

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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MARCH, 1922. Mild at first, then colder. Much wind.

During the first week of March a south-westerly type of pressure distribution prevailed, the weather being mild and unsettled. Strong winds and gales were frequent and culminated in an unusually severe gale over southern England on the morning of the 8th. Subsequently pressure was high to the north and west of the British Isles; easterly or northerly winds predominated and there was little or no precipitation. The coldest weather was experienced towards the end of the month when there were frequent showers of sleet, snow, or hail.

On the first day of the month a depression was situated between Scotland and Iceland and a secondary to this depression lay over our south-west districts. Gales and strong winds were experienced over southern England. A gust of 55 miles per hour was recorded at Kew Observatory, Richmond, in the early morning, and during the day a line squall caused a fall of 6°F. at this station. Gales were again recorded on the 3rd and on the night of the 5th-6th. Temperature fluctuated considerably during this period but was generally above the normal. The maximum at Benson, Gorleston and Pulham was as high as 59°F. on the 3rd. There was considerable precipitation at times, Penzance recording 30mm. on the 1st, and Eskdalemuir 26mm. on the 5th. On the morning of the 8th a depression of exceptional violence swept across southern England and caused much structural damage. (See map track C). On the morning of the 7th, this depression was identified in mid-ocean. Subsequently it became much deeper, and as it passed Plymouth on the succeeding morning the lowest pressure was 970mb. Wind velocities in southern England, and especially in the western Channel, were abnormally high, and gusts of over 100 miles per hour were recorded. The maximum at Pendennis Castle (Falmouth) was 103 miles per hour and was equal to the record for England obtained there in March, 1905. In the Scilly Isles a speed of 108 miles per hour was attained and was the second highest value recorded by anemometers in the British Isles, the record having occurred at Quilty, Co. Clare, on January 27th, 1920, when a gust of 110 miles per hour was registered.* By 13h. on the 8th the depression which had travelled rapidly towards the east was centred off East Anglia and was followed by northerly to north-easterly winds as an anticyclone advanced from the Atlantic. By the 13th this had become established over our northern districts. With the exception of occasional rain in the south-west, associated with a depression in the region of the Bay of Biscay, there was little or no rain between the 11th and the 19th; the largest amounts being 12mm. at Paignton and 10mm. at Plymouth. Temperature fell considerably and severe frosts were experienced during the night on several occasions. On the night of the 10th-11th the minimum temperature on the grass at South Farnborough fell to 15°F. and the screen reading at the same time was 21°F. By the 20th the weather conditions over the whole of the British Isles had become much more unsettled. Pressure was high in the Icelandic region and shallow depressions lay over the Continent. Cold northerly winds prevailed accompanied by hail, snow and sleet showers. Falls of snow were recorded even as far south as the Scilly Isles. The falls in the north were, however, much heavier than elsewhere and drifts many feet in depth were formed. On the night of the 20th-21st frost was general, the minimum on the grass being 14°F. at Benson, and 10°F. at Plymouth. Severe frost was again experienced in the eastern and south-eastern districts on the 24th. Screen minima fell to 20°F. at Grain and Shoeburyness, and at the latter station 12°F. was recorded on the ground. On the succeeding days the maximum temperatures were low. The highest reading at Lympne and Tunbridge Wells on the 22nd was only 34°F. A depression which lay off the south of Iceland on the morning of the 24th produced a temporary change of type accompanied by a south-westerly air current over the greater part of the British Isles. It travelled in a south-easterly direction across the country during the succeeding days and was accompanied by showers of hail and sleet, with a return to northerly winds. On the 31st with the development of a depression off the south-west coasts and a rise of pressure in the north, an easterly current became general. Maxima on this day

fell to 40°F. or below, except in the south-west, and severe frost was experienced over a wide area on the previous night.

The following notes by observers illustrate the general characteristics of the month. Ipswich (Suffolk).—An unsettled month with the exception of a few fine days between the 9th and 18th: on the whole it has been a fairly typical month for the time of year. All vegetation is extraordinarily backward. Tenbury (Worcester).—Cold stormy month. Run of easterly winds. Vegetation and trees completely checked right through the month. Totland Bay (Isle of Wight).—March 8th. Many trees uprooted and roofs damaged. Redruth (Cornwall).—Very severe gale early morning of 8th. Much damage done in many places. Dublin.—A cold comparatively dry month. The 31st stands out as probably the most severe day of the past winter. In the afternoon a veritable blizzard raged for some hours.

Air Pressure.—The general trend of the isobars was abnormal. The usual south-westerly type of pressure distribution was replaced by a shallow north-westerly type. In contradistinction to February when the majority of depressions lay considerably to the north-west of the British Isles, the tracks of several depressions passed directly across the country. The windy nature of the first and last weeks is thus completely masked on the pressure map. At the telegraphic reporting stations the departure of the monthly means of pressure from the normal varied from +3.0mb. at Castlebay to -2.8mb. at Jersey. The highest reading recorded during the month was 1036mb. at Tynemouth on the 13th and the lowest 969mb. at Portland Bill on the 8th.

Temperature.—In all districts of England and Wales temperature was below the normal but over the greater part of Scotland there was an excess. In Ireland the mean temperature of the month was in accordance with the normal. The departure of the monthly means from the normal ranged from +0.9°F. in Scotland north to -0.9°F. in the Midland Counties and England south-west.

Precipitation.—The rainfall of the month was generally below the normal especially in Scotland and Ireland, but the actual distribution was normal in type. The area with an excess of precipitation was mainly in the south-west of England and South Wales. In Shropshire, Herefordshire, Devonshire and Cornwall an excess of more than 20 per cent. was recorded. There was also an excess along the eastern and southern coasts between Sussex and Lincolnshire. Less than the normal occurred in the centre and north of England and in North Wales, but the deficiency was nowhere large. Locally thunderstorms occurred on the 2nd and again on the 27th and 28th in the south of England. In Scotland there was in general a moderate to very decided deficiency, although at one or two scattered areas in the north and east aggregates were slightly above the normal. Thus Grantown-on-Spey had 116 per cent. of the normal; but Dumfries 76, Fort William 64, Inverary 54 and Colmonell only 48 per cent. Snow fell in the eastern and southern districts from the 19th to 21st, heavy falls being reported at several stations. Thunderstorms occurred locally in the west on the 1st and 4th. In Ireland the total precipitation was everywhere deficient, especially in the east of the country. Less than half the normal was recorded in the extreme south-east. The general rainfall for March, expressed as a percentage of the average was:—England and Wales 103; Scotland 76; Ireland 72; British Isles 86.

Sunshine.—Over the western half of the United Kingdom there was an excess of insolation, but in the east there was everywhere a deficiency. The departure from the normal ranged from +1.11 hrs. per day in Ireland north to -1.18 hrs. per day in England north-east.

Optical Phenomena.—Solar and lunar halos were frequently observed in different parts of the country. Parhelia were seen at Oxford on the 2nd, 18th and 25th, and at Aberdeen on the 22nd. The Zodiacal Light was seen at Stonyhurst on the 28th, and at Oxford and Tenbury on various dates. Aurora was observed at Durham on the 31st and at Seskin (Carrick-on-Suir) on the 28th. It was observed rather widely in Scotland on each day from the 1st to the 5th; and at various stations from the 17th to 20th and again on the 29th and 30th. At Lerwick Observatory although aurora was frequently reported, the month was generally unsuitable for obtaining auroral results as the northern horizon was usually clouded.

* With reference to these records the *Meteorological Magazine* for May should be consulted.

NOTE:—The article by Mr. S. F. Witcombe in the *Meteorological Magazine* for April has been utilised in the preparation of this summary.