

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

BRITISH METEOROLOGICAL AND MAGNETIC YEARBOOK. PART II.

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

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SEPTEMBER, 1921; MOSTLY FINE AND WARM.

The fine and warm weather, which has proved so characteristic a feature of the present year, but which received a temporary check during August, was again in evidence during the greater part of September.

The last of a series of depressions which had travelled across the British Isles during August was situated off the north-west of Ireland during the opening hours of September and brought rain to all districts. As this depression travelled away in a north-easterly direction towards Scandinavia a marked improvement set in, especially over the southern districts where the conditions became anticyclonic. In south-east England there were about ten hours of bright sunshine for many days in succession, which were accompanied by a gradual increase of afternoon temperatures. On the 4th, maxima reached 29.7a and on the 6th 30.0a, whilst on the 9th a temperature of 30.3a was recorded at Southend. With clear skies there was considerable nocturnal radiation, and ground frost occurred locally on the 4th. The diurnal range of temperature was large and exceeded 22a at many inland stations. The night of the 9th-10th was unusually warm, the temperature remaining above 28.9a at many stations in the south and south-east of England. A depression which appeared off the north-west of Ireland on the 4th brought unsettled weather to the northern districts, but fine weather continued in the south until the 10th.

A depression which lay off the north-west of these islands on the 9th travelled in an easterly direction and proved to be the precursor of less settled conditions over the whole kingdom. On the 10th maxima were 10a lower than on the previous day and rain became general. On the night of 11th-12th a well marked secondary depression passed rapidly up the Channel and caused severe gales and thunderstorms over a wide area. In London 50mm. of rain were recorded early on the morning of the 12th. During the greater part of the succeeding week with pressure high in the Icelandic region conditions were favourable for the passage of depressions across these islands. One which travelled across Scotland brought rain to most districts and caused gales in the Channel. Heavy precipitation was usually confined to the north and north-west. On the 16th and 17th a shallow depression which travelled northwards from Spain caused strong easterly gales in the Channel and a thunderstorm at Jersey with 22mm. of rain. After the 15th the Icelandic anticyclone gradually drifted towards the east and with conditions becoming favourable for depressions to pursue a more northerly course, the weather gradually improved over the southern parts of the kingdom. Morning mist and fog were prevalent, especially in the south and south-east of England, and on the 19th a dense gloom was experienced over a wide area. A thick fog continued all day at Scilly and Pembroke on the 22nd. Except in the extreme north-west where the influence of occasional depressions in the neighbourhood of Iceland was felt, conditions were anticyclonic for the remainder of the month. The days were mostly warm and sunny, the nights cold and sometimes frosty. Ground frosts occurred locally towards the end of the month.

In London (Camden Square) the mean temperature was 28.8a or 1.6a above the average. This was the thirteenth successive month with a mean temperature in excess of the normal.

In Scotland changes of temperature were well defined, and as might be expected were highest during the northward extension of the southern anticyclone during the early part of the month. A temperature of 30.0a was recorded at West Linton on the 9th. The nights during this period were very warm. A reaction occurred with the approach of a depression towards the north-western coasts on the 9th, and cooler and less settled weather became general. The lowest readings occurred over an extensive area on the 12th and 13th and locally on the 17th. The nights were on the whole mild. The lowest temperature recorded anywhere during the month was 27.2a at Balmoral on the night of the 11th-12th, and at Fort Augustus and Strathpeffer on the night of the 17th-18th. In nearly every September during the last sixty years the thermometer has fallen to some lower level. The month was in many districts the warmest since 1901, though in 1906 and again in 1917 it was nearly as warm. Rainfall, which was general at the beginning of the month and was followed by dry weather during the anticyclonic period, again became prevalent from the 9th to the 14th. On the 10th at Glen Etive in Argyll 58mm. were recorded, and 25mm. at Greenock and Langholm on the 13th. During the latter half of the month many districts were practically rainless, though Icelandic depressions caused unsettled weather in the north on the 21st and 25th. Except in the far north aggregates were everywhere deficient, especially in the east. The total rainfall of 24mm. at Aberdeen was the least received in any September during the last fifty years with the exception of 1894 when the total fall was only 15mm. At many stations the greater part of the month's total was accounted for by heavy falls on the 1st and 13th. On the former

date thunder occurred in several districts. Thunderstorms also occurred at Fort William and Oban on the 10th. The duration of bright sunshine was above the normal in the south but deficient towards the north. At Deerness it was the most cloudy September experienced during the last forty years with the exception of 1913.

In Dublin, with the exception of a broken spell from the 9th to the 14th, the month was on the whole fine and warm. Nearly half the total rainfall for the month was registered on the 12th when there was a fall of 16mm. Both in the north and south of Ireland temperature and sunshine were above the normal, but there was a marked deficiency of precipitation.

The following notes by observers illustrate the generally warm and dry character of the month and the persistent nature of these characteristics during the present year. IPSWICH (*Suffolk*).—The smallest number of wet days in any September here during the last twenty years, the previous lowest being six days in 1911. The mean temperature of 28.8.2a is the highest in the past twenty years, except 28.8.4 in 1911. The total rainfall for the year now amounts to 254mm. on 78 days, compared with the previous lowest in 1911 of 297mm. on 102 days. RAUNDS (*Northants*).—On the 8th and 9th a maximum temperature of 30.2a was recorded, the latter being the twenty-third day this year with a temperature of 30.0a or above. TOTLAND BAY (*Isle of Wight*).—The eighth month in succession with less than the normal rainfall.

Air Pressure.—The general distribution of pressure was of a somewhat unusual type, and was everywhere in excess of the normal. This was especially the case in the south-east of the kingdom which was included in the central area of an anticyclonic wedge embracing central Europe. The tracks of nearly all depressions lay to the north-west of these islands. The most striking exception was that of a well developed secondary which appeared off Lands End on the evening of the 11th (see Map track E) and travelling rapidly up the Channel was centred over London at 1h. on the 12th and had reached the Netherlands at 7h. It was associated with torrential rain exceeding 50mm. in parts of London. Tottenham registered 53mm. At the telegraphic reporting stations the departure of the monthly means of pressure from the normal varied from +4.4mb. at Yarmouth to +2.4mb. at Nairn. The highest reading recorded during the month was 1037mb. at Lerwick and Aberdeen on the 18th, and the lowest 980mb. at Lerwick on the 11th.

Temperature.—The mean temperature of the month was above the normal in all districts. The excess ranged from 0.2a in Scotland North to 1.7a in England East.

Precipitation.—The rainfall of the month was below the normal over practically the whole of the British Isles. Less than half the normal amount fell in the districts bordering the south coast and over the greater part of England and North Wales. There was an excess in the extreme south of Wales and over most of the Thames Valley, mainly due to the thunderstorm of the 11th-12th when from 25-50mm. fell over a wide area. In Scotland the deficiency was most marked along the east coast, where less than half the average fall was registered. The rainfall in Ireland was everywhere below the average, but approached it most closely in the central plain. Areas with less than 25mm. were confined almost entirely to England, especially the south and east coasts and on the Welsh border. Monthly totals of more than 100mm. fell locally in Wales, the English Lake District and Kerry, and over a considerable area in the north-west of Scotland. More than 250mm. fell at Loch Quoich. At Loch More as much as 84mm. were registered on the 3rd. For eight successive months less than half the average has fallen over a large area in south-east England. The general rainfall for September, expressed as a percentage of the average was: England and Wales 54; Scotland 81; Ireland 53; British Isles 64.

Sunshine.—Insolation was above the normal in all districts with the exception of Scotland North where there was a deficiency of 0.79hr. per day. The excess ranged from 0.17hr. per day in Scotland East to 1.32hr. in England North-West.

Optical Phenomena.—Solar halos were frequently reported from different parts of the kingdom and lunar halos were seen at Oxford on the 9th and 12th. A parhelion was observed at Oxford on the 12th. Lunar rainbows were observed at Ross on Wye on the 10th, at Rothesay and at Eskdalemuir on the 14th, and at Eskdalemuir again on the 15th. Aurora was seen at Lerwick, Deerness and Wick on the 28th, and at Lerwick again on the 29th.

