, that a good deal of editorial time has had to be expended in changing condensed notes full of contractions into continuous English, or in cutting down narrations which were too detailed for our scanty space. The correspondence has been supplemented by a vast mass of newspaper cuttings from all parts of the country. It has frequently been observed that Easter snowstorms, especially when Easter occurs late in April, as it did this year, have a tendency to be heavier in the south of England than in those parts of the country where falls of snow in spring are less uncommon, and this occasion proved no exception. Several correspondents refer to the beauty of the snow as it lay on the ground and trees, but although many photographs must certainly have been taken none were forwarded to us for reproduction until we were revising these pages for press. We regret this the more as on the occasion of the storm we were in Scotland, where, although the cold was severe, there was no great depth of snow. At Mill Hill, 6 miles north of Camden Square, the snow on the morning of the 24th, when it lay thickest, was between 5 and 6 inches deep, on the average, and a great many branches and some large shrubs were broken by the weight of the snow. The largest tree to suffer was a lilac, the stem of which was broken across at a point where it was about 5 inches in diameter.

The worst of the snowstorm was experienced on Saturday, 25th, when a gale of unusual severity was blowing in the Channel, and railway communication was much hampered in several parts of the south of England. At Reading, the railway service was disorganized, and at Southampton work at the docks was brought to a standstill. The conditions at Oxford are interesting in a special degree on account of the length of the meteorological records at the Radcliffe Observatory which run from 1853. The depth of snow there was 17 inches, and the only instance of a greater amount being recorded at any time of year was on February 13th and 14th, 1888, when 24 inches of

undrifted snow was measured. Throughout Oxfordshire, Berkshire, and the north of Hampshire, traffic by road was completely stopped, the carriers who supply the outlying villages had in several instances to leave their carts in the drifts and make the best of their way to shelter on foot, leading their horses. Many observers, in those counties refer to the great snowstorm of January, 1881 (see this Magazine, No. 181, February, 1881), as the only occasion when a storm of greater severity occurred, but fortunately this year's storm proved of much shorter duration and the records tell more frequently of discomfort than of disaster. The thaw, when it occurred, naturally gave rise to a severe flood in the Thames, though fortunately the upper tributaries of the river lay beyond the region of heavy snow, so that only the middle courses of the Cherwell and Kennet were subjected to a great rush of snow-water.

Heavy snow makes many corrections necessary in the records of rainfall, and in order to help those observers whose returns came from the areas most affected, we made maps of the total precipitation (rain and melted snow) of the three days April 23rd to 25th, and were thus able to judge in what cases a considerable correction of the amount recorded by any particular rain gauge ought to be made. Unfortunately the east of Oxfordshire is deplorably lacking in observers, and our task would have been greatly lightened by records from, say, Thame and Brill. It cannot be too clearly stated that only deep-rimmed rain gauges, either of the Snowdon or the Meteorological Office pattern, can be trusted to take account of snowfall, and the indications of these even should always be controlled by measuring the average depth of the new fallen snow in places where there has been little drifting.

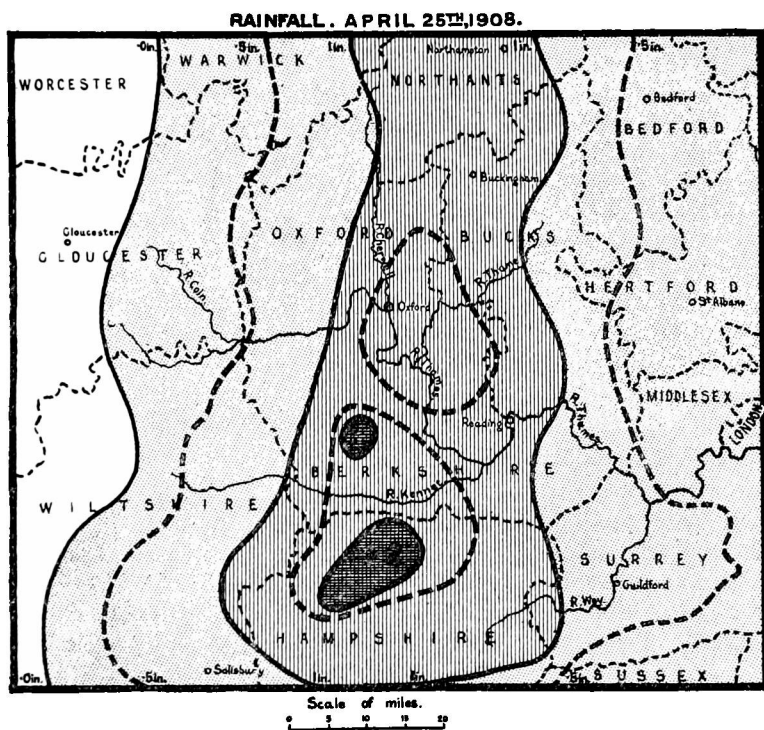
On April 23rd, more than an inch of rain, which may roughly be taken as about a foot of snow, was recorded only on the high ground from Buntingford to Bury St. Edmunds, a distance of about 40 miles, and the area was perhaps 15 to 20 miles wide, although the small number of observers in the east of Hertfordshire, the west of Essex, and the south-west of Suffolk, make it difficult to define the southern limit. There was nearly an inch of precipitation along the Chiltern Hills, south-westward to High Wycombe, but the amount fell off rapidly to the westward, and was below half-an-inch along the Thames and Kennet from Staines to Newbury.

On the 24th there was practically no precipitation in the eastern half of the area shown in our monthly map, and the fall only reached half-an-inch or upwards in a comparatively narrow strip running southward, south of the Thames between Farnham on the east and Andover on the west.

The map of the 25th is so interesting that we reproduce the central portion, showing nearly the whole area with more than half-an-inch of precipitation, or say six inches of snow.

It will be observed that the area with more than an inch of "rain," or a foot of snow, stretches from north of Daventry to Winchester, a

distance of some 90 miles, and the breadth of this central zone of the snowstorm increases from 20 miles in the north to 45 miles in the south. Within this a strip 50 miles long from north to south, and averaging 15 or 20 miles wide, had more than 1·50 in. of rain, or about 18 inches of snow, perhaps separated along the Thames by a strip where there was a little less, and the two centres of heaviest fall are shown by one small area just over 2·00 in. near Abingdon, and another slightly larger between Kingsclere and Andover. To the west the snow fell off rapidly, and westward of a line drawn from Evesham to Calne there was practically none.



The map of total rainfall for the month, which is given as a frontispiece to this number, shows how the snowfall of the three days dominated the precipitation of the month. The wettest area, with more than 4 inches, runs from north to south, following the area of more than 1 foot of snowfall on the 25th, and the extension of the area with more than 3 inches to the north-east corresponds almost exactly to the area with more than 1 foot of snow on the 23rd. Beyond the limits of the Thames valley map the rainfall of April shows little worthy of remark. The Midland area with more than 4 inches extended northwards to Rugby; but the greater part of the north of England had less than 3 inches. The month was a dry one in Scotland, rainfall exceeding 3 inches, occurring only in the west,

while the east and centre of the country had less than 2 inches, and a small area round the Firth of Tay, extending inland to Crieff, had the distinction of being drier than any other part of the British Isles, with less than 1 inch of total precipitation. In Ireland the driest part was round the Shannon estuary in the south-west and inland along that river, with less than 2 inches; but more than 4 inches fell in isolated patches on the mountains of the south-west, south-east, north-east, north-west and west.

MELTHAM.

I SEND a few notes on this arctic period :—

(1) Mean temp., week ending April 25th, $36^{\circ}2$, or $9^{\circ}6$ below the average.

(2) Three consecutive days, 23rd—25th, with maxima below $39^{\circ}0$.

(3) Snow on four consecutive days, 22nd—25th; amount of water collected .88 in.; depth not measurable but approximately 9 inches.

(4) Minimum $15^{\circ}0$, maximum $34^{\circ}5$, noon temp. $25^{\circ}6$, on the 24th.

The record for this day must be quite unprecedented so late in the year; the next lowest minimum I have is $20^{\circ}2$ on April 19th, 1892. The next lowest maximum $38^{\circ}9$ on April 23rd, 1888. I have also the lowest minimum in May, $23^{\circ}8$, on 18th in 1891, and the lowest maximum in May, $39^{\circ}7$, on 12th in 1886. All thermometers are verified at Kew and are exposed in a Stevenson screen; the register extends from 1880 to 1908.

CHARLES L. BROOK.

Harewood Lodge, Meltham, Yorks.

BURY ST. EDMUNDS.

All during Easter Day (April 19th) there was a series of blizzards, with the sun coming out between times the snow melted rapidly. On looking out about 11 p.m., I was surprised to find about 2 or 3 inches of snow on the ground, and the fir trees and laurels laden.

Between sunrise and 9 a.m. on Monday the 20th it snowed heavily, and I think there were nearly 4 inches on the level when I went to the rain gauge at 9 a.m. I am surprised to find in the daily papers little mention of the quantity of snow, though there were observations as to the wind and snow flurries. I do not think any rain fell during the 24 hours, all the moisture was in the form of snow or hail. Another downfall of snow began on Thursday, the 23rd, after 9 a.m., and by noon there was a steady snowfall, which increased all the afternoon, but it was not until sundown that the snow began to lie on the ground—up to that time the snow melted as it fell. A little after midnight when I got home from a concert the whole county was deep in snow, and this steady snowfall appears to have continued all night and up to 10 a.m. on Friday the 24th.

When I went to my rain gauge at 9 a.m. the top was heaped up with snow, and looked as if it had been so for some time, and I measured .78 in. of water from it. I feel certain that a great deal of snow was lost to the rain gauge, for in spite of the continual thaw

at noon there was a good six inches on the open meadow, and in some fairly exposed places it reached 7 and 8 inches by a foot rule.

Thus we have had eight and nine inches of snow within a few days (19th and 23rd April), say, 1 ft. 6 in. of snow. I recollect nothing of the sort in my experience; but old people about here have often told me of a 23rd April (the local Hartest fair day) when the booths and tents were broken down by the weight of snow. It apperas to have been about fifty-three years ago.

B. P. OAKES.

Hawkedon Rectory, Bury St. Edmunds, 25th April, 1908.

MIDDLESEX.

On Sunday, the 19th, the wind was north or north-west; very heavy snow showers fell throughout the day, and, as is frequently the case after snow showers in spring, the meadows were steaming. Monday, the 20th, was a repetition of the previous day, with bitter squalls of sleet and snow. Tuesday, the 21st, was distinctly milder; the sky more or less overcast, with white sharp-edged snow clouds and the wind westerly. On the 22nd, the wind was south-west and the sky overcast with rain towards evening. On Thursday, the 23rd, the wind was north-east, with rain in the morning when I went to London. The temperature passed below 40° towards 5 p.m. I left Marylebone terminus for Northwood by the 5.25 p.m. train, and the rain had turned to sleet before the train left London, and before it passed Harrow-on-the-Hill the fields and hedges were thickly covered with snow—the outlook being suggestive rather of Christmastide than the last week in April; blizzard conditions prevailed all night.

On Friday, the 24th, 3 inches of snow lay at Northwood; the trees were heavily laden with snow, which remained unthawed all day in places sheltered from the strong spring sun. On Saturday, the 25th, heavy snow fell in the early morning, and the surface wind was very variable. I went to Amersham, intending to walk to Great Missenden and Wendover to study the drifts in the hollows of the Chiltern Hills; but a blinding snowstorm set in at 10 a.m. and made the roads impassable under 4 inches of snow. The predominant beech trees of the neighbourhood were splendidly decked. Snow ceased about 12, and a rapid thaw occurred in the afternoon.

On Sunday, the 26th, the ground was thickly covered with snow again in the early morning after another heavy snowstorm on Saturday night, with strong north-east wind. The day was fine and bright, and I heard the cuckoo for the first time.

L. C. W. BONACINA.

Northwood, Middlesex, April 27th, 1908.

CHIPPING NORTON.

On Thursday, 23rd April, sleet began to fall shortly after 9 a.m., and towards 1 o'clock the ground commenced to get white, the sleet gradually developing into clean snow at 5 o'clock. The wind was

due N. with the barometer and temperature both sinking. The temperature during the night fell to 26° .

On Friday, at 9 a.m., the rain measured was .40 in., and there was $2\frac{1}{2}$ in. of snow. A change of wind from the W. rapidly dispelled the snow during the forenoon. Snow again began to fall at 5 o'clock, and towards 9 o'clock there was thunder and lightning. 4° of frost was registered in the night.

On Saturday, at 9 a.m., the rain measured .21 in. and 4 inches of snow were lying. Temperature 30° . Snow continued without a break till 7 p.m., when it finally ceased leaving a deposit of 14 inches of undrifted snow and registering .74 inches of melted snow in the rain gauge.* 6° of frost was registered during the night.

On Sunday, there was bright sunshine and it was thawing rapidly with a W. wind. At 12.30 there was but 4 inches of snow where 14 inches was measured the previous evening.

JAMES M. BLAIR.

Chipping Norton, 27th April, 1908.

ADDINGTON.

ON April 23rd up to mid-day we had rain mixed with bits of snow, after 2 o'clock snow fell continuously and the ground got quite covered. Next morning I measured it on the top of our thermometer screen; it was just 5 inches deep. At 9 o'clock, when I measured the rain and melted snow, it gave me .78 in. Between 6 a.m. and 8 a.m. the shade thermometer fell to 25° .

The still greater fall of snow of Saturday, the 25th, did a great amount of damage to trees and shrubs of all kinds. Conifers suffered most, but deciduous trees such as oak, beech and elm had a great many large branches broken off. On Sunday morning the snow was about a foot deep all over the ground and very soft, it melted quickly, leaving the roads and walks in a very slushy condition.

JOHN MATHISON.

Addington, 2nd May, 1908.

OXFORD.

ON Thursday, April 23rd, we had rain with S.E. to N.E. wind, becoming sleet, and by 4 o'clock snow, pretty thick, and a good deal of wind at times; the barometer going down steadily, but not fast. On Friday morning there were some 3 or 4 inches of snow on the ground, perhaps more, but it was hard to estimate as it had drifted somewhat. The gauge gave .61 in. of rain and melted snow. The morning was gloriously fine but very cold, and the snow never melted in the shade all day. In the afternoon we had snow showers, and in the evening. I do not know at what hour it set in to snow continuously, but at 5 a.m. on Saturday, the 25th, the ground and the trees were quite covered, and it continued to snow heavily till after

* This is apparently too small a figure.

dark, and, I *think*, ceased altogether at 11 p.m. At 4 p.m. the rim of the rain gauge, which is 13 inches above ground, stood just clear of the snow on the lee side, whilst the wind (which blew very gustily and pretty hard at times) had heaped the snow on it on the other side. At 7 p.m. the gauge had quite disappeared underneath the snow. However, I suppose the snow was soft and settled in the night, for it measured $12\frac{1}{2}$ inches only, and I do not think it had thawed appreciably at 9 o'clock this morning.

To-day we have brilliant sunshine and W.S.W. wind. Under its influence the streets are becoming slush and the gutters are running freely, but in the shade it only just thaws. The rain gauge this morning yielded 1.17 in. of melted snow, but I am inclined to think a not inconsiderable portion of snow must have been lost in the process of moving the funnel to melt the contents, as I see they had half-an-inch more at the Observatory. Lilacs and birches are much broken by the weight of snow.

ELEANOR M. TAWNEY.

62, Banbury Road, Oxford, April 26th, 1908.

GORING.

You may like a few facts as to the great snowstorm of yesterday. Omitting sensational matters, which we may leave to the press, here is what I can tell you.

We had 3 inches of snow on Thursday, the 23rd, and a snow shower or two on Friday. This had all gone in the valley by Friday night, and the ground was bare. From what I can gather, snow began to fall at about 4 a.m. on Saturday, the 25th. By 6.30 a.m. there were 2 inches of snow everywhere. The fall continued without a single interruption till 7 p.m., when it stopped. At 7.45 there was a shower, but none fell after that. There was practically no wind up to 4 p.m., only a light air from the north. But at 4 a strong wind sprung up from the same quarter and blew heavily till about 8 p.m. The rain gauge cannot be relied on for mine got choked, and finally buried. I allowed it to thaw out *in situ* this morning and it then gave .77 in.

I had many measurements of the depth of snow taken by my men. These varied from 22 to 13 inches. I consider, however, the fall to have been not less than 16 inches. The drifts are very deep. Against cedars and such like trees in my garden the snow stood solid to a height of 9 feet, and still measures 7 ft. this afternoon, though the day has been almost cloudless and with a bright warm April sun. Much damage has been done to cypresses, junipers and such like. On the hills, I am told by a man who has just come through, that the road from Goring to Park Farm there is drifted up from hedge to hedge and is shoulder deep. He came through on and behind a bank and hedge on the south side. The up-relief line was blocked here yesterday afternoon. Last night the signalling was done by hand lamps.

E. GAMBIER PARRY, MAJOR.

Elmcroft, Goring-on-Thames, 25th April, 1908.

PRYTON HILL.

RAIN commenced about 9 a.m. on 23rd, this changed to snow about 1—2 p.m., and by 7 p.m. the ground was covered; and there were drifts of a foot or more in depth. Precipitation for the day .65 in. Except in the drifts most of this snow had melted by the evening of April 24th.

On the morning of April 25th the fresh snow was 2 in. deep, .16 in. measured; at 2 p.m. 4 in., at 7 p.m. 11 in., and at 11.30 p.m. 14 in. The next morning the average depth of snow in the open was about 14 inches. The snow chiefly fell between 3 p.m. and 6 p.m., with a west wind. The measurement from the rain gauge is useless, as the gauge was twice buried in drift, but the mean of several measurements in the open gave 1.88 in. This is undoubtedly too little, as a good deal must have melted at the bottom by contact with the warm ground.

Fortunately in this district there was not much wind and but little drifting, but the mails could not be got through either in or out at Watlington before Monday, and the outlying villages had to do without their customary supply of provisions on Saturday.

W. H. DINES.

Pryton Hill, Watlington, 1st May, 1908.

WANTAGE.

On the 23rd, rain fell quietly till about noon when it gradually changed to snow, and by 3.30 p.m. a slight sprinkling lay on the grass, by sunset everything was white. On the morning of the 24th several inches lay on the ground, and trees and shrubs were thickly coated; the yield of the rain gauge at 9 a.m. was .60 in. The sun shone brightly from 7.30 a.m., but the snow lay all day on all the north slopes and sheltered places. The frost was so sharp after dark that the taps in the stable yard were frozen.

Snow commenced again at 9 p.m. on the 24th, and fell uninterruptedly to 7.30 p.m. on the 25th. The yield of the rain gauge was .25 in. at 9 a.m. on the 25th, and .46 in. at 9 a.m. on Sunday, the 26th. Starlight night with frost, followed by bright sun and milder N.W. wind. I am inclined to think the gauge registered too low as high wind probably swept off much snow which lay over a foot deep in sheltered spots.

GERTRUDE ELLIOT.

Ginge Manor, Wantage, Berks.

SLOUGH.

GARDENER's report at breakfast.—Sunday, April 26th, 1908, 6° of frost in night on *outside* thermometer. Depth of snow, by foot-rule, in three different places, over 5 in., in one place 5½ in. .77 in. of melted snow in the gauge. One Douglas pine and two poplars broken by snow.

RICHARD BENTLEY.

Upton, Slough.

FARNHAM.

ON 23rd April the wind was light from the north-east, cloud 9, continual rain, sleet and snow in afternoon which measured, when melted, .51 of an inch. On 24th April the wind was north-west, light, fine, cloud 0, rain (melted snow) measured .21 of an inch. On 25th April there was thick snow falling, 2 inches deep at 8 a.m., wind at 8 a.m. east, light, cloud 10. The snow began to fall at 6.30 a.m., continued without stopping until 2.20 p.m., then a short interval of twenty minutes without snow and a small patch of blue sky appearing, when it recommenced again with a furious gale from north-west and blinding snow. Snow measured, when melted, at 0.30 p.m., .46 in.; at 7 p.m., .62 in.; after 7 p.m., .47 in.; total in the 24 hours, 1.55 in. This morning (the 26th) the wind is light westerly and weather fine, cloud 1.

MORRIS BIRKBECK.

Dippen Hall Cottage, Farnham, Surrey, 26th April, 1908.

ON April 24th the snow was all melted in the receiver, it measured .62 in. On 25th the funnel was choked and there was a little frozen snow in the receiver. This gave no proper idea of the fall, so I went by the depth of undrifted snow, 6 in. = .50 in., and I allowed .05 in. for snow melting at first on falling—total .55 in. On the 26th the snow was all melted in funnel and receiver = .80 in. Some snow may have been blown off the funnel as it was piled on it, but the gauge is well sheltered on the north by the house (wind was N.), and .80 in. represents pretty accurately what I would estimate from appearances to have fallen.

GEO. CHRYSTIE.

Short Heath Lodge, Farnham, Surrey, May 2nd, 1908.

SOUTHAMPTON.

SNOWSTORM commenced at 5 a.m. on April 25th, and lasted more or less until 4 p.m., the heaviest fall, probably 13 to 14 inches, was between 5 a.m. and 10 a.m. The total depth was 15 inches on the level, this being the average of 12 measurements on the lawn of my house, the variations being small, *i.e.*, $14\frac{1}{2}$ to $15\frac{1}{2}$ inches, six of them exactly 15 inches. The snow was very light and dry.

W.M. MATTHEWS, M.Inst.C.E.

33, French Street, Southampton, April 26th, 1908.

WORTHING.

AT noon on the 23rd the weather was fine with a strong breeze from S.E., and the dry bulb stood at 53°. Half-an-hour later rain commenced, and continued all day, the wind shifting in the afternoon to S.W., and falling light. At about midnight the wind came up strong from the N.W., and in the morning of the 24th there was from 4 to 6 inches of snow on the ground, and enough on roofs to slide off with a clatter when the sun melted it. The temperature at 9 a.m. was 35°, the minimum during the night having been as low as 31°. The temperature at noon on the 24th was 40° (a delightful April warmth!) with the wet bulb at 37°. The rainfall measured at 9 a.m. was .57 in. On the 25th the snow lay to the depth of from 4 to 6 inches.

Worthing, Sussex.

D. W. HORNER.

WINCHFELD.

SNOW began at this station about 5 a.m. on April 25th, and continued, more or less, until 8 p.m., the snow varying in different places from 14 in. to 24 in., yielding a total of 1.03 in. We have not had any such snow storm recorded here in April since I have been reporting to your meteorological notes.

W. G. MACHIN.

Winchfield, Hants, April 27th, 1908.

NORTH CADBURY.

You will like some particulars of the extraordinary fall of snow with which St. Mark has favoured us this day. Since Saturday, 18th, Easter Eve, it has been very cold, the temperature rising to 56° on 22nd, but otherwise 51°·5 at most, and for 23rd, 24th and 25th not reaching 47°. We had light snow showers on the 20th, not measurable, a cold rain from early morning of 23rd, continuous but not heavy, till after 4 p.m. it was snow and rain combined. On the morning of the 24th it was sharp frost, ice on my porch roof, and here and there a little powdering of snow. Not a bit warmer for change of wind, but a strong W. wind dried roads marvellously, and the day was bright and sunny, showers of small snowballs the size of peas and later of sleet in the afternoon, and no warmer even when the wind had got to S. On April 25th I woke at 4.15 a.m. to find it snowing fast and everything deeply covered. For the bulk of the snow had fallen when I woke first, and it continued to snow freely till after 6, but it had quite stopped by 9 a.m. There had been almost no wind with the snowfall, and the snow was spread as evenly as it well could be; but to estimate its depth was no easy matter. There was 7 in. depth on the top of a wall at 8 a.m., which had shrunk to 6 in. by 9 a.m., by which time it was in the middle part of my large open lawn also 6 in. deep, and the same on my thermometer shed. The snow caught in the gauge yielded .42 in. of rain, but was evidently much below its proper amount. I reckon that the depth of snow at 6 or 6.30 must have been 8 inches or more (sodden snow) and I have put down .65 in. as its probable equivalent in water. It was slowly melting all day; 4 in. deep at noon, 3 in. at 2 p.m. The wind has boxed the compass twice in the last 72 hours, backing continuously the whole time. As it got dark there was still about 1 inch left wherever the snow had not been disturbed, even where there had been full sun. Our big hills still look like snow-capped and snow-sided mountains. This has been by far the heaviest snow we have had since the very similar snowfall of February 21st-22nd, 1898, though that was windier and drifted a little.

H. A. BOYS.

North Cadbury Rectory, Somerset, April 25th, 1908.

THE COLD WEATHER OF APRIL.

By FRED. J. BRODIE.

MUCH of the air which drifted over these islands last month swept down from the northward, and was supplied by an anticyclone, which hung with considerable persistence over the Icelandic region. Of the remaining currents a large proportion came in from north-east, with their temperatures reduced by contact with the winter-chilled surface waters of the North Sea. Under these circumstances, it is not surprising to find that, in spite of a very fair allowance of bright sunshine, the mean temperature of the month was below the average over the whole of the United Kingdom, the deficit being greatest (three to four degrees) over Eastern and Central England.

The coldest periods occurred respectively on the 8th and 9th, between the 13th and 15th, and in the fourth week, mainly between the 23rd and 25th. On the first of these occasions the thermometer in the screen fell at least 5° below the freezing point in many parts of the country, while instruments exposed on the grass indicated readings as low as 15° at Llangammarch Wells, 16° at Newton Rigg, 17° at Birmingham (Edgbaston) and Wisley, and 18° at Kew. On the second occasion, between the 13th and 15th, the cold was less severe, but at many northern and central stations the grass temperatures were at least 10 degrees below freezing.

Both spells of cold were entirely eclipsed in the fourth week of the month, when frosts and snowstorms of phenomenal intensity, for so advanced a period in the season, were reported over nearly the whole kingdom. The week was undoubtedly the coldest experienced in these islands at any time in April for at least 30 years past, and at many northern and central stations in Great Britain the individual temperatures registered on the 24th or 25th were, for so late a period in the month, the lowest indicated by records extending over a very much longer period. The practice of comparing, for the purpose of record making, observations made in two different localities is not to be commended, but in view of their close proximity it may be fair to remark that at Leith the shade minimum temperature of 17° on the 25th was as many as 6° lower than any April reading observed in Edinburgh back to the year 1840. Several other places in our northern and central districts reported, at about the same time, readings below 20° , and at Balmoral on the 24th the sheltered thermometer fell to a minimum of 10° . On the ground the frost was naturally more intense, the exposed thermometer sinking to 4° at Balmoral, 8° at Crathes, 9° at Huddersfield, 11° at Glasgow, and to 15° or less at many other northern stations.

The only periods of weather of anything like seasonable character occurred between the 8th and 9th of the month, and between the 16th and 17th. On each occasion the thermometer rose a little above 60° in many parts of the kingdom, a reading of 65° being

recorded at Southampton on the 16th, and readings of 66° at Dumfries, and 68° at Crieff, on the following day.

In London a temperature as high as 60° was reached this year for the first time on as late a date as April 29th, a state of things without precedent in the meteorological history of the previous 37 years. The mean of all the daily maximum readings in the metropolis last month was as low as $51^{\circ}\cdot4$, and was more than 5° below the average. In 1888 the mean value was only $51^{\circ}\cdot5$, and in 1879 only $51^{\circ}\cdot9$, but in every other April back to 1871 the mean maximum temperature was at least a degree higher than those of last month.

ROYAL METEOROLOGICAL SOCIETY.

THE monthly meeting of this Society was held on April 15th, at the Institution of Civil Engineers, Great George Street, Westminster, Dr. H. R. Mill, President, in the chair.

The President referred to the forthcoming Franco-British Exhibition, at Shepherd's Bush, and said that the Society was exhibiting in the Science Section. Amongst the exhibits there would probably be a complete Climatological Station at work, for which it was hoped space would be found in the grounds. There was no difficulty in finding the station; but to show it at work would require the services of volunteer observers to take the observations at 9 a.m. and 9 p.m. He trusted that some of the Fellows would come forward and undertake these, for say a fortnight at a time, to share the work with those who had already promised. The observations would have to go on from May till October.

Mr. Edward Mawley presented his "Report on the Phenological Observations for 1907." He pointed out that the most noteworthy features of the weather as affecting vegetation were the cold and sunless character of April, May, and the three summer months, the frequent falls of rain during that period, the warm, dry and sunny weather in September and the heavy and continuous rainfall in October. Wild plants came into blossom behind their usual dates throughout the whole of the flowering season. Such early immigrants as the swallow, cuckoo and nightingale were also behind their average dates in reaching these Islands. The only deficient farm crop, taking the country as a whole, was that of potatoes, most of the other crops being much over average. On the other hand the yield of apples and pears (particularly of apples) was below average. There was also a deficient crop of strawberries, whereas plums raspberries, currants and gooseberries were over average. As regards the farm crops, Mr. Mawley stated that 1905 was a plentiful year, in 1906 the yield was even better, while the past year proved the most bountiful of the three.

Mr. R. H. Hooker, Mr. F. C. Bayard, Mr. H. Mellish, Mr. W. W. Bryant, Mr. C. Harding, Mr. W. H. Dines, and Mr. J. E. Clark took part in the discussion, and Mr. Mawley replied.

Colonel H. E. Rawson, R.E., C.B., read a paper on "The Anticyclonic Belt of the Southern Hemisphere." He said that from an examination of the daily synoptic charts of the northern hemisphere he was led to the conclusion that some of the permanent anticyclonic systems had a progressive seasonal movement which did not take place along the same latitude each year, but was in some years north and in others south of a mean latitude. This was noticeable in the years 1881-1891, and was capable of easy explanation if the belt itself in which they moved shifted its latitude from year to year in addition to migrating north and south with the sun. On analysing the isobaric charts of the southern hemisphere he found that the seasonal migration of the anticyclonic belt is seen to be accompanied by a real displacement of the action-centres within it to the northward and to the southward. But when the charts are compared great discrepancies are found to exist in the positions of the centres if the years to which they refer are not the same. Also when they are plotted for a long period of years the action-centres show a much wider displacement from a mean latitude than for a short period. In one case charts which were published in 1879 were considerably modified in 1883, the area of maximum pressure within the belt being shown farther south. At the Cape a "monsoon" influence associated with the winter months of the years 1896-1900, in connection with the north-west wind, is found to exist, which was not traceable in the years 1142-1855, or 1862-1865. At Durban a decided increase in the percentage frequency of winds with a westerly component in the winter months of the years 1892 and 1893 is traced to an increased prevalence of the same north-west wind, and it is found to prevail in an exceptional manner during the summer months also. This wind is proved to indicate the arrival at Durban of the south side of the anticyclonic belt, and the inference is drawn accordingly that during 1892 and 1893, when it prevailed throughout both summer and winter months, the south side of the belt was much farther north than usual. Colonel Rawson went minutely into these matters in his paper, and showed that the rainfall also varied according to the movement of the anticyclonic belt north or south of its mean position. It appears that there is a period of about 9·5 years between the greatest north and greatest south position of the anticyclonic belt over South Africa, the double oscillation thus taking 19 years.

Dr. Richard Assmann (Director of the Royal Prussian Aeronautical Institute, Lindenberg), Mr. K. Nakamura (Director of the Central Meteorological Observatory, Tokio), and Professor A. Lawrence Rotch (Director of the Blue Hill Observatory, Mass., U.S.A.) were elected Honorary Members; and Mr. C. Browett and Mr. A. Macmorran, K.C., were elected Fellows of the Society.

Sir John Eliot, K.C.Z.E., F.R.S.

25TH MAY, 1838—18TH MARCH, 1908.

THE death of Sir John Eliot, occurring soon after his retirement from the position of Meteorological Reporter to the Government of India, but unhappily before the completion of the important summary of his life's work which he had in hand, is a serious loss to British meteorology in the widest sense. Sir John Eliot had taken a keen interest in organizing the meteorological services of the British Empire, and was looking forward to take part in the first conference of the meteorologists of the empire in Canada, when his very sudden death took place on March 18th, without the warning of any previous illness.

He was born at Lamesley, Durham, and had a distinguished career at the University of Cambridge, passing thence as Professor of Mathematics to Roorkee Engineering College, in 1869, to the Muir Central College, Allahabad, in 1872, and to the Presidency College, Calcutta, as Professor of Physics in 1874. In the same year he was appointed Meteorological Reporter to the Government of Bengal, and on the death of Mr. H. F. Blanford, in 1886, he succeeded to the highest position in the Indian Meteorological Service, which he held until his retirement in 1903. Sir John Eliot was an indefatigable worker, and an immense mass of data was discussed by him in the India Meteorological Memoirs, and utilized for the compilation of the Climatological Atlas of India, which was noticed in No. 490 of this Magazine (November, 1906). On his retirement Sir John went to live in the south of France, and although he presided over the short-lived Sub-section of Cosmical Physics at the British Association at Cambridge, in 1904, and was occasionally in London, he remained personally almost unknown to many of those in this country who were most familiar with his work.

Correspondence.

To the Editor of Symons's Meteorological Magazine.

TEMPERATURE EXTREMES.

IN your April number Mr. Dover asks for figures from a station in the Midlands to compare with those given at Slough and the Isle of Wight. Perhaps the record kept here in North Notts, at a height of 56 feet above the sea may serve this purpose. During the last ten years, 1898-1907, we have had 62 readings of 80° F. and upwards in the screen, as compared with 156 at Slough and 8 at Totland Bay. Carrying the examination back to 1879 there have been four years during which 80° was not reached at all, viz. :—1879, 1882, 1883 and 1890, and two others with only one reading of 80°, 1889 and 1907.

In the same number Mr. Bonacina shows that during the last 19 winters there have been 47 nights on which the temperature in the screen at Greenwich fell below 20° F., and that in only one month, February, 1895, did it fall below 10° ; during the same period we had here 125 nights on which temperature fell below 20° , on 24 of which it fell below 10° , including 2 readings below zero, viz.:— $4\cdot4$ in January, 1894, and $4\cdot0$ in February, 1895.

H. MELLISH.

Hodsock Priory, Worksop, 20th April, 1908.

DIURNAL RANGE OF 40° IN SCOTLAND.

It may interest your readers to know that on the morning of the 17th inst. (Good Friday) I recorded here, in a Stevenson screen, a minimum of $27^{\circ}\cdot8$ (probably occurring about 6 a.m.), and that at about 2 p.m. of the same day the temperature had risen to a maximum of 68° , thus giving a range of $40^{\circ}\cdot2$. There was a brilliant sun with a light westerly air until about 3 p.m., when it became cloudy to the west and north. My screen thermometers are 4 ft. 6 in. above the grass, and some 60 ft. above sea level. I should suppose that a range of 40° within the day is very unusual in Britain, and would be interested to hear of any observers who have registered as much or more.

SYDNEY WILSON.

Bruna, Craigie Road, Perth, 21st April, 1908.

METEOROLOGICAL NEWS AND NOTES.

THE BEN NEVIS METEOROLOGICAL OBSERVATIONS will, we are glad to know, soon be completed for publication, funds having now been found for that purpose. The records from 1884–1897, with various discussions, form Vols. **34**, **42** and **43** of the Transactions of the Royal Society of Edinburgh, and the expense of these was borne jointly by that society and the Royal Society. The remaining records will form a fourth similar volume, the cost of which, estimated at £400, has been provided for as follows:—The Royal Society of Edinburgh, £200; the Carnegie Trust, £100; the Royal Society, £50; the British Association, £25; Mr. R. T. Omond, £25.

A FRAME FOR A RAINFALL REGISTER is extremely useful for keeping the sheet uncrushed, and convenient for hanging up in a hall or library for ready reference. An extremely neat and convenient frame for this purpose has been brought to our notice, and we feel sure that it will be appreciated by readers who are rainfall observers. The frame can be obtained from Mr. Lamport, 23, Strode Road, Willesden Green, N.W.

RAINFALL TABLE FOR APRIL, 1908.

STATION.	COUNTY.	Lat. N. ° /	Long. W. [*E.] ° /	Height above Sea. ft.	RAINFALL OF MONTH.	
					Aver. 1870-99. in.	1908. in.
Camden Square.....	London.....	51 32	0 8	111	1'69	2'38
Tenterden.....	Kent.....	51 4	*0 41	190	1'77	2'04
West Dean.....	Hampshire.....	51 3	1 38	137	1'99	2'69
Hartley Wintney.....	".....	51 18	0 53	222	1'69	4'19
Hitchin.....	Hertfordshire.....	51 57	0 17	238	1'62	3'04
Winslow (Addington).....	Buckinghamsh..	51 58	0 53	309	1'83	4'54
Bury St. Edmunds (Westley).....	Suffolk.....	52 15	*0 40	226	1'54	3'16
Brundall.....	Norfolk.....	52 37	*1 26	66	1'68	2'66
Winterbourne Steepleton.....	Dorset.....	50 42	2 31	316	2'60	2'99
Torquay (Cary Green).....	Devon.....	50 28	3 32	12	2'45	2'47
Polapit Tamar [Launceston].....	".....	50 40	4 22	315	2'23	2'52
Bath.....	Somerset.....	51 23	2 21	67	2'05	2'99
Stroud (Upfield).....	Gloucestershire..	51 44	2 13	226	2'05	2'54
Church Stretton (Wolstaston).....	Shropshire.....	52 35	2 48	800	2'14	3'76
Coventry (Kingswood).....	Warwickshire.....	52 24	1 30	340	1'96	3'78
Boston.....	Lincolnshire.....	52 58	0 1	25	1'59	2'46
Workshop (Hodsock Priory).....	Nottinghamshire	53 22	1 5	56	1'69	1'95
Derby (Midland Railway).....	Derbyshire.....	52 55	1 28	156	1'72	2'34
Bolton (Queen's Park).....	Lancashire.....	53 35	2 28	390	2'15	2'91
Wetherby (Ribston Hall).....	Yorkshire, W.R.	53 59	1 24	130	1'98	2'97
Arncliffe Vicarage.....	".....	54 8	2 6	732	3'32	4'34
Hull (Pearson Park).....	"..... E.R.	53 45	0 20	6	1'72	2'59
Newcastle (Town Moor).....	Northumberland	54 59	1 38	201	1'79	2'95
Borrowdale (Seathwaite).....	Cumberland.....	54 30	3 10	423	6'27	4'42
Cardiff (Ely).....	Glamorgan.....	51 29	3 13	53	2'34	2'70
Haverfordwest (High Street).....	Pembroke.....	51 48	4 58	95	2'67	2'85
Aberystwyth (Gogerddan).....	Cardigan.....	52 26	4 1	83	2'39	2'90
Llandudno.....	Carnarvon.....	53 20	3 50	72	1'82	2'74
Cargen [Dumfries].....	Kirkcudbright.....	55 2	3 37	80	2'30	2'35
Hawick (Branxholm).....	Roxburgh.....	55 24	2 51	457	1'92	1'29
Edinburgh (Royal Observatory).....	Midlothian.....	55 55	3 11	442	...	1'87
Girvan (Pinnore).....	Ayr.....	55 10	4 49	207	2'45	2'07
Glasgow (Queen's Park).....	Renfrew.....	55 53	4 18	144	1'77	1'37
Tighnabruaich.....	Argyll.....	55 55	5 14	50	2'89	2'18
Mull (Quinish).....	".....	56 36	6 13	35	2'80	1'33
Dundee (Eastern Necropolis).....	Forfar.....	56 28	2 57	199	1'94	1'82
Braemar.....	Aberdeen.....	57 0	3 24	1114	2'18	...
Aberdeen (Cranford).....	".....	57 8	2 7	120	2'22	2'04
Cawdor.....	Nairn.....	57 31	3 57	250	1'49	1'18
Fort Augustus (S. Benedict's).....	E. Inverness.....	57 9	4 41	68	2'04	1'42
Loch Torridon (Bendamph).....	W. Ross.....	57 32	5 32	20	4'31	4'21
Dunrobin Castle.....	Sutherland.....	57 59	3 56	14	1'81	2'31
Castletown.....	Caithness.....	58 35	3 23	100	...	2'17
Killarney (District Asylum).....	Kerry.....	52 4	9 31	178	3'71	2'82
Waterford (Brook Lodge).....	Waterford.....	52 15	7 7	104	2'56	2'92
Broadford (Hurdlestown).....	Clare.....	52 48	8 38	167	2'17	1'95
Abbey Leix (Blandsfort).....	Queen's County..	52 56	7 17	532	2'40	2'10
Dublin (Fitz William Square).....	Dublin.....	53 21	6 14	54	2'00	2'34
Ballinasloe.....	Galway.....	53 20	8 15	160	2'32	2'35
Clifden (Kylmore House).....	".....	53 32	9 52	105	4'74	5'34
Crossmolina (Enniscoe).....	Mayo.....	54 4	9 18	74	2'90	2'62
Collooney (Markree Obsy.).....	Sligo.....	54 11	8 27	127	2'30	2'92
Seaforde.....	Down.....	54 19	5 50	180	2'59	4'34
Londonderry (Creggan Res.).....	Londonderry.....	54 59	7 19	320	2'32	2'95

RAINFALL TABLE FOR APRIL, 1908—*continued.*

RAINFALL OF MONTH (<i>con.</i>)					RAINFALL FROM JAN. 1.				Mean Annual 1870-1899.	STATION.
Diff. from Av. in.	% of Av.	Max. in 24 hours.		No. of Days	Aver. 1870-99.	1908.	Diff. from Aver. in.	% of Av.		
		in.	Date.		in.	in.			in.	
+ '69	141	'67	23	18	6·82	8·36	+1·54	123	25·16	Camden Square
+ '27	115	'64	28	15	7·87	6·90	— '97	88	28·36	Tenterden
+ '70	135	'55	25	15	8·73	8·56	— '17	98	29·93	West Dean
+2·50	248	1·28	25	14	7·91	10·12	+2·21	128	27·10	Hartley Wintney
+1·42	187	'87	23	17	6·50	8·45	+1·95	130	24·66	Hitchin
+2·71	248	1·05	25	19	7·23	10·07	+2·84	139	26·75	Addington
+1·62	205	'98	23	20	6·43	7·96	+1·53	124	25·39	Westley
+ '98	159	'78	23	18	6·49	8·20	+1·71	126	25·40	Brundall
+ '39	115	'99	29	12	12·02	10·37	—1·65	86	39·00	Winterbourne Stpltn
+ '02	101	'71	27	14	10·96	8·65	—2·31	79	35·00	Torquay
+ '29	113	'66	27	17	11·35	13·37	+2·02	118	38·85	Polapit Tamar
+ '94	146	'58	29	14	8·63	8·27	— '36	96	30·75	Bath
+ '49	124	'44	28	16	8·50	8·58	+ '08	101	29·85	Stroud
+1·62	176	1·11	27	18	9·23	10·31	+1·08	112	33·04	Wolstaston
+1·82	193	1·20	25	16	8·04	8·25	+ '21	103	29·21	Coventry
+ '87	155	'43	28	15	6·09	7·14	+1·05	117	23·30	Boston
+ '26	115	'50	28	17	6·56	7·18	+ '62	110	24·70	Hodsock Priory
+ '62	136	'48	28	20	6·82	7·61	+ '79	112	26·18	Derby
+ '76	135	'66	28	16	11·08	14·79	+3·71	134	42·43	Bolton
+ '99	150	'36	4	17	7·35	9·74	+2·39	133	26·96	Ribston Hall
+1·02	131	'90	30	20	19·42	23·34	+3·92	120	60·96	Arncliffe Vic.
+ '87	151	'57	30	21	7·17	8·29	+1·12	116	27·02	Hull
+1·16	165	'70	26	17	7·43	9·53	+2·10	128	27·99	Newcastle
—1·85	70	1·02	28	17	43·13	42·30	— '83	98	132·68	Seathwaite
+ '36	115	'73	29	16	12·11	11·07	—1·04	91	42·81	Cardiff
+ '18	107	1·06	27	15	14·53	13·11	—1·42	90	47·88	Haverfordwest
+ '51	121	'78	24	13	12·22	15·34	+3·12	126	45·41	Gogerddan
+ '92	151	'67	27, 29	17	8·33	10·96	+2·63	132	30·98	Llandudno
+ '05	102	'72	28	8	13·47	16·05	+2·58	119	43·43	Cargen
— '63	67	'22	2	20	10·28	11·62	+1·34	113	34·80	Braxholm
...	...	'49	23	15	...	8·07	...	...	...	Edinburgh
— '38	84	'34	29	18	14·84	17·45	+2·61	118	48·87	Girvan
— '40	77	'41	30	6	9·88	12·47	+2·59	126	35·80	Glasgow
— '71	75	'45	30	10	17·68	22·79	+5·11	129	57·90	Tighnabruaich
—1·47	47	'26	8	14	17·38	18·04	+ '66	104	57·53	Quinish
—1·12	42	'33	8	14	8·06	6·91	—1·15	86	28·95	Dundee
...	...	...	...	...	10·21	14·67	+4·46	144	36·07	Braemar
— '18	92	'43	8	18	9·40	8·98	— '42	95	33·01	Aberdeen
— '31	79	'40	8	8	7·65	9·45	+1·80	124	29·37	Cawdor
— '62	70	'39	2	13	14·70	16·97	+2·27	116	43·71	Fort Augustus
— '10	98	1·05	2	12	26·21	38·51	+12·30	147	86·50	Bendampf
+ '50	128	'60	4	11	9·29	15·07	+5·78	162	31·60	Dunrobin Castle
...	...	'35	26	18	...	12·61	...	...	...	Castletown
— '89	76	'68	29	22	19·75	16·35	—3·40	83	58·11	Killarney
+ '36	114	1·02	29	16	12·47	10·76	—1·71	86	39·30	Waterford
— '22	90	'47	29	20	9·51	10·24	+ '73	108	33·47	Hurdlestown
— '30	87	'58	29	19	10·50	10·76	+ '26	103	35·19	Abbey Leix
+ '34	117	'91	27	16	7·99	8·71	+ '72	109	27·75	Dublin
+ '03	101	'50	29	21	10·74	11·61	+ '87	108	37·04	Ballinasloe
+ '60	113	1·50	30	13	24·35	25·13	+ '78	103	80·23	Kylemore House
— '28	90	'37	27	19	15·86	20·34	+4·48	128	50·50	Enniscoe
+ '62	127	'47	29	17	11·74	17·50	+5·76	149	41·83	Markree Obsy.
+1·75	168	1·10	28	15	11·75	14·35	+2·60	122	38·61	Seaforde
+ '63	127	'60	3	22	11·67	15·01	+3·34	129	41·20	Londonderry

SUPPLEMENTARY RAINFALL, APRIL, 1908.

Div.	STATION.	Rain inches	Div.	STATION.	Rain. inches
II.	Warlingham, Redvers Road	2·80	XI.	Rhayader, Tyrmynydd	3·60
„	Ramsgate	1·53	„	Lake Vyrnwy	4·15
„	Steyning.....	2·45	„	Llangyhanfal, Plâs Draw....	2·55
„	Hailsham	1·94	„	Criccieth, Talarvor.....	2·15
„	Totland Bay, Aston House.	2·44	„	Llanberis, Pen-y-pass	7·05
„	Emsworth, Redlands.....	1·79	„	Lligwy	2·08
„	Stockbridge, Ashley	3·25	„	Douglas, Woodville	2·99
„	Reading, Calcot Place.....	4·47	XII.	Stoneykirk, Ardwell House	2·42
III.	Harrow Weald, Hill House.	3·10	„	Dalry, The Old Garroch ...	2·22
„	Oxford, Magdalen College..	4·23	„	Langholm, Drove Road.....	2·25
„	Pitsford, Sedgebrook	3·77	„	Moniaive, Maxwellton House	2·05
„	Huntingdon, Brampton.....	2·40	XIII.	N. Esk Reservoir [Penicuik]	2·50
„	Woburn, Milton Bryant.....	2·79	XIV.	Maybole, Knockdon Farm..	1·50
„	Wisbech, Bank House	2·34	XV.	Campbeltown, Witchburn...	3·91
IV.	Southend Water Works.....	2·27	„	Inveraray, Newtown	2·88
„	Colchester, Lexden.....	2·31	„	Ballachulish House.....	2·53
„	Newport, The Vicarage.....	3·63	„	Islay, Eallabus	2·47
„	Rendlesham	2·53	XVI.	Dollar Academy	·90
„	Swaffham	2·71	„	Loch Leven Sluice	1·38
„	Blakeney	2·14	„	Balquhiddier, Stronvar	1·63
V.	Bishops Cannings	3·22	„	Perth, The Museum	·92
„	Ashburton, Druid House ...	3·46	„	Coupar Angus Station	·85
„	Honiton, Combe Raleigh ...	2·37	„	Blair Atholl.....	1·34
„	Okehampton, Oaklands.....	3·11	„	Montrose, Sunnyside Asylum	1·23
„	Hartland Abbey	1·86	XVII.	Alford, Lynturk Manse ...	2·88
„	Lynmouth, Rock House ...	1·98	„	Keith Station	4·04
„	Probus, Lamellyn	1·97	XVIII.	N. Uist, Lochmaddy	2·61
„	North Cadbury Rectory ..	2·53	„	Alvey Manse	2·52
VI.	Clifton, Pembroke Road ...	3·04	„	Loch Ness, Drumnadrochit.	1·55
„	Ross, The Graig	2·72	„	Glencarron Lodge	5·05
„	Shifnal, Hatton Grange.....	2·76	„	Fearn, Lower Pitkerrie.....	1·54
„	Blockley, Upton Wold	3·43	XIX.	Invershin	1·72
„	Worcester, Boughton Park.	3·19	„	Altnaharra	2·96
VII.	Market Overton	2·61	„	Bettyhill	2·20
„	Market Rasen	3·39	XX.	Dunmanway, The Rectory..	4·55
„	Bawtry, Hesley Hall.....	2·21	„	Cork	2·27
„	Buxton, Lismore House	3·31	„	Darrynane Abbey	2·69
VIII.	Neston, Hinderton Lodge...	3·70	„	Glenam [Clonmel]	2·07
„	Southport, Hesketh Park...	2·42	„	Ballingarry, Gurteen	2·08
„	Chatburn, Middlewood	3·79	„	Miltown Malbay.....	1·53
„	Cartmel, Flookburgh	3·09	XXI.	Gorey, Courtown House ...	2·11
IX.	Langsett Moor, Up. Midhope	2·66	„	Moynalty, Westland	2·31
„	Scarborough, Scalby	2·56	„	Athlone, Twyford	1·44
„	Ingleby Greenhow	2·93	„	Mullingar, Belvedere.....	1·76
„	Mickleton.....	2·05	XXII.	Woodlawn	2·19
X.	Bardon Mill, Beltingham ...	2·10	„	Westport, St. Helens	2·81
„	Ewesley, Fallowlees	2·03	„	Mohill	2·94
„	Ilderton, Lilburn Cottage..	2·32	XXIII.	Enniskillen, Portora	2·31
„	Keswick, York Bank.....	1·86	„	Dartrey [Cootehill].....	2·46
XI.	Llanfrecifra Grange.....	2·01	„	Warrenpoint, Manor House	3·15
„	Treherbert, Tyn-y-waun ...	4·55	„	Banbridge, Milltown	3·00
„	Carmarthen, The Friary....	2·10	„	Belfast, Springfield	4·09
„	Castle Malgwyn [Llechryd].	2·41	„	Bushmills, Dundarave	1·97
„	Plylimon.....	5·50	„	Stewartstown, Ballyclog....	2·95
„	Crickhowell, Ffordlas.....	4·70	„	Killybegs	4·30
„	New Radnor, Ednol	3·68	„	Horn Head ...	2·48

METEOROLOGICAL NOTES ON APRIL, 1908.

ABBREVIATIONS.—Bar. for Barometer; Ther. for Thermometer; Temp. for Temperature; Max. for Maximum; Min. for Minimum; T for Thunder; L for Lightning; TS for Thunderstorm; R for Rain; H for Hail; S for Snow; F for number of days Frost in Screen; f on Grass.

LONDON, CAMDEN SQUARE.—Changeable, showery weather with low temp. characterised the first half, but from 15th to 17th bright, sunny conditions prevailed. Temp. again fell on 18th and then followed a week of wintry weather with much R and S. On the morning of 24th, S fell to a depth of $3\frac{1}{2}$ in. in open places. Temp. rose considerably at the close. Mean temp. $44^{\circ}\cdot7$, or $3^{\circ}\cdot4$ below the average; shade max. $65^{\circ}\cdot5$ on 30th, min. $28^{\circ}\cdot4$ on 9th. F 5, f 15. Duration of sunshine $141\cdot8^*$ hours, and of R $66\cdot1$ hours.

TENTERDEN.—Duration of sunshine $159\cdot6^{\dagger}$ hours. Shade max. $63^{\circ}\cdot0$ on 29th, min. $29^{\circ}\cdot0$ on 21st. F 6, f 13.

TOTLAND BAY.—Duration of sunshine 181^* hours. Shade max. $63^{\circ}\cdot6$ on 30th, min. $30^{\circ}\cdot7$ on 25th. F 3, f 13.

ADDINGTON MANOR.—The wettest April since 1882. Great damage was done to trees and shrubs by the S storm on 25th, and floods occurred on 27th and 28th. Shade max. $60^{\circ}\cdot0$ on 9th, min. $25^{\circ}\cdot0$ on 24th. F 13, f 16.

TORQUAY.—Duration of sunshine $169\cdot2^*$ hours. Mean temp. $47^{\circ}\cdot5$ or $0^{\circ}\cdot7$ below the average. Shade max. $61^{\circ}\cdot4$ on 16th, min. $29^{\circ}\cdot1$ on 24th. F 2, f 9.

NORTH CADBURY.—Max. $64^{\circ}\cdot0$ on 29th, min. $27^{\circ}\cdot0$ on 24th. F 8, f 16.

CLIFTON.—The first three weeks were dry and cold with N. winds. The last week was wet and cold with the heaviest S fall in April in 53 years. The depth on 25th was 4 inches. R $\cdot80$ in. above the average.

ROSS.—Shade max. $66^{\circ}\cdot4$ on 30th, min. $25^{\circ}\cdot6$ on 24th. F 6, f 20(?).

BUXTON.—Duration of sunshine 110^* hours. Mean temp. $39^{\circ}\cdot7$, or $3^{\circ}\cdot3$ below the average. Shade max. $57^{\circ}\cdot4$ on 8th, min. $19^{\circ}\cdot7$ on 24th. F 12, f 16.

BOLTON.—Duration of sunshine $70\cdot8^*$ hours, or $36\cdot4$ hours below the average. Mean temp. $41^{\circ}\cdot4$, or $2^{\circ}\cdot5$ below the average. Shade max. $59^{\circ}\cdot9$ on 17th, min. $26^{\circ}\cdot2$ on 24th.

SOUTHPORT.—Mean temp. $43^{\circ}\cdot5$, or $2^{\circ}\cdot4$ below the average. Duration of sunshine $161\cdot7^*$ hours or 1 hour below the average. R $\cdot70$ in. above the average. Duration of R $52\cdot3$ hours. Shade max. $59^{\circ}\cdot6$ on 29th, min. $26^{\circ}\cdot3$ on 24th. F 6, f 15.

HULL.—Duration of sunshine 64 hours. Shade max. $60^{\circ}\cdot0$ on 2nd, min. $29^{\circ}\cdot0$ on 8th. F 6, f 14.

HAVERFORDWEST.—Cold with S storm on 24th and 25th. Duration of sunshine $155\cdot7^*$ hours. Shade max. $61^{\circ}\cdot9$ on 16th, min. $26^{\circ}\cdot3$ on 26th. F 6, f 12.

LLANDUDNO.—Shade max. $59^{\circ}\cdot8$ on 30th, min. $29^{\circ}\cdot0$ on 24th.

DOUGLAS.—The coldest April on record. S lay 3 inches deep on 25th.

DUMFRIES.—Dry weather during the first three weeks, culminated on the 25th in the most severe frost registered in April during 49 years. The last week was wet, $1\cdot89$ in. of R falling in 6 days.

EDINBURGH.—Shade max. $61^{\circ}\cdot5$ on 17th, min. $22^{\circ}\cdot1$ on 24th. F 5, f 9.

COEPAR ANGUS.—R 49 per cent. below the average. An unprecedented cold snap reduced the mean temp. to $40^{\circ}\cdot5$, or $2^{\circ}\cdot5$ below the average.

ABERDEEN.—Cold and wet with little N. winds and sunshine. Shade max. $60^{\circ}\cdot0$ on 17th, min. $18^{\circ}\cdot0$ on 23rd. F 9, f 14.

FORT AUGUSTUS.—Shade max. $55^{\circ}\cdot8$ on 29th, min. $19^{\circ}\cdot8$ on 24th. F 12.

CASTLETOWN.—The early part was cold with frequent H. and R. Fine, dry and sunny weather occurred from 10th to 16th, but the remainder of the month was cold and changeable with S storm on 23rd and 24th.

CORK.—The coldest April for at least 27 years. Shade max. $56^{\circ}\cdot0$ on 16th, min. $26^{\circ}\cdot0$ on 24th. F 5 f 12.

DUBLIN.—Mean temp. $44^{\circ}\cdot7$, or $2^{\circ}\cdot9$ below the average. Shade max. $63^{\circ}\cdot4$ on 30th, min. $25^{\circ}\cdot1$ on 24th. F 5, f 10.

MARKREE.—Shade max. $61^{\circ}\cdot3$ on 16th and 30th, min. $22^{\circ}\cdot4$ on 26th. F 9, f 19.

Climatological Table for the British Empire, November, 1907.

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.									
								¹⁰⁻¹⁰⁰	^a		^{inches}		
London, Camden Square	60·4	9	30·1	16	51·1	40·3	43·3	92	80·8	27·5	2·16	12	8·7
Malta	79·0	12	55·0	26	69·3	61·1	55·9	74	140·0	...	3·92	9	4·6
Lagos	89·5	29	70·0	14	87·2	75·3	75·5	76	160·0	72·0	1·57	6	7·3
Cape Town	78·5	8, 30	44·9	6	70·9	54·3	51·8	67	...	...	·82	7	4·4
Durban, Natal	88·9	20	55·7	1	77·3	62·9	...	...	147·5	...	7·69	21	6·9
Johannesburg	80·2	13	46·0	8	72·7	52·7	53·0	75	152·1	44·3	4·61	15	4·6
Mauritius	89·9	14	63·7	25	85·8	68·8	66·0	70	150·2	59·1	1·34	15	6·0
Calcutta... ..	88·5	4	57·1	22	85·5	63·2	61·8	67	146·0	50·8	·00	0	0·8
Bombay... ..	93·2	2	72·8	25	89·4	75·4	69·2	67	138·5	59·9	·00	0	2·7
Madras	87·4	5	65·8	14	83·5	72·8	72·3	86	138·8	64·9	16·16	15	6·2
Kodaikanal	64·3	29	45·6	13	60·4	49·9	49·2	84	127·2	37·6	10·02	21	7·3
Colombo, Ceylon	88·6	2	71·2	24	85·0	73·9	73·6	83	158·9	66·4	16·96	21	6·5
Hongkong	81·1	23	54·2	28	76·0	67·5	62·8	73	132·2	...	1·27	10	7·3
Melbourne	94·8	12	44·3	19	75·2	52·8	49·1	60	153·7	38·0	2·34	8	5·5
Adelaide	100·0	29	46·9	6	80·2	56·2	49·2	49	156·2	40·8	1·48	9	4·8
Coolgardie	100·9	27	37·0	3	80·3	51·9	42·3	44	165·2	34·0	·60	5	3·5
Sydney	84·1	26	54·5	5, 8	72·9	60·2	56·0	65	127·7	45·8	2·00	15	6·3
Wellington	69·0	4	43·0	15	62·3	52·3	49·4	75	122·0	34·0	3·02	7	6·8
Auckland	74·0	3	52·0	15, 16	69·0	56·2	52·7	70	137·0	46·0	1·09	11	4·9
Jamaica, Negril Point.	88·0	sev.	74·0	3	86·1	78·4	70·7	73	...	...	·53	4	...
Trinidad	91·0	5, 13	67·0	25	87·4	69·7	74·3	90	190·0	64·0	10·69	18	...
Grenada	89·4	6	72·0	19	88·4	77·8	74·3	76	144·2	...	6·08	15	5·1
Toronto	51·1	21	21·1	30	42·2	31·9	...	...	72·0	14·7	3·52	14	...
Fredericton	57·0	3	11·5	21	41·6	25·0	...	81	...	...	6·61	9	6·0
St. John's, N.B.	57·0	7	19·3	30	43·9	32·6	...	...	...	...	5·36	10	...
Victoria, B.C. ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...
Dawson	26·0	11	-31·0	6	7·6	-7·3	...	...	...	...	2·60	12	6·4

MALTA.—Mean temp. of air 64·5. Average hours bright sunshine 6·9.

Durban.—R 2·69 in. above 30 years' average.

Johannesburg.—Bright sunshine 287·1 hours.

Mauritius.—Mean temp. of air 1°·4, of dew point 1°·7, relative humidity 1·7 per cent. above averages. R 47 in. below average. Mean hourly velocity of wind 8·5 miles, or 2·2 below average.

KODAIKANAL.—Bright sunshine 124 hours.

COLOMBO.—Mean temp. of air 78°·0 or 1°·8 below, of dew point 1°·2 above, and R 4·59 in. above, averages. Mean hourly velocity of wind 5 miles. TSS on 7 days.

HONGKONG.—Mean temp. of air 71°·5. Bright sunshine 122·9 hours, or 68 hours below average. Mean hourly velocity of wind 12·0 miles.

Adelaide.—Mean temp. of air 1°·2 above, R 46 in. above, averages.

Sydney.—Mean temp. of air 0°·3 below, and R 1·04 in. below, averages.

Wellington.—Mean temp. of air 0°·3 above, and R 57 in. below, averages. Bright sunshine 186·3 hours.

TRINIDAD.—Rainfall 3·71 in. above 43 years' average.

RAINFALL OF THAMES VALLEY, MAY, 1908.

