

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS.

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FEBRUARY, 1922; Mostly Mild and Unsettled.

Except for about a week during the earlier part of the month when anticyclonic conditions prevailed, the weather of February was influenced by Atlantic depressions. Mild and unsettled conditions consequently predominated, although there were considerable fair periods at intervals.

On the 1st of the month a wedge of high pressure in the rear of a shallow low pressure trough was succeeded by a depression which advanced rapidly from the west. Under the influence of this depression temperature rose to 50°F. or above in many parts of central and southern England and from 10mm. to 15mm. of rain were recorded in several districts. A linesquall travelled across the south-east of England on the 2nd and was associated with thunderstorms in London and parts of southern England during the afternoon. On the 4th conditions in the south-east underwent a marked change under the influence of an anticyclone spreading south-westwards from Scandinavia. Following a mild night temperature dropped suddenly during the morning, and snow and sleet fell steadily during a great part of the day over eastern England. The maximum temperature at Cranwell, Gorseston and Pulham was only 30°F. A thunderstorm occurred in the Channel Islands at 13h. Snow fell in most districts in Scotland on the 4th and 5th, but was most severe in the east. The Scandinavian anticyclone dominated the weather over the east of Great Britain for several days, causing a spell of dry and cold weather. Frost continued all day over eastern England on the 5th, and during the succeeding night Benson reported a screen minimum of 19°F., South Farnborough 16°F. and Cranwell 15°F. From the 10th to the 13th very bright weather prevailed over the southern districts of England with daily records of sunshine between seven and eight hours. Under the influence of Icelandic depressions the weather continued mild in the extreme west of Ireland with maximum temperatures of about 50°F. On the 12th a decided fall of pressure set in over western Europe. The anticyclone moved towards the east and was followed by a trough of low pressure which extended from the east of Iceland across the British Isles to the Bay of Biscay. This was succeeded by an anticyclonic ridge which was accompanied by frost over the inland districts of England on the night of the 13th-14th. Subsequently the whole of the British Isles was affected by a depression situated off the south-west of Iceland and the weather became mild and unsettled. The general distribution of pressure remained practically unchanged during the remainder of the month, continuing low in the Icelandic region and high towards the south-east. A well-developed secondary depression which was situated over the east of Scotland during the early hours of the 18th was followed by a north-westerly air current and a marked decrease of temperature. Many hours of bright sunshine were recorded on this day exceeding eight hours over the southern districts of England. On the morning of the 19th a very deep depression approached our north-western districts from the Atlantic. It subsequently decreased in intensity, but remained practically stationary for several days. Secondaries associated with this depression travelled across the British Isles. Much hail, sleet and snow were reported from the Atlantic. Thunderstorms occurred on our western seaboard on the 21st. From the 23rd to the 25th the south-westerly current over the British Isles was drawn from the region of the Azores and was accompanied by remarkably high temperatures, exceeding 55°F. over a wide area. In Scotland on the 24th, it reached 58°F. at Banff and 60°F. at Gordon Castle. On the coast of North Wales 62°F. was recorded on the 25th. A maximum temperature of 61°F. at Nottingham on the latter date has only once been exceeded in February during the last fifty years. Associated with secondary depressions the weather remained unsettled during the remainder of the month, and heavy falls of rain occurred in the western districts. Valencia Observatory recorded 21mm. on the 24th and 20mm. on the following day. General but less heavy falls occurred further east with considerable fair intervals, about 10 hours of bright sunshine being recorded at Felixstowe and Clacton on the 25th. In the English Channel, South Wales and the Atlantic seaboard strong winds and gales were frequent. At western

coast stations thunderstorms with local hail occurred on the 26th, 27th and 28th. Thunderstorms occurred rather widely in Scotland about this time.

The variable character of the month is illustrated by the following notes by observers. Tenbury (Worcester).—Very wintery from the 5th to the 18th, then mild, wet and windy to the end. Ipswich (Suffolk).—In spite of the spell of cold weather early in the month, the mean temperature is nearly a degree above the average. Carrigoran (Co. Clare).—The weather throughout this month has been exceedingly bad, but especially so from the 14th to the end of the month. Dublin.—February proved to be a very changeable month, the weather being for the most part of a cyclonic and oceanic type. Atmospheric pressure was generally in an unstable condition. There were sudden fluctuations of temperature, and precipitation, while not heavy, was of frequent occurrence.

Air Pressure.—The general trend of the isobars was in accordance with the normal, but pressure was everywhere deficient. The gradient was much steeper than usual. The tracks of the majority of depressions lay considerably to the north-west of the British Isles. The only well-defined depression which passed directly across any part of the Kingdom was that which travelled across Scotland on the night of the 17th-18th. At the telegraphic reporting stations the departure of the monthly means of pressure from the normal varied from—1.4mb. at Jersey to—8.9mb. at Castlebay. The highest reading recorded during the month was 1034mb. at Yarmouth and Felixstowe on the 10th and the lowest 977mb. at Malin Head on the 2nd and at Stornoway on the 21st.

Temperature.—With the exception of England north-east, where there was a slight deficiency (0.1°F.) and Scotland east where the normal temperature was recorded the mean of the month was everywhere above the normal. The excess ranged from 0.6°F. in Scotland north to 2.1°F. in Ireland north.

Precipitation.—Precipitation was above the normal over nearly the whole of the British Isles, but there was a deficiency in the English Lake district, in the extreme north of Scotland, and in the south-east of Ireland. Areas with an excess of 150 per cent. embraced a very large area including nearly the whole of Wales, central England, the north-western half of Ireland and the extreme west of Scotland. In Shropshire more than twice the normal fall was recorded. Areas with less than 50mm. of rain were small and were confined to the south-east of England and locally along the extreme eastern coasts of England, Scotland and Ireland. The total precipitation in the mountainous districts exceeded 250mm., and as much as 500mm. was recorded on Snowdon. In the east of Scotland, especially in the valleys of the Tay and Dee, considerable damage was caused by flooding. This was due to the heavy rainfall that occurred towards the end of the month and the melting of snow on the surrounding hills, which followed the unusually heavy rainfall during January. At Perth it was the severest flood experienced for several years. The general rainfall for the month expressed as a percentage of the normal was:—England and Wales 148: Scotland 124: Ireland 138: British Isles as a whole 138.

Sunshine.—Except in Scotland insolation was above the normal. The departure from the normal ranged from—0.48hr. per day in Scotland east to +0.82hr. per day in England east.

Optical Phenomena.—Solar and lunar halos were frequently observed in different parts of the country. A parhelion was seen at Oxford on the 2nd, and a brilliant circum-zenithal arc at Lympne on the 21st. The zodiacal light was seen on several occasions at Tenbury, Oxford and Ross-on-Wye. Aurora was observed on various occasions, notably on the 1st of the month. It was also seen at Seskin (Carrick-on-Suir) on the 4th.

NOTE:—The article by Mr. S. C. Russell, in the *Meteorological Magazine* for March has been utilised in the preparation of this summary.