

SUMMARY OF OBSERVATIONS.

DECEMBER, 1902.

General Summary.—After a day or two of mild and very rainy weather a keen frost extended early in the month from the Continent over nearly the whole kingdom, while snow showers occurred in several parts of Great Britain. On the 12th and 13th a decided rise of temperature was experienced, the weather being at first wet and unsettled, but afterwards fair and dry, though mostly cloudy. In the closing week the conditions were stormy and rainy, and, after the 27th, snow fell in most districts. Thunder and lightning were reported on two or three occasions in the north of Scotland, and in North Wales and the Isle of Man on the 30th. On the morning of the 6th two small waterspouts were seen off Dungeness. Pressure and temperature were above the average; the winds were chiefly Westerly or South-westerly; rainfall was in excess of the normal in Scotland, but deficient in most parts of England and Ireland; bright sunshine was less than the average at all but a few of our north-western and extreme northern stations.

Pressure.—*Mean at 8 a.m.* ranged from 30·10 ins. and upwards in the Channel Islands, and from 30·05 ins. and upwards in the south of England generally, to 29·80 ins. and less in the north of Scotland, and to 29·75 ins. and less in the Hebrides. The general distribution over our islands agreed very closely with the normal, but the mean values were above the average,* and, as the excess was greater in the south than in the north, the barometric gradient was somewhat steeper than usual. *Highest* readings were recorded in most places on the 4th, when the barometer rose to 30·6 ins. and upwards in the east of Scotland and the north of England, and to 30·4 ins. and upwards on all but our extreme western coasts. *Lowest* readings were observed on the 29th or 30th, when the barometer fell below 28·3 ins. in the north of Scotland, below 28·5 ins. over Scotland generally, and below 29·0 ins. in all but our south-western districts. *Range* was large in the north (considerably more than 2 ins. in the north and east of Scotland) but moderate in the south.

Depressions.—Until the closing week the depressions observed in the neighbourhood of these islands were few in number, and, as a rule, of little importance. On the 25th and 26th, however, a system of considerable intensity (secondary to a larger disturbance which traversed the North of Scandinavia) moved rapidly eastwards from the neighbourhood of the Farøe Islands across Scandinavia and Russia, the earlier stages of its progress being marked by very strong Westerly to North-westerly gales on our own northern coasts. During the last four days of the month a well marked depression advanced over Scotland from the northward and moved slowly south-eastwards across the North Sea. This disturbance was originally of considerable depth, but in the course of its passage it gradually became shallower, and on the 1st January it filled up completely over north Germany.

Anticyclones.—On the 3rd a large anticyclone spread over the United Kingdom from Northern Europe, the central portion of the system being situated for the most part over the south of Scandinavia. After the 10th the area moved away in a south-easterly direction, its influence disappearing from these islands on the 12th. On the 19th and 20th another anticyclone spread over the kingdom from the south-west ward, its central portion being directly over England on the 22nd, after which the entire system drifted away to the eastward. A new high pressure area extended over our south-western districts on the 25th and 26th, but soon receded in a southerly direction.

Winds were chiefly from the Westward or South-westward, but in the southern parts of the kingdom there was a fair proportion of breezes from the Eastward, and in Scotland from the South-eastward. Gales were numerous, especially in the west and extreme north; at Wick they occurred on 13 days, at Stornoway on 16, and at Malin Head on as many as 18. The Westerly to North-westerly gale which blew over our northern districts on the 25th was severe in many places.

Temperature.—*Mean at sea level* ranged from a little above 47° at Scilly, and from 45° and upwards on our south-west coasts generally to 42° and less over central Ireland, to 41° and less at most stations in the northern and eastern parts of Great Britain, and to between 37° and 40° in inland parts of the north of Scotland. The general distribution over our islands was in close agreement with the normal, but the mean values were in nearly all cases above the average,* the excess varying greatly in amount in different places, but being upon the whole greatest in the north-east of England. *Highest* readings were recorded, as a rule, between the 14th and 17th, when the thermometer rose to 55° and upwards in most districts, and to 59° at Hollesley Bay, Llandudno, and Arlington. *Lowest* readings occurred mostly on or about the 7th, when the thermometer fell below 25° in all districts excepting the Channel Islands, and below 20° at many of our northern and inland stations; at Braemar and Loughborough the minimum on the 7th was as low as 14°. *Range* was moderate generally, but exceeded 35° in several parts of our northern and inland districts, and amounted to 42° at Loughborough. *Vapour Pressure* ranged from 0·26 in. and upwards on our extreme south-west coasts, to 0·22 in. and less over the northern and central parts of Great Britain generally, and to a little below 0·20 in. in the east of Scotland. *Relative Humidity* varied from 93 per cent. at Spurn Head and Dungeness, to 85 per cent. or less in the east of Scotland and the Shetlands, and to only 79 per cent. at Aberdeen.

Rainfall amounted to less than the average* in nearly all parts of England and Ireland, but exceeded the normal at most of the Scotch stations, and also in the extreme north of England. The largest aggregates reported were 12·4 ins. at Glencarron, 11·5 ins. at Laudale, and 7·0 ins. at Killarney; the smallest being 1·0 in. at Cambridge, 1·2 in. at Colly Weston, and 1·3 in. at Geldeston, Hereford, Rothamsted and Oxford. The number of days with rain was small over the eastern and central parts of England, but rather large on our extreme south-west, west and north coasts; at Valencia there were as many as 26 such occasions. Heavy falls occurred over the northern parts of Great Britain on the 1st and 2nd, in the western and northern parts of the kingdom generally on the 14th and 15th, and in the west and north of Scotland between the 25th and 28th. Snow showers were experienced in several parts of Great Britain between the 3rd and 5th, at some of the English stations on the 8th and 9th, in the north of Scotland on the 17th and 18th, and in many parts of the United Kingdom between the 28th and 30th.

Bright Sunshine was generally rather deficient, but exceeded the average at some of our north-western and extreme northern stations. The percentage of the possible duration ranged from 26 at Jersey and 20 or more on several parts of the English and Welsh coasts, to 10 or less at several places in the northern parts of Great Britain (and at Valencia) and to only 4 at Edinburgh and Glasgow.

* 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. See appendix III. "Weekly Weather Report," 1901.