

SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH.

JULY 1901.

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General Summary.—Excepting at the beginning of the month, and in the fourth week, when thunderstorms and heavy rains occurred very generally, the weather of July was mostly fine, warm and dry, the conditions being, however, less settled in the western and northern districts than in the east and south. At several stations in Ireland and the west and north of Scotland the number of days with rain was twice as large, and at Blacksod Point three times as large, as at many places in England. Pressure was above the average; temperature also was above the normal, especially in inland parts of the north of Scotland; the winds varied considerably in direction; rainfall showed a large deficiency, except in some portions of Central and Southern England; bright sunshine was in excess of the average over Great Britain, but in defect over Ireland.

Pressure.—*Mean at 8 a.m.* ranged from 30·05 ins., or slightly above it, over the southern half of Ireland to 30·00 ins. and less in the north of Scotland, and on the south-east coasts of England. The distribution over our islands was distinctly anticyclonic, and the mean values were everywhere above the average,* the excess being small in the eastern, central and southern parts of England, but rather large (0·15 in. or more) in the north of Scotland. *Highest* readings were recorded either between the 6th and 7th or on the 31st, the barometer on each occasion rising to 30·3 ins. and upwards in Ireland and to 30·2 ins. and upwards in nearly all other parts of the Kingdom. On the latter date the mercury also exceeded 30·3 ins. in Wales and the west of England. *Lowest* readings occurred on the 24th or 25th, when the barometer fell to 29·5 ins. and less over the south-midland counties of England, and to 29·7 ins. and less on all but our extreme northern coasts. *Range* was somewhat small for the time of year in the north, but agreed fairly with the normal in the south.

Depressions.—Very few depressions of any importance were observed in our immediate neighbourhood. A noteworthy case occurred, however, between the 23rd and 27th, when a well marked system, after advancing briskly over our islands from the north-westward, moved slowly and in a very irregular manner over England, its progress being at first in an easterly, but afterwards in a westerly and south-westerly direction. On the 28th the depression apparently dispersed over the English Channel. The progress of this disturbance was marked by thunderstorms and heavy rains over nearly the whole of England.

Anticyclones.—Three such systems were observed. The first spread over Western Europe from the south-westward on the 4th, and was reinforced a week later by a new area which advanced from the Atlantic, the entire system breaking up, however, on the 14th. The second extended also from the south-westward on the 15th, but moved away to the north-eastward after the 19th. The third spread in from the Atlantic on the 29th, and remained over Western and Central Europe until the end of the month.

Winds varied considerably in direction, but were mainly from some Westerly point (South-West to North-West) in the north, and from some Northerly point (North-West to North-East) in the south. On all but our extreme western and south-western coasts there was an entire absence of gales, and even in those regions they were rare and of little strength.

Temperature.—*Mean at sea level* ranged from between 66° and 67° in many parts of Central and Southern England, from 64° and upwards in Central Scotland, and from 63° and upwards in the east of Ireland to 60° and less on our extreme western and northern coasts generally, and to 56° and less in the Shetlands. The summer type of distribution was unusually well marked, and over Great Britain the thermal gradient between inland and coast stations was much steeper than that shown by the normal chart. The mean values were everywhere above the average,* the excess amounting to between 4° and 5° at many of the inland stations in Great Britain, to 5·7° at Braemar, and to as much as 6·6° at Lairg. *Highest* readings occurred mostly between the 17th and the 20th, excepting at some places in the north of Scotland, where they were registered earlier in the month. In Ireland the thermometer did not get much above 80°, but in most parts of England it rose to between 85° and 90°, a reading of 91° being recorded at Cambridge, and a reading of 92° at Newton Reigny (Penrith), Bawtry and Colly Weston. In inland parts of the north of Scotland also some high readings were observed, the thermometer on the 8th rising to 85° at Nairn and 87° at Lairg. *Lowest* readings were recorded at various times, but mostly in the earlier half of the month; at several of our more northern stations the thermometer fell below 45°, the lowest values reported being 39° at Glenlee and 40° at Llandovery. *Range* was large, amounting as it did to between 40° and 45° in several parts of Great Britain, to 50° at Llandovery, and to 51° at Bawtry. *Vapour Tension* ranged from 0·51 in. at Pembroke, and from 0·47 in. and upwards on the east, south and south-west coasts of England generally, to 0·42 in., or rather less on our extreme north and north-west coasts. *Relative Humidity* varied from 94 per cent. at Sumburgh Head, and 90 per cent. and upwards at some of the more exposed coast stations in the east and south, to 80 per cent. or less over the central parts of Great Britain, and also at Roche's Point.

Rainfall amounted to considerably less than the average* over the United Kingdom generally, but showed an excess in many parts of Central, and in the inland portions of Southern England, the large amounts in those places being due, as a rule, to heavy thunder rains occurring between the 24th and 27th. The largest monthly aggregates reported were 4·7 ins. at Oxford, 4·5 ins. at Cheadle and 4·1 ins. at Glencarron; the smallest being 0·7 in. at Yarmouth, Malin Head and Roche's Point, 0·8 in. at Glenlee and Armagh, and 0·9 in. at Foynes. Amounts exceeding an inch in 24 hours were registered at many stations, the largest shown in the accompanying tables being 2·0 ins. at Churchstoke and 1·9 in. at Manchester (both on the 25th) and 1·6 in. at Oxford and Hereford on the 24th. During a severe and prolonged thunderstorm which prevailed in London on the 25th the rainfall in about 4 hours amounted to 1·98 ins. at Westminster and to 2·85 ins. at Camden Town; at Brixton the amount was only 0·92 in., while at the Greenwich Observatory it did not exceed 0·05 in.

Bright Sunshine was in excess of the average* over Great Britain, but was rather deficient in Ireland. The percentage of the possible duration ranged from 62 at Hastings, and from 55 or more on several parts of our eastern and southern coasts, to 25 or less at most of the Irish stations and also in the Orkneys, and to only 19 at Markree Castle.

* The averages employed are—*Pressure and Temperature* for the 30 years 1871–1900; *Rainfall* for the 35 years 1866–1900; and *Bright Sunshine* for the 20 years 1881–1900. (The averages will be published shortly as an appendix to the "Weekly Weather Report.")