

SUMMARY OF OBSERVATIONS.

APRIL, 1906.

General Summary.—The atmospheric conditions which were in the ascendant during this month were somewhat exceptional in character. There was an unusual succession of areas of high barometric pressure, embracing these islands and a considerable part of the Continent, and on our own coasts they were more numerous than in any month for a long time past. In consequence of the great extent of the anticyclonic systems many of the disturbances of the period were found far to the southward, over the Mediterranean and North African region, or in the extreme north, beyond the Arctic Circle. The cyclonic disturbances which visited our shores were as a rule shallow and possessed of comparatively little energy. Although, therefore, the wind occasionally increased to a fresh or strong breeze the month was marked by an almost entire absence of gales in every part of the country, the force of a fresh gale being experienced at only a few isolated stations. The dry weather which set in after the middle of March was maintained with even greater intensity in April, an absolute drought of more than a fortnight's duration being experienced in many localities, at Plymouth during the 35 days ending with April 22nd. Over England, N.W., S.W., the Midland Counties and Ireland, S., each of the five successive weeks down to April 21st, returned no precipitation or a considerable deficiency of rain, all other districts having four dry weeks. Towards the close of the month a less settled type prevailed, and rain, hail, sleet or snow showers were of common occurrence. But the most striking feature of April was its remarkable and persistent brilliancy all over the kingdom. The first half of the month was exceptionally sunny, and in the second week the bright sunshine records at various stations in Scotland and Ireland, as well as in England, amounted to 70 per cent. and upwards of the possible duration, to 80 per cent. at Bournemouth, and to 82 per cent. at Torquay. Even with the less settled weather towards the close there was still an abundance of sunshine, so that the results show the month to have been, generally speaking, the brightest April since the introduction of automatic recorders in 1881. Notwithstanding the abnormally large sunshine records the air temperature decreased very decidedly after the middle of the month, the general mean for the whole country for the first half of the period being nearly 2° in excess, while for the second half it was nearly 4° in defect. Severe ground frosts occurred in many localities towards the close. Thunderstorms occurred in various parts of England on the 12th, 13th, 22nd, 24th, 28th, 29th, and 30th; at Laudale on the 21st, and in Ireland on the 29th. Thunder was reported at Llandudno on the 1st. For the month as a whole pressure exceeded the normal; the winds varied greatly in direction and were of no great strength; temperature and rainfall were deficient; and bright sunshine showed a considerable excess.

Pressure.—*Mean at 8 a.m.* ranged from 30.17 ins. at Valencia to 29.92 ins. at Sumburgh Head. All the values were above the average*, by 0.10 in. in the Shetlands, and as much as 0.29 in. at Valencia. The general distribution differed from the normal, the highest pressure being in the south-west instead of in the south-east. *Highest* readings were 30.73 ins. at Aberdeen on the 8th, and 30.74 ins. at Donaghadee and Shields on the 9th. On numerous days there were values above 30.2 ins., on the 14th about 30.6 ins. along the English Channel. *Lowest* readings occurred on the 28th and 29th, 28.93 ins. at Stornoway and below 29 ins. at other northern and north-western stations. There were few other occasions with readings below 29.5 ins. *Range* was moderate, from 1.1 in. at Jersey to 1.7 in. at Stornoway, Malin Head, and Donaghadee.

Depressions.—Most of the cyclonic systems had their centres far outside these islands. Shallow ones crossed the south-west of England on the 5th, and the south of Scotland on the 16th, but the most important and deepest areas were the three which in the last week came down from the Iceland region and followed an almost identical path across Wales to the north-west of France. The first of the three appears to have continued its course from France eastward to Transylvania, then north-westward to the Norwegian coast.

Anticyclones.—The month was remarkable for its persistently anticyclonic character, the systems in all cases moving in upon us from the Atlantic, and as a rule passing eastward across the country. The area which passed east between the 8th and 10th was of unusual intensity for the time of year, the barometer rising above 30.7 ins. at many stations.

Winds.—The wind direction was very variable, mainly from points in the Northern half of the compass over Southern England, the Western half in Ireland, and the South-Western quarter in Scotland. Days with gale force numbered 3 at Deerness and Scilly, 2 at Durham, Woburn and Roche's Point.

Temperature.—*Mean at sea level* ranged from 48.5° at Jersey and Scilly, and above 45° over the greater part of the country, to below 42° in the Orkneys and Shetlands. The actual values were in nearly every instance below the average*, the deficiency ranging upwards to nearly 3° at Shoberdyness and Birr Castle. *Highest* readings were recorded on varied dates, but mainly between the 9th and 12th, 76° at Woburn, 75° at Maidenhead, 73° at Epsom, and 72° at Clathick. *Lowest* values occurred on the 19th in Scotland and Ireland, on irregular dates in England, 18° at Garforth (8th), 19° at Wokingham (15th), 20° at Buntingford (26th), 21° at Balmoral (19th), and Lairg (20th). *Range* generally was very large, exceeding 40° at numerous stations, amounting to 50° at Lairg, 51° at Maidenhead, 52° at Wokingham, and 53° at Woburn. At Falmouth it was 22° , and at Scilly 18° . *Vapour Pressure* ranged from 0.20 in. at Birmingham (9 a.m.), and Armagh and Garforth (9 p.m. to 0.27 in. at Scilly (6 p.m.). *Relative Humidity* was as low as 61 per cent. at Westminster (6 p.m.), elsewhere it ranged from 68 per cent. at Southampton and Manchester (9 a.m.) to 88 per cent. at Birr Castle (8 a.m.) and Laudale (6 p.m.). *Mean Earth Temperature* at 1 ft. depth ranged from 42° at Garforth and Sheffield to 48° at Plymouth; and at 4 ft. depth from 42° at Sheffield to 47° at Bath.

Rainfall.—Over the greater part of the north and north-west of Scotland and in the north-west of Ireland, the precipitation was above the average*, by nearly 2 ins. at Glencarron, but over the country generally there was a deficiency, the loss exceeding an inch in many places, and amounting to as much as 2.2 ins. at Roche's Point. The aggregates for the month ranged from 7.3 ins. at Glencarron and 4.8 ins. at Laudale to 0.4 in. at Buntingford, Colly Weston and Oxford, and 0.3 in. at Skegness. Precipitation was measured on 21 days at Glencarron, and 20 days at Sumburgh Head, Fort William and Edenfel, but at a large number of stations on less than 10 days, at Bognor and Kew on 6 days, and at Colly Weston on 5 days. With the exception of 1.7 in. at Glencarron, on the 20th, there was no fall of as much as an inch on any day, the amounts as a rule being very small.

Bright Sunshine.—The month was an unusually brilliant one, so that the duration of bright sunshine was everywhere above the average*, three-fifths of the stations showing an excess of more than 60 hours, Torquay 92 hours, and Westminster 93 hours. The total duration ranged from 125 hours (30 per cent. of the possible) at Newcastle-on-Tyne to 272 hours (66 per cent.) at Falmouth. At numerous stations the aggregates exceeded 250 hours.

Observations in the Upper Air.—Kite observations were obtained on the 2nd, 3rd, 4th, 5th (2), 6th, 10th, 14th, 18th, 20th (2) and 28th.

* The averages employed are—*Pressure*, *Temperature* and *Rainfall* for the 35 years 1871–1905; and *Bright Sunshine* for the 25 years 1881–1905. See Appendix III. "Weekly Weather Report," 1906.