SUMMARY OF OBSERVATIONS.

MARCH, 1906.

General Summary.—The atmospheric conditions of the month were divided almost equally into two main features. In the first half barometric pressure was nearly always highest over Continental regions, most of the disturbances affecting the British Isles keeping on a general north-easterly course well outside our western and northern coasts. Winds from Southerly to Westerly points consequently prevailed, occasionally drawing into the Northward. Extremely variable weather characterised this period. Early in the month it was exceptionally brilliant, the duration of bright sunshine for the five days, 3rd to 7th, reaching the very high proportion of from 80 to 86 per cent. of the possible at some of the southern and south-eastern stations. Unseasonable warmth accompanied the brightness, temperatures from 60° to 67° being registered in many places on the 6th and 7th. In the rear of a very deep cyclonic system which crossed the North Sea early on the 12th a severe North-Westerly to Northerly gale was experienced in several districts. One result was that the eastern coasts of Britain and the shores of the adjacent Continental countries were inundated by an abnormally high spring tide, described as the highest in 30 years, considerable damage being caused. (For a very similar case, see the Summary for January, 1905.) Under the influence of the polar winds the weather became very cold, snow fell nearly everywhere, heavily in some parts of Scotland, and numbers of stations registered minimum shade temperatures below 20°, down to 8° at Fort Augustus. On the 16th, torrential rains fell over western Scotland, nearly 3 ins. at Fort William, and next morning, with a soft South-Westerly breeze and a rapid rise of temperature, the snow of previous days was melted, the result being serious and destructive floods. The 17th was as bright and warm as some of the earliest days, but on the 18th the type of conditions underwent a complete reversal. For the rest of the month a high pressure area remained centred in the neighbourhood of our western and north-western coasts, disturbances were confined to the southern and eastern parts of Europe, and a cold searching North-Westerly to North-Easterly and Easterly current prevailed over these islands, producing frequent slight falls of rain, hail, sleet or snow; but there were again many fine sunny periods, especially over the western half of Britain. Lightning was seen at Fort Augustus on the 7th, there was a thunderstorm at Edinburgh on the 8th, and thunder occurred at Tunbridge Wells on the 19th. For the month, as a whole, pressure was above the normal; the winds were South-Westerly to North-Westerly and North-Easterly; temperature was in defect in nearly all localities; precipitation was irregular, but mostly in defect; and bright sunshine was generally in excess.

Pressure.—*Mean at 8 a.m.* ranged from 30·07 ins. at Jersey, and above 30·0 ins. over the greater part of Ireland and southern England to less than 29·8 ins. in the extreme north-east of Scotland, 29·73 ins. at Sumburgh Head. The values were everywhere above the average*, the excess being only 0·01 in. at Sumburgh Head, but as much as 0·15 in. over the south and west of Ireland. The general distribution differed somewhat from the normal, the isobars being from north-west to south-east, instead of from west-south-west to east-north-east. *Highest* readings recorded were 30·50 ins. at Jersey on the 3rd, and above 30·5 ins. in Ireland on the 20th, 30·57 ins. at Blacksod Point. *Lowest* value was 28·64 ins. at Shields on the 11th. Sumburgh Head went down to 28·84 ins. on the 8th, and to 28·87 ins. on the 15th. *Range* was moderate for the season, from 1·1 in. at Jersey and Scilly to 1·7 in. at Aberdeen and Shields.

Depressions.—The deepest disturbance moved across the northern parts of Ireland and England on the 11th, becoming much deeper on the North Sea next day, barometer about 28·3 ins. Shallow disturbances visited the English Channel region on the 2nd and 14th. With these exceptions the month's depressions had their centres well outside the Kingdom, on the Atlantic and round to Scandinavia in the first half, and over southern and eastern Europe later.

Anticyclones.—The central space of a high pressure system was over the Channel Islands on the 3rd, and after the 17th pressure was continuously highest off our western and northern coasts, but only on the 19th and 20th were there barometer readings above 30·5 ins. at a few of the extreme western stations.

Winds.—Southerly to Westerly winds prevailed in the first half, and North-Westerly to North-Easterly afterwards. Gales occurred on 9 days at Cockle Park, on 6 days at Trinity College, Dublin, and on 5 days at Blacksod Point and Laudale.

Temperature.—*Mean at sea level* ranged from 46° at Scilly to 37° at Sumburgh Head and Balmoral. The actual values were as a rule below the average*, the defect in most cases being less than 1°, but at Llangammarch Wells and Fort William it exceeded 2°. Several stations in Ireland and the east of England were slightly above their usual level, and Bawtry, Foynes and Waterford had an excess of 1° or more. *Highest* readings were recorded on the 7th or 17th over England, on the 16th in Ireland, and on very varied dates in Scotland. Cambridge, Lowestoft and Geldeston reached 67° on the 7th, Dublin (City and Trinity College) 60° on the 16th, and Leith 57° on the 30th. *Lowest* values occurred generally on the 13th or 14th, many stations in Scotland and in the north of England passing below 20°, Fort Augustus to 8°, Balmoral (10th) and Lairg 11°, Clathick and Fort William 12°. *Range* was large, 40° and upwards in many localities, 46° at Wokingham. At Pembroke and Holyhead it was only 21°. *Vapour Pressure* ranged from 0·26 in. at Blacksod Point and Roche's Point (6 p.m.) to 0·18 in. at Strathpeffer (9 p.m.). *Relative Humidity* ranged from 92 per cent. at Birr Castle (8 a.m.) to 75 per cent. at Shields (6 p.m.). *Mean Earth Temperature* at 1 ft. depth ranged from 39° at Sheffield, Newton Rigg and Lincoln to 44° at Markree Castle and Plymouth; and at 4 ft. depth from 40° at Newton Rigg and Nottingham to 44·5° at Bath.

Rainfall.—Precipitation was irregularly distributed, but was below the average* in most places. Generally the differences were less than an inch, but the deficiency at Stornoway was 2·4 ins., and at Killarney 2·3 ins., while Fort William had an excess of 1·2 in., and Glencarron 1·6 in. The largest aggregates were 9·5 ins. at Glencarron, and 7·8 ins. at Fort William, the smallest 0·6 in. at Saltburn-by-the-Sea. There were few instances of an inch or more in a day—on the 7th, Bettws-y-Coed and Stonyhurst; on the 10th, Arlington and Port Talbot; and on the 16th, in western Scotland. The days with precipitation ranged from 29 at Sumburgh Head to 10 at Chester and Glasgow.

Bright Sunshine.—The duration of sunshine was variable, most stations being above the average*, Prestwich having an excess of 47 hours, Birr Castle a deficiency of 32 hours. Falmouth totalled 165 hours, or 45 per cent. of the possible duration, Fort Augustus 68 hours, or 19 per cent.

Observations in the Upper Air.—Kite observations were obtained on the 1st (2), 2nd, 5th, 7th (2), 16th, 17th (2), 19th, 20th, 21st, 23rd, 27th, 28th and 29th. The results show that during the South-Westerly type the wind velocity at 1,660 ft. was 2·8 times, and at 3,320 ft. 3·5 times the velocity at the ground level; but during the North-Easterly type the velocity at 1,660 ft. and at 3,320 ft. was only 1·3 times, and at 5,000 ft. 1·7 times that at the ground level.

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* 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.

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