

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

DECEMBER 1899.

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General Summary.—The weather of December was cold and changeable, with hard frost in nearly all districts about the middle of the month, and sharp (though less severe) frost about the 27th and 28th. Snow fell very generally between the 8th and 14th, and again in the western and northern districts between the 21st and 29th, while in the west and south of Ireland there were frequent heavy falls of rain. Thunder and lightning occurred in the north of Scotland on the 27th, and on our south-west coasts generally on the 28th. Pressure was above the average in the north, but below it elsewhere: temperature was low excepting in Ireland, the south-west of England, and the extreme north of Scotland; winds were mainly from the Southward; rainfall was less than the average in most parts of England and the west of Scotland, but largely in excess in the west and south of Ireland; bright sunshine was rather deficient generally.

Pressure.—*Mean at 8 a.m.* ranged from 29.90 ins. and upwards over the south-east of England to 29.75 ins. and less in the extreme northern and north-western parts of the kingdom generally, and to about 29.70 ins. in the Hebrides. The gradient was somewhat slighter than the normal, and the distribution of pressure was favourable for winds from a more Southerly quarter than is usual in December. In Scotland the mean values were above the average,* but over England and Ireland they were below it, the deficiency being rather large in the south of Ireland. *Highest* readings occurred mostly on the 2nd, when the barometer rose to 30.4 ins., and upwards, over the entire kingdom; in the east of Scotland, however, the readings were equally high, and in some places a little higher, on the 21st. *Lowest* readings occurred on the 29th and 30th, when the mercury fell to 28.2 ins. at Scilly and to 28.5 ins. and less in all districts excepting the north of Scotland. In London the reading of 28.46 ins. at 5 p.m. on the 29th was the lowest observed since December 1886. *Range* was large—nearly two inches in most places, and still larger at many of our western stations.

Depressions.—Throughout all the middle portion of the month the Atlantic depressions were warded off by a large anticyclone which lay over northern Europe and which occasionally spread over a considerable portion of the United Kingdom. In several instances the depressions which appeared off our extreme western coasts split into two portions, one of these moving away to the northward, while the other passed southwards or south-eastwards to the Bay of Biscay and Spain. The only disturbance of any importance which advanced directly over the kingdom was that which passed north north-eastwards across our western and northern districts between the 29th and 31st, when the barometer fell, as has been already shown, to an unusually low level.

Anticyclones.—Two such systems were observed. The first spread over our islands from the westward on the 2nd, but soon moved away to the central, and finally to the southern parts of the Continent. The second was formed over northern Europe on the 6th and 7th and remained in that locality until about the 23rd, when it passed away to the eastward. On the 9th and 10th, and again between the 17th and 22nd, the system extended south-westward over a considerable portion of the United Kingdom. For some time, about the middle of the month, a second high pressure area was located over the Spanish peninsula and the neighbouring parts of the Atlantic.

Winds, though rather variable, were mostly from some Southerly point (South-east to South-west). Gales were rare in the east and south, but were rather numerous in the west and north; at Wick they occurred on 12, at Scilly on 13 and at Roche's Point on as many as 16 days.

Temperature.—*Mean at sea level* ranged from rather above 48° at Scilly, and from 45° and upwards on our extreme south-west coasts generally to 39° and less in the central parts of the north of Ireland, and to 35° and less in several distinct areas lying over the northern and eastern parts of Great Britain, the winter type of distribution being unusually well marked. The mean values were a trifle above the average* in Ireland and the extreme south-west of England as well as on the north coasts of Scotland, but below it elsewhere, the deficiency being greatest (three degrees or more) at stations in the east of Scotland and the west and north of England. *Highest* readings occurred on various dates between the 1st and 6th, when the thermometer rose to 55° and upwards in many parts of the kingdom, and to 61° at Dublin, the latter reading being the highest recorded in that city in December for at least 27 years past. *Lowest* readings occurred between the 14th and 16th excepting in Ireland and the north of Scotland, where they were registered between the 26th and 28th. On the former dates severe frost was experienced over Great Britain, the sheltered thermometer falling to 10° or less at several of the northern and central stations, to 8° at Braemar, Geldeston and Loughborough and to 5° at Hereford (Belmont). At Worksop the thermometer on the ground fell on the 14th to -7°. *Range* amounted to over 40° in many parts of Great Britain, and to as many as 51° at Hereford. *Vapour Tension* ranged from between 0.26 in. and 0.29 in. on our extreme south-west coasts to 0.18 in. over the central parts both of England and Scotland. *Relative Humidity* varied from 95 per cent. at Malin Head and 92 per cent. at Shields to 84 per cent. at Aberdeen and Valencia, and 81 per cent. at Jersey.

Rainfall.—In the west of Scotland and in all but the south-western parts of England the rainfall amounted to less than the average.* Elsewhere there was an excess, slight in many places, but very large in the west and south of Ireland. At Valencia the amount was half-an-inch in excess of that registered in any month since the record commenced in 1869, while at Roche's Point it was more than two inches in excess of anything recorded since 1868. The largest aggregates reported were 12.9 ins. at Roche's Point, 11.4 ins. at Valencia and 11.0 ins. at Blacksod Point; the smallest being 1.3 in. at Rothamsted, Oxford and London, 1.4 in. at Felixstowe and Cranley, and 1.5 in. at Cambridge. Amounts exceeding an inch in 24 hours were recorded at many of the western and northern stations; at Roche's Point there were four such falls, two of which exceeded an inch-and-a-half. Snow or sleet occurred over nearly the whole kingdom between the 8th and 14th, and again in many places between the 22nd and 30th.

Bright Sunshine amounted in most places to a little less than the average.* The percentage of the possible duration ranged from 30 at Aberdovey and 20 or more on the English and Welsh coasts generally to 10 or less at most stations in Scotland and the north-west of England, to 4 at Fort William and Glasgow, and to only 3 at Manchester (Prestwich).

* The averages employed are—*Pressure and Temperature* for the 25 years, 1871-95; *Rainfall* for the 30 years, 1866-95; and *Bright Sunshine* for the 15 years, 1881-95.