

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to the Weekly Weather Report.)

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

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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MILD. WET IN THE PLAINS. TORNADO IN S. WALES.

Pressure, Winds and Weather.—The distribution of atmospheric pressure over the region embraced by the observations was of a very changeable character practically throughout the month of October. At the close of September an Easterly type had set in, and this was maintained during the first nine days of October. An anti-cyclone of no great intensity, the barometer passing a little above 30.3 in. in Shetland on the 1st, stretched from about Iceland down to southern Scandinavia, and on its southern margin depressions moved along very irregular paths, most of them being small secondary irregularities, which, however, exercised considerable influence on the weather. A disturbance which was on the Bay of Biscay for some days at the end of September passed up to the mouth of the English Channel, where it dispersed on the morning of October 3rd. On the evening of the same day a new depression was approaching the western coasts from the upper part of the Atlantic. At first it moved along a south-easterly course; its centre arrived near Scilly on the evening of the 4th, and it remained near the same locality until the evening of the 7th, the barometer descending to 29.13 in. at Scilly and Newquay. The system then bore away on an east north-easterly course across southern England to the Baltic and Russia. With its departure the situation underwent a change to a Southerly type, the northern anticyclone spreading down across the North Sea region to Central and southern Europe, thus keeping in check disturbances which were out on the upper part of the Atlantic. These were very deep, the barometer at one time standing as low as 28.65 in. at some distance out on the ocean, while in Eastern Germany it mounted to 30½ in. At the home stations the highest pressure during the month was attained on the 13th, 30.49 in. at South Kensington, and 30.50 in. at Clacton. On the 14th the principal depression disappeared to the north-eastward, between the Farøe and Iceland, and the type was temporarily interrupted on the 15th by the advance of an anticyclone from the Atlantic across our southern districts, which became merged in the Continental high pressure on the following day. The Southerly type was then resumed, and from the 17th to the 22nd the British Isles were situated between high pressure to the east and south-east, and low pressure to the west and north-west or north, the depressions moving along north-easterly paths. These were not nearly so deep as the previous ones, but the barometer fell to 29 in. at Stornoway on the 21st, when the centre of one of the systems passed up immediately off the Hebrides. Another brief interruption occurred from the 23rd to the 25th, an Atlantic anticyclone moving in to join the Continental system. Depressions in the Iceland region produced a Westerly type over our northern districts, and depressions about the Bay and the Spanish Peninsula provided an Easterly type over the southern districts. By the 26th the Southerly type was re-established, and it held for nearly a fortnight. A depression of moderate depth, which came from the neighbourhood of Madeira, passed up outside our western and north-western coasts on the 26th and 27th, when another, and a deeper one was advancing from the Western Atlantic, along the 50th parallel, with the barometer at about 28½ in. On the morning of the 29th its centre was to the westward of Scilly. The course was then suddenly changed to the north north-west, and at the close of the month it was off the south-east of Iceland. When crossing the south-west of Ireland on the 29th, the barometer fell to 28.79 in. at Birr Castle and 28.77 in. at Valencia, the lowest readings during the month.

The mean pressure results are in accordance with the great preponderance of Southerly types. Over South-Eastern Europe the values average about 30.2 in., thence they diminish westward and northward, to 29.88 in. along the south-east coast of England, and below 29.7 in. in the west of Ireland, the Farøe and the south of Iceland. For Shetland the value is 0.02 in. in excess of the normal, while for the rest of the Kingdom all the values are deficient, to the extent of 0.18 in. at Blacksod, and 0.21 in. at Valencia. While the normal gradient is 0.189 in. for Westerly winds between Shetland and Jersey, the gradient for the period now under notice was 0.189 in. for Southerly winds between Blacksod and Yarmouth.

Though the conditions were very frequently unsettled, the various disturbances produced no gales of any great severity. There were only a few days on which one or more of the telegraphic reporting stations did not exceed the force of a strong breeze, but on nearly all other days the extremes experienced were a high wind or a gale (forces 7 and 8). An extensive cyclonic system centred near the 25th meridian caused a strong South-Easterly gale (force 9) at St. Ann's Head, Roche's Point and Malin Head on the 10th, and depressions near the north of Scotland brought a strong Southerly gale to Lerwick on the 20th and 21st. Anemometrical records disclose few instances of gusts at the rate of 50 miles an hour, the highest being 60 miles at Pendennis Castle on the 29th, 56 miles at Pendennis Castle on the 28th, and at Plymouth on the 29th. A tornado, which appeared over the eastern valleys of Glamorgan, on the evening of the 27th, developed great

energy, and occasioned some loss of life and much destruction of property. A special report upon it is in course of preparation.

Thunderstorms, however, were unusually frequent and widely distributed over England, while Ireland and Scotland were seldom affected. These visitations were numerous during the first eight days, and again from the 27th to the 29th, in many instances accompanied by more or less heavy falls of hail, very violent at Cullompton on the 27th (the day of the whirlwinds in Glamorgan and Shropshire). Heavy rainstorms were numerous, with and without thunderstorms, the low level regions being affected more than the mountainous districts. On the 1st Southend registered 0.4 in. in about 10 minutes; next day Oxford had 0.3 in. in 5½ minutes, and New Malden 1.2 in. of rain and hail in 24 minutes; and on the 3rd Norwich 0.85 in. in about 13 minutes, 1½ in. in half an hour. On the 4th records ranged up to 1.3 in. at Whitby, 1.7 in. at Caragh Lake, and 2.1 in. at Killarney. Over the inland districts of England there was a tremendous downpour on the 5th, up to 1½ in. at Welshpool, Wistanstow and Little Massingham, 2.2 in. at Fulbeck, 2.6 in. at Rauceby and Rugeley, 2.8 in. at Claypole, 2.9 in. at Temple Bruer, and 3.1 in. at Boston. This was followed, next day, by heavy falls over the southern counties, the amounts ranging up to 2 in. at Dorchester. The 7th found the heaviest falls in the north of England, 1.5 in. at Durham, 1.6 in. at Ushaw. The falls of the 13th were heaviest in Ireland and Western Scotland, 1.6 in. at Blacksod and Fort William; while those of the 14th were in the mountains of Cumberland and North Wales, 2 in. at Seathwaite, 2.1 in. at Copper Mill, Snowdon. There was a very heavy local downpour in Western Scotland on the 24th, 1.6 in. at Fort William, 2.7 in. at Glencarron. A rainstorm over the south-east quarter of England on the 26th was remarkable for the unusual uniformity of the amounts measured, about fifty stations returning from 0.7 in. to 1.0 in., Matfield, Southend and Heathfield less than 1½ in. Each of the remaining days had some heavy falls, the largest 1.9 in. at Copper Mill, on the 29th. There were a few references to snow in the course of the month.

Mildness formed a very striking feature of the month. At Eastbourne and Portsmouth the temperature was more than 5°, and at Westminster 6° above the normal. There was no cold weather with the exception of the 23rd and the following night, with maximum temperatures below 45° in many localities, 41° at Eskdalemuir and West Linton, and 40° at Bellingham and numerous minima below 30°, as low as 23° at Clongowes Wood, and 20° at Eskdalemuir. The day values were frequently above 60°, in many cases above 65°, as high as 70° at Chelmsford and Camden Square (Glaisher screen) on the 2nd, while numerous night minima were above 55°, up to 59° on various occasions at Dungeness, Walton-on-the-Naze, Felixstowe and Killarney. Many observers comment on the open character of the month: Isleworth—"A beautiful autumn month; in some respects the finest October during the 33 years of my personal records." Oundle—"A remarkably genial month. Lilac and other spring flowers in bloom, and second crops of plums, raspberries, &c., gathered." Dyce (Aberdeen)—"Sweet peas, roses, dahlias and herbaceous border flowers generally quite fresh and good." Several of the observers remark that the days were generally fine to sunny, most of the rain experienced falling during the night hours.

Three waterspouts were reported at Claypole during the heavy rainstorm of the 5th. At Rousdon a waterspout on the 7th; several waterspouts on the 8th.

On all coasts the temperature of the sea water was decreasing, being now 3° or 4° colder than during September in many localities, but with a few unimportant exceptions it was warmer than the air on shore, by from 2° to 4° in most districts.

Fog was experienced over a wide area of the inland districts on several days, mainly about the 23rd to the 26th. Along the western and eastern coasts it was reported rather frequently, but rarely on the south coast.

Rainfall.—The distribution of precipitation was very irregular, ranging from 221 per cent. of the normal at Rauceby, 214 at Boston, and 202 at Shoburyness to 34 at Arncliffe, 33 at Bendamph and Strathpeffer, 32 at Dunrobin, and 25 per cent. at Gordon Castle. From 20.1 in. at Loch Quoich, 10.3 in. at Caragh Lake, and 10.1 in. at Glencarron the quantities ranged down to less than 1½ in. in several places, an inch at Dunrobin, Fortrose, Fyvie and Strathpeffer, and 0.9 in. at Gordon Castle. The frequency was as high as 30 days at Roche's Point, and 28 at Baltasound, while a number of stations had only 11 or 12 days.

Bright Sunshine.—Generally the duration of insolation was above the normal, Guernsey returning 145 per cent., Fort William 128, Glasgow 126, and Westminster 125 per cent. Those below the normal ranged down to 79 per cent. at Cirencester, 78 at Stonyhurst, and 74 at Southampton.