

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS IN THE UNITED KINGDOM, AND AT GIBRALTAR AND MALTA, WITH A CHART OF RAINFALL CONTRIBUTED BY THE BRITISH RAINFALL ORGANIZATION.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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A Cold Month, with some Snow, but little Rain.

The year 1917 opened with a long spell of cold weather which lasted until nearly the end of April. It closed with four weeks of like severity, but it may be noted that this cold spell was not to last without interruption beyond the third week of January 1918.

The following notes are typical of the remarks of observers in various parts of the country:—

Tenbury, Worcestershire.—The driest December since 1905 and the coldest since 1908.

Alton, Surrey.—A very good and seasonable month.

Allans Green, Northumberland.—The roots were under cover before the frost became severe.

Kemninghall, Norfolk.—On the whole a cold wintry month with little rain and moderate winds.

Carrigoran, Co. Clare.—Weather very variable throughout the month. Unusually dry after the first week. Rain nearly three inches below the December average.

Pressure.—The map of the mean pressure for December on page 135 is a better representation than is often the case of the typical distribution on individual days. Pressure was generally high to the West of Ireland and low in Scandinavia, and the air supply of the British Isles came from the North or North-West. At the beginning of the month the last of the November depressions (Track L on page 123 and Track A on page 135) was centered off the Norwegian coast and there were gales as far south as Holyhead. After these subsided there was comparatively quiet weather with a good deal of sunshine by day and sharp frosts at night. On the 8th a small depression (Track D), secondary to a Scandinavian Low developed in the South of England and was the occasion of considerable rainfall. Between the morning observations on the 8th and 10th, the fall at Falmouth was about 18mm., at Sandgate there was 28mm., at Hastings and Sevenoaks and also at Warlingham on the Surrey Hills 30mm., but only 14mm. were measured in London and practically none at Cambridge.

Of more importance was the depression which made its appearance late on Saturday, December 15th. By the morning of the 16th, it was centered over the Irish Sea, whence it moved rapidly south-south-east. After lingering in the Gulf of Lyons for some days, this depression went eastwards along the Mediterranean. It was traced as far as the Levant. Gales associated with the depression were reported on all coasts from Lerwick to Portland. At Scilly, there were 24 hours in which the wind at 32 ft. above ground exceeded 17 m/s., the conventional limit for a gale. At the same anemometer station the highest average for an hour was 30 m/s., and the highest gust reached 43 m/s. or 96 miles an hour. Precipitation which took the form of snow in many localities was general except in central and western Ireland. At Glenarm, Co. Antrim, more than 50mm. fell on the 15th and 16th. At Holyhead the total for the two days was 34mm. The snow lay in many districts, notably on the Surrey Hills, to the end of the month. There was more snow on the 19th and 20th, especially in the North, associated with the shortlived depression H.

Over Scotland the mean pressure of the month was the highest for December in records covering the last sixty years, though it was all but equalled by that of December, 1879. The highest mean pressure shown in Table IV. is nearly 1,027 mb. It refers to Cahirciveen, Co. Kerry, and is the highest on record for that station for the period from 1869. The mean pressure recorded in the South of England, though very high, had been exceeded in four or five Decembers during the last 50 years. Of departures from the normal the greatest was at Castlebay in the Hebrides, + 16 mb., the least at Dungeness, + 7 mb. In accordance with the distribution of pressure winds from the South were rare. In the south-western counties there was a high proportion of East winds.

Sunshine.—There were many sunny days during the month and in most districts the average duration of sunshine was well above the normal. In England S.W. the daily mean was 2.1 hr. compared with a normal for December of 1.4 hr. The corresponding figures for England S.E. were 2.1 hr. and 1.4 hr. Weymouth, Bournemouth, and St. Leonards each had the average 3.0 hr. Records of seven hours or over were made on the South coast from the Isle of Wight to St. Leonards on the 2nd and again on the 3rd. At many stations the total for the month was the highest ever measured in December. In the following list of such places the number of hours is given with the date at which the sunshine-recorder was installed:—
Cambridge, 63, 1881; Rothamsted, 70, 1891; Brighton, 88, 1890; St. Leonards, 93, 1881; Eastbourne, 85, 1886; Bournemouth, 94, 1904; Totland Bay, 78, 1902; Ventnor, 86, 1885; Cullompton, 73, 1881; Plymouth, 88, 1881. On the other hand, at Whitworth Park, Manchester, the total for the month was only 4 hr. At Kew Observatory, Richmond, which may represent London, the month, with 57 hr., was more sunny than any December since 1880, except 1886, when the total was 72 hr. The dullest December at Richmond was in 1890, when only 0.3 hr. was recorded during the whole month.

Rain and Snow.—The total precipitation for the month was well below the normal in all parts of the country, with the exception of the Shetlands. Notable deficiencies occurred at Ross, in Hereford, with 14mm., compared with the normal 76mm., and at Ilfracombe with 13mm., compared with the normal 118mm. At Haverfordwest it was the driest December during 55 years. The low figures for the wettest day of the month are also remarkable; 3mm. is given for Cambridge, Rothamsted and Wokingham. Falls of snow, in many cases but slight showers, were numerous however. At Sheffield and at Darwen snow was reported on nine days. At Perth the storm on the 19th was exceptionally severe, the snowfall being 15cm., and many telephone wires were broken down. In many parts of the Kingdom snow was lying on the high ground for half the month.

Temperature.—Temperature was well below the normal in all districts, but on the average the departure was greatest in the south, where it reached 2.6a. At many inland stations the average minimum temperature was below the freezing point. Amongst the lowest of the individual readings during the month the following are conspicuous, 261.5a. at Kingston-on-Soar and at Marlborough, 261a. at Perth and 258a. at Braemar. On the other hand, no reading below 272.5a. was reported at Holyhead or St. Ann's, Pembroke. The comparatively high temperatures shown for Castlebay, in the Hebrides, and for Scarborough and the East coast in table III. are also noteworthy. Ground frosts were the rule throughout the month, the largest number (27) being recorded at Sheepstor, on Dartmoor.

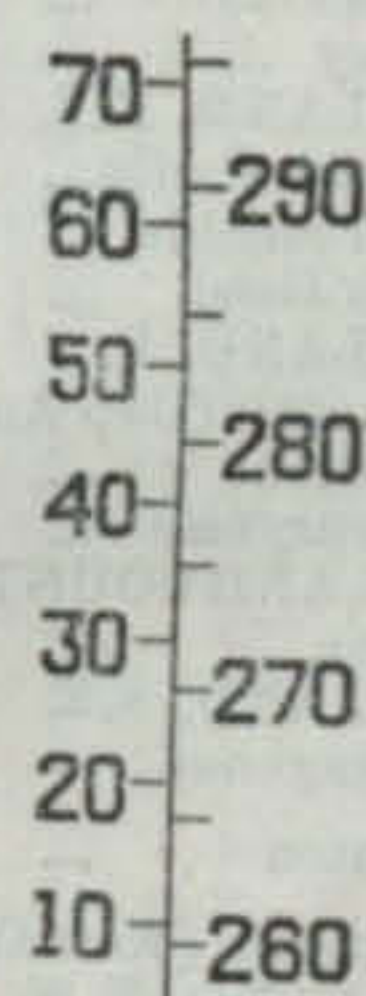
The **Fogs** which were reported usually occurred inland. They were observed on about ten days in the Thames Valley.

Reports of notable **Optical Phenomena** were frequent. Solar halos were seen at Oxford on five occasions, and also at Holyhead, Greenwich, Clacton, Dublin, Aberdeen and Aberdovey. Lunar halos were more common. A Lunar corona of exceptional beauty was seen at Aberdovey on December 25th.

At Seskin, near Waterford, on December 8th "a gorgeous coloration of the sky up to 35°" was observed just before sunrise and a sun-pillar immediately after sunrise.

St. Elmo's Fire was observed at Baltasound on the evening of the 14th.

Auroræ were seen at Aberdeen on the 7th and 8th; at Baltasound on the 14th; very widely on the 16th, and in Orkney and Shetland on the 19th. The display of the 16th was exceptionally brilliant. It corresponded with a magnetic storm which is the subject of an article contributed to "Nature," of January 3rd, 1918.



Temperature Scales.