

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

JULY 1889.

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General Summary.—The weather of July was fine and bright at first, then colder, very changeable, and showery; thunderstorms were of frequent occurrence over England, and some of the local showers were exceedingly heavy (see fall at Rothamsted on the 12th). Pressure was slightly below the average, but the means were very uniform in value; depressions were not deep, nor were the anticyclones of great intensity. Wind was light and variable, and gales few in number, except at Dungeness.

Pressure.—*Mean for the month, at 8 a.m.*, varied from between 29·95 ins. and 30·0 ins. over the Channel, and from 29·96 ins. in the south of Ireland, to 29·89 ins. at Malin Head and the Scotch stations, and to 29·85 ins. at Sumburgh Head. Gradients were therefore very slight (*nil* over Scotland), and were favourable for Westerly winds over Ireland and England. Readings were lower than those for June by 0·14 in. to 0·17 in. over Scotland, and by 0·07 in. over the south of England, but by only a few thousandths of an inch in the Channel Islands; they were very slightly below the average* values for July, in all the southern districts, and equally little in excess in the north, the difference in each case being only a few hundredths of an inch. *Highest* values were recorded very generally between the 1st and 3rd, when the readings varied between 30·3 ins. and a little above 30·5 ins. *Lowest* were recorded on the 25th, when the barometer fell to less than 29·4 ins. on our north-eastern coasts and to less than 29·7 ins. all over the kingdom. *Range* was moderate—less than an inch in many places.

Depressions were moderately numerous but not deep. Those which passed directly over our Islands moved in an easterly or a north-easterly direction, the most important being that of the 24th to 26th; most of them, however, took a more northerly course on reaching Europe. One depression was first detected over northern Russia on the 3rd; it moved south-westward till the 5th, when it reached Prussian Poland, and then moved north-westwards to the south of Scandinavia. At 8 a.m. 8th it was near Skudesnaes, whence it travelled northwards and north-eastwards, passing out of our area on the 8th. (See Plate VII.)

Anticyclones.—Two well-marked anticyclonic systems passed directly over our area: one at the commencement of the month, the other between the 29th and 31st. The former gave us the highest pressures. Other such systems approached very near to the British Islands (*e.g.*, on the 18th), but did not advance over us.

Wind was chiefly North-westerly and Westerly over the southern half of the kingdom, but was very variable in the north. Its force was, as a rule, light to moderate, and calms were very numerous at Parsonstown and Nairn, rather so (for the regions) at Sumburgh Head, Stornoway, and Valencia. In the Channel the wind was stronger; the force of a gale was reported on seven days at Dungeness.

Temperature.—*Mean, at sea level*, over Great Britain ranged from rather above 62° over Hampshire, Surrey, and parts of Sussex and Devonshire, and from 60° and more over the southern half of England, to about 54° in the extreme north of Scotland, and to 53° at Sumburgh Head; in Ireland it ranged from 59° and more at Waterford and Foynes to 56°·4 at Markree Castle. It was slightly lower in almost all parts of the kingdom than that of June, and was lower than the average* for July in the 20 years 1861–80 by three or four degrees in Ireland, by one to two degrees over the greater part of England, but by still smaller values in Scotland. *Highest* values were recorded over Great Britain on the 30th or 31st, while the second anticyclonic system (referred to above) was passing over us; but in Ireland the maximum values were recorded more generally between the 4th and 6th. *Lowest* values occurred between the 8th and 11th over the western parts of the kingdom and between the 17th and 19th in most other places, but at several of the eastern and southern stations the lowest readings were observed on the 23rd or 24th. *Range* was not very considerable, amounting to 40° or more at a few inland stations only. *Vapour Tension* was less than 0·36 in. over the eastern half of Scotland and the north-west of England, and was less than 0·37 in. over the northern half of Ireland; further to the southward it was much larger, amounting to 0·43 in. at Dungeness and Prawle Point, to 0·47 in. at Scilly, and to nearly 0·50 in. at Hurst Castle. *Relative Humidity* at 8 a.m. varied from 74 to nearly 80 per cent. over the north-eastern and central parts of Great Britain, to 90 at the extreme northern and some of the extreme southern stations.

Rainfall was very slight during the earlier part of the month, but then became considerable, till by the end of the month it varied from less than 1·5 at several stations to more than 5·5 ins. at Rothamsted and Glenlee, and to more than 4·5 ins. at Arlington and Marchmont. The falls were mainly of a thunderstorm character, so that although in most regions the monthly totals were short of the average, those in other localities were largely in excess. At Rothamsted the great excess was due mainly to one heavy fall of 3·06 ins. on the 12th. Many of the stations had falls of more than an inch in one day, and Cambridge had 2·15 ins. on the 12th.

Bright Sunshine was less prevalent than in June, and was as usual greater at the southern and western coast stations than elsewhere. The largest amounts recorded were 49 per cent. of the possible duration at Jersey, 43 at Valencia, 42 at Douglas, Pembroke, and Falmouth, and 40 at Dublin and Hastings; the lowest were 20 at Glen Carron, 28 at Stornoway, Glasgow, and in London, and 29 at Oswald Kirk and Marchmont.

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