

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

JULY 1890.

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General Summary.—The weather of July was exceedingly chilly and unsettled, with severe thunderstorms and exceptionally heavy falls of rain over the southern half of England. Pressure was below the average in the north and east, but fairly normal in the south-west; temperature was everywhere low for the time of year; the winds were mainly Westerly or North-westerly, with frequent slight gales over Ireland and England; and rainfall was considerably in excess of the average, excepting in Ireland, North Wales, and some portions of the west and north of England. The amount of bright sunshine was small, especially over central Scotland and the south of England.

Pressure.—*Mean for the Month at 8 a.m.* ranged from a little above 29·95 ins. in the extreme south of Ireland, the south-west of England, and the Channel Islands, to a little above 29·65 ins. in the Shetlands. The general distribution was of a fairly normal character, but the isobars had a trend favourable for winds from a somewhat more Northerly point than usual. As the values in the north and east were from 0·10 in. to 0·15 in. below, while those in the south-west were about equal to the average,* the mean gradient was more than ordinarily steep. *Highest* values were recorded on the 20th, when the readings varied from 30·1 ins. or more in the extreme northern and eastern parts of the country, to about 30·4 ins. in the south-west of Ireland. *Lowest* values were recorded as a rule on the 8th, but in some localities equally low readings were observed on the 1st; on each occasion the barometer fell to between 29·3 ins. and 29·7 ins. over the country generally.

Depressions were unusually numerous for the time of year, and in many cases their centres passed directly over the United Kingdom. The most important systems were those of the 5th and 17th, the centres of which moved along the Channel and afterwards travelled away to Denmark and Scandinavia. The passage of each of these disturbances was attended by heavy rain over our southern districts, the downpour in the latter case being of an exceptional character and accompanied by severe thunderstorms.

Anticyclones.—These systems were usually found either to the south-westward, southward, or south-eastward of our Islands. On the 16th, however, an anticyclone of irregular form spread northward (temporarily), and covered nearly the whole kingdom; while on the 20th another clearly defined system advanced over our Islands from the westward, and afterwards moved away to the south-westward.

Wind was chiefly Westerly or North-Westerly over Ireland and England, but in Scotland greater variability was shown, a considerable proportion of wind from North being reported in the Shetlands, and from North-east or East in the Hebrides. Gales were very numerous for the time of year over Ireland and England, as many as five being reported at Spurn Head, Yarmouth, Dungeness, Pembroke, Mullaghmore, and Valencia. On the Scotch coasts, however, there was only one.

Temperature.—*Mean at sea level* ranged from between 60° and 61° over central England and some of the inland parts of our southern counties, to a little below 52° in the Shetland Islands. In Map 3 relatively cold areas are shown over the north-west of Ireland and the south-west of Scotland. The mean distribution was therefore of the ordinary summer type, but the actual values were considerably below the average,* the deficit varying from about two to two and a half degrees at our western and northern coast stations to as much as three or four degrees in other localities. *Highest* readings occurred on somewhat irregular dates; over the inland parts of the kingdom they were observed as a rule between the 21st and 23rd, but in the extreme north of Scotland, the west of Ireland, and the Channel Islands the actual maxima occurred mostly on the 31st. The maxima were in all cases low for the time of year, the thermometer even at the central stations rising to very little above 75°. *Lowest* readings were also observed at varying times, but over England they occurred mainly on the 4th, 5th, or 12th; in the more central parts of all three kingdoms the thermometer fell below 40°, the lowest reading of all being 36°, at Llandovery and Markree Castle. Owing, however, to the lowness of the maximum readings, the *Range* was not large for the time of year. *Vapour Tension* ranged from 0·32 in. in the east of Scotland to 0·40 in. and upwards over the southern parts of the kingdom generally, to 0·45 in. at Scilly. *Relative Humidity* was below 80 per cent. over the east of Scotland and the central parts of England, but exceeded 90 per cent. in the south-west of England, and was as high as 95 per cent. in the Hebrides.

Rainfall amounted to less than 2 ins. in North Wales and some parts of western and northern England, but exceeded 4 ins. in many parts of our southern, eastern, and north-western counties, and varied from 6 to 9 ins. in the west of Scotland. Over England the largest quantities were 5 ins. at Plymouth and 4·9 ins. at Ingatestone and Arlington; at Laudale 6·6 ins. were recorded, and at Glencarron 8·9 ins. Over Ireland, the south-east of Scotland, North Wales, and portions of our western and northern counties, the total fall was less than the average,* but in all other localities there was a decided excess, the amounts in London and at Hastings being more than twice the average. The heavy totals recorded over the south of England were due largely to the serious downpour which accompanied the thunderstorms of the 17th; in the neighbourhood of the Thames Valley over 3 ins. were collected in the space of a few hours, and at Rickmansworth there was as much as 4·2 ins. The number of rainy days was rather large, especially in Ireland and Scotland; at Belmullet, Edgeworthstown, and Hawes Junction there were 25, at Glencarron 26, and at Stornoway and Markree Castle 27.

Bright Sunshine was very deficient, the per-centage of the possible amount of duration being below 40 generally and below 30 in Scotland and many parts of our southern counties. The highest per-centage values were 39 at Hastings and Douglas and 35 at Cambridge: the lowest were 13 at Fort Augustus and 24 at Braemar and Plymouth. In London there was only 27 per cent. of the possible amount.

* The averages employed are—*Pressure and Temperature* for 20 years, 1861–80; *Rainfall* for 20 years, 1866–85.