

MONTHLY WEATHER REPORT.

FEBRUARY 1884.

SECTION I.

GENERAL SUMMARY FOR THE MONTH.

THE weather experienced during the month of February was on the whole quiet and mild for the time of year, the winds reported were light or moderate in force, and temperature slightly in excess of the mean. The distribution of pressure was favourable for the prevalence of winds from between S.E. and S.W., and, as the direction of those actually experienced alternated between these points the temperature varied somewhat—being lowest with the South-easterly and highest with the South-westerly current. No great extreme of heat or cold was recorded, so that the total range was small, but a sudden and singular fall of the thermometer took place on the 10th during the prevalence of a gale from the South-westward, and the change was accompanied by a considerable fall of snow in Ireland, and a smaller quantity in many other places. (*See below.*) The fall of rain during the month was very large over the south-western parts of the kingdom, and rather large in the western and north-western districts generally, but in the east of England the amount recorded was very far short of the normal quantity for February. The proportion of bright sunshine increased steadily each week as the month advanced, but was never very large. (*See Weekly Weather Report, Nos. 5 to 8.*)

February 1-5.—During this interval westerly gradients prevailed generally over the British Islands and their neighbourhood, as will be seen on referring to the charts in the Daily and Weekly Weather Reports for this time. The weather was therefore mild on the whole, but on the 1st and 2nd there was a temporary break caused by the advance of the cyclonic system (No. VIII., p. 20) which produced an interval of winds from N.E. and N. over the British Islands and North Sea, accompanied by a fall of temperature and cold rain. By the 3rd, however, this disturbance had disappeared, an anticyclone (No. III., p. 22) was formed in the south-west, and after moving eastwards to France, spread northward over the British Islands and the German Ocean, while the barometer remained lowest in the north. On the 3rd a large and apparently well formed depression appeared off the west of Norway and moved slowly in about a north-easterly direction. Its centre was at too great a distance from our islands for the system to exert any great influence on our winds or weather, and its distance from the Scotch and Norwegian coasts too great for its movements to be shown on Map 2, Plate V. Another centre appeared near Christiansund on the 6th, but the system either dispersed in that neighbourhood or travelled away quickly to the northward.

February 6-8.—The anticyclonic system over France was now increasing considerably in size and spread northwards over the southern part of the British Islands and North Sea. A very small and shallow depression appeared in the south-west on the 6th, and travelling slowly to the eastward reached the neighbourhood of Lorient early on the 7th, and at the same time a new (but small) anticyclonic system showed itself for a few hours off the west of Ireland, so that although Westerly breezes still prevailed in most places, a light Easterly current was felt temporarily over the southern parts of England and Ireland. Temperature fell decidedly, especially in the east and north; but both the small depression and the new anticyclone dispersed quickly, and on the 8th the large anticyclone in the south-east spread more completely over the United Kingdom.

February 9-14.—The type of weather during this interval was Southerly to South-westerly, and as pressure gave way rapidly at the Western stations the gradients soon became steep, the wind freshened, and temperature rose. Late on the 8th, and again on the 9th-10th large depressions appeared to be passing outside our extreme West and North-west coasts, the first moving in a northerly and the second in a north-easterly direction. The effect of the former was confined almost exclusively to the most westerly parts of the Kingdom, but the latter produced Southerly and South-westerly gales of great strength at nearly all our stations (*see* Cyclonic System No. IX., p. 20). Temperature at first rose considerably, rain fell in the West, and a thunderstorm occurred in the South-west of Ireland. On the 10th, however, a remarkable change occurred; for although the wind did not veer to the westward of W.S.W. anywhere, and in many places continued to blow steadily from S.S.W. or S.W., the thermometer fell rapidly, and showers of snow, sleet, and hail were experienced very generally in the west and south: even in London wet snow fell on the morning of the 10th, and a sharp thunderstorm passed over about 11.30 a.m. (*see* The Daily Weather Reports for the 10th and 11th). This sudden fall of temperature, with its accompaniment of snow, sleet, and hail is very curious, for as the wind remained steadily to the Southward of W., and was strong in force, neither the temperature of the ocean surface, whence the wind came, nor any influence of the land over which it was passing appears to have been competent to produce such peculiarities. Even if there had been great nocturnal radiation, the velocity of the wind at the time would preclude the idea of any great effect being produced thereby on the air temperature; but, as a fact, a good deal of snow fell in Ireland during the night, and consequently such radiation could scarcely have occurred. On February 12th (pressure being then high over France, Germany, and South-eastern Europe) another depression approached the West of Ireland from the Atlantic. Southerly gales and much rain again set in on our Western Coasts, and temperature rose quickly in the East and South; the weather, however, was fair, and mild generally. The Continental high pressure area continued to increase both in size and intensity, and spread Northwards over the Baltic and Scandinavia, so that the depression could not advance over our islands, but passed Northwards (if not North-north-westward), and the gale lulled while the barometer rose generally.

February 15-18.—This was a period in which the type of weather and of pressure-distribution was South-easterly. It was brought about by the continual Northerly movement of the continental high pressure area referred to in the last paragraph, and the formation of a subsidiary anticyclone (No. IV. p. 22) over Scandinavia, accompanied by some reduction in pressure to the South-westward of our islands and over the Bay of Biscay. Temperature fell as the change took place, and for a time the air became rather cold over the eastern and midland parts of England. The great strength of the South-easterly winds at our western and northern stations on the 15th and the general trend of the isobars over our western districts appear to indicate the existence of large areas of low pressure over the Atlantic, one of which lay far away to the south-westward of Cape Clear. The distance of its centre from our Islands was, nevertheless, far too great for its position to be marked, even approximately, on Map 2, Plate VI., but its motion was apparently Northerly and slow. As it advanced the wind began to veer again with a rising temperature, and a gradual encroachment of rainy weather from the Atlantic as the European anticyclone moved slowly southwards, and the 19th found us with Southerly breezes blowing all over the kingdom, and exhibiting a tendency to veer to the South-westward.

February 19-22.—During this period the relative distribution of pressure altered slowly, the gradients being first southerly and then south-westerly. The highest pressures lay over Germany, Austria, and Switzerland, but the northern part of the high-pressure area still stretched northwards as a "ridge" over Scandinavia and the Baltic, while the lowest pressures lay to the westward of Ireland; the gradients were moderate. The weather had again become very mild generally, and was fine and bright. On the evening of the 20th a small depression (No. X.) advanced rapidly over Ireland from the southward, and travelling very quickly to the northward had passed the Hebrides by 8 a.m. on the 21st, whence it disappeared in a

northerly direction. The disturbance, though small, was apparently deep; for the observer at Roche's Point reports that the barometer, which at 6 p.m. on the 20th stood at 29·12 ins. fell to 28·80 ins. by 10.10 p.m., and rose again to 29·18 ins. by 11.30 p.m. It is probable that the reading at 10.10 p.m. was almost the lowest point reached, as the wind, which had blown a strong gale from S.S.W. between 5 p.m. and 10 p.m., veered to N.W. in a heavy squall at 10.30 p.m. and the barometer then rose quickly. The effect of so deep a depression acting as subsidiary to a still larger disturbance in the far west, was very decided; severe Southerly gales were felt on nearly all our western and northern coasts during the night of the 20th-21st, and at Holyhead 88 miles of wind passed over the anemometer from S.S.E. between midnight and 1 a.m. As the disturbance passed off pressure recovered rapidly on our north-western coasts, but continued to give way slowly elsewhere.

February 23-25.—The distribution of pressure now became more complicated, the readings being relatively high both over northern and southern Europe (see the Charts in the Daily and Weekly Weather Reports for this time). South-easterly winds consequently prevailed over Scandinavia, Southerly and South-westerly over our Islands, and Southerly to Westerly in France. Temperature was rather low except in the south and south-west, and the weather became showery generally. At 8 a.m. on the 23rd the depression No. XI. lay near Denmark, while the cyclonic system No. XII. was advancing towards our north-western coasts. The behaviour of these disturbances was very different to that noticed with Nos. VIII. and VIIIA. on the 1st and 2nd of the month (*see* p. 16.); for as the new depression (No. XII.) advanced to the Eastward it completely absorbed the older one (No. XI.), and continuing its easterly movement travelled away from our area, leaving us with a rising barometer, falling temperature, lulling North-westerly to Northerly winds, and fine weather.

February 26-29.—The recovery of pressure in the rear of depression No. XI. resulted in the formation of a new anticyclone (No. V.), to the northward of our islands and its advance in an easterly direction to Scandinavia. Pressure immediately gave way somewhat over our south-western counties, the Bay of Biscay, and France, and gradients for South-easterly to Easterly winds were thus again established over the United Kingdom, and winds from those quarters set in (*see* the Weekly Weather Report, 1884, No. 9). These conditions continued till the end of the month. Temperature fell generally, and cold showers were reported at times in many parts of the country. At the close of the month a bright display of aurora was reported from our northern stations.