

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

(Supplement to the Weekly Weather Report.)

SUMMARY OF OBSERVATIONS COMPILED FROM THE 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,

AND PUBLISHED FOR H.M. STATIONERY OFFICE BY WYMAN AND SONS, LTD., FETTER LANE, E.C.; OR OLIVER AND BOYD, EDINBURGH; OR E. PONSONBY, LTD., 116, GRAFTON STREET, DUBLIN.

THIRTY-SIXTH YEAR.
Vol. XXVIII. (New Series)
Weekly Weather Report. } No. VII.

JULY, 1911.

[Price 6d.]

SUMMARY OF OBSERVATIONS.

Pressure, Winds and Weather.—In its general features the distribution of atmospheric pressure during the month of July was similar in character to that of June, the two months being almost equally divided between two main types—anticyclonic and cyclonic. The unsettled conditions which had ruled through the second half of June came to an end practically on the opening day of July, when the last of the series of depressions was travelling away across northern Scandinavia. On this day the barometer stood as low as 29.42 in. in Shetland, and this proved to be the lowest reading in the British Isles throughout the month. A steady increase of pressure was then in progress, under the influence of an anticyclone which was spreading in from the Atlantic, and by the evening of the 2nd the system embraced the whole country. Thenceforward, until the close of the 16th, the region of highest pressure maintained its position either over these islands or in their immediate neighbourhood, such depressions as were indicated within the area under observation, keeping well beyond the Arctic Circle or over northern Russia. As early as the 4th the barometer had passed above 30.5 in. at our Channel stations, but the anticyclone did not attain its maximum intensity until a week later, the readings at many stations on the 10th and 11th being above 30.6 in., the highest record, 30.66 in., occurring at North Shields. At this time the central space occupied the northern half of Britain. Slowly the system diminished in intensity, and as slowly drifted out to the Atlantic again, so that by the morning of the 17th it was situated well beyond our south-western coasts. This change of position rendered it possible for a depression, which had made its appearance at some distance to the westward of Iceland on the previous day, to advance to the neighbourhood of Cape Wrath, and eastward beyond the north-east of Scotland. The barometer dropped below 29.5 in. in the extreme north, and less settled conditions became general over the northern and north-western districts. This system was short-lived, dispersing in the course of the 18th, but thenceforward, until the close of the month, the conditions in the far western and northern districts were influenced mainly by three depressions which had their centres out at sea, the first moving slowly on a very erratic path beyond our north-western coasts for nearly a week; the second following a fairly steady course northward near the western coasts; and the third slow-moving on an irregular path off the south-west of Ireland. During this more disturbed period in Ireland and Scotland the pressure distribution over England was on several days anticyclonic, the centres of the systems being found on the Continent, moving eastward from Spain or the Bay of Biscay.

Under these circumstances the mean barometric values for the month show the region of highest pressure, exceeding 30.15 in., to have been over the western portion of the Continent and nearly the whole of England, the values at Bath and Brest being a trifle short of 30.2 in. Northward the means diminished to below 29.95 in. along a belt extending from the south-west of Iceland to northern Scandinavia. Everywhere there was a marked excess of pressure, of 0.13 in. at Dungeness, and 0.15 in. at Jersey, increasing to 0.21 in. at Liverpool, Spurn Head, Leith and Lerwick, and 0.22 in. at Shields. The range of pressure for the month was nearly 1.2 in. in the north of Scotland, against 0.7 in. at Jersey. The mean gradient was slight, and the winds were mainly Southerly to Westerly in the west and north, but very variable over southern England and the Channel.

The month was unusually free from weather of a boisterous character, even the force of a strong breeze being uncommon at the telegraphic reporting stations, although at Malin Head the strength of a gale was registered on the 22nd-23rd and on the 30th. The anemometrical records show similar results. Even in gusts of short duration, velocities at the rate of 30 miles an hour and upwards were rare. On the 29th, however, various districts in the southern half of England experienced a remarkably sudden and violent squall. It was, perhaps, related more directly to the thunderstorm then in progress, than to the shallow depression which was centred beyond our south-western coasts. Rapid oscillations of the barometer marked the progress of the line-squall from the south-west towards the north-east, the direction of the wind in the squall being South or South-East. Penzance was struck by a heavy squall at 2.15 p.m.; the pressure tube anemometer at Pendennis Castle registered a rise from 0 to 61 miles per hour at 2.35, then back to zero; ten minutes later, at Lostwithiel (Cornwall), the wind rose suddenly from a dead calm to the force of a hurricane, which lasted about half an hour, a remarkable rise and fall of the tide in the River Fowey being noted. This sea disturbance was observed later at Salcombe, Teignmouth, and as far east as the Downs. The squall reached Guernsey at 3 p.m., the wind increasing suddenly from 0 to 45 miles per hour. Swansea was visited by swirling gusts from 4.30 to 5.30, the counties on both sides of the Severn estuary experiencing a furious Southerly

blast laden with dust, attended by the darkness of night. Abergavenny and Southampton had the squall at 6 p.m., a violent wind storm, driving clouds of dense smoke before it at the former station, a gusty strong wind at the latter. At 6.10 p.m. Brighton had a thunder squall of 57 miles per hour; at 6.35 Watergate, Sussex, had "an extraordinarily severe squall;" and from 6.35 to 6.45 Basingstoke a terrific wind and dust storm. A series of sharp squalls set in at Kew Observatory at 6.45, and ended at 7.10, a maximum of 41 miles per hour occurring at 6.58. At Dwyran (Anglesey), a squall at the rate of 46 miles an hour was registered at 7.15, while Shoeburyness had one of 41 miles at 7.55, and Dover a violent dust squall of 40 miles at 8 p.m. The squall thus passed along the south coast, from Penzance to Dover, at the rate of 49 miles an hour.

As a whole the month was exceptionally fine, dry, bright and hot over the greater part of the kingdom, and especially so over England. At several places in the south of England and of Ireland a long spell of dry weather set in on June 30th, and by July 5th the drought had become established over an extensive region. Stations with 25 to 27 rainless days are far too numerous to be mentioned here. The duration of the drought was 28 days, or four complete weeks, at Bucklebury, Wilton (Wilts.), Stockbridge (Hants.), Bournemouth, Salcombe, Dursley (Glos.), Newport, Ynis-y-fro, Pant-yr-Eos, Newchurch, Abergavenny (Mon.) and Cardiff; 29 days at Weymouth, Portland Bill, Teignmouth, Torquay and Fowey; 31 days at Bath. All these stations are in the south-western counties. South of a line drawn from Cromer to Fishguard nearly every station was rainless for three weeks.

The combination of calm, drought and brilliant sunshine was conducive to exceptional warmth. At the start temperature was low, below 60° in many localities in the first three days, 55° and under in places, but thenceforward high maxima ruled, exceeding 80° frequently, touching 90° at Epsom, and 91° at Wilton as early as the 8th. After the 20th these records were passed at many stations, 93° at Raunds on the 21st, and at Bath, Rugby, Epsom and Matfield (Kent) on the 29th, while on the 22nd Margate mounted to 94°, Greenwich to 96°, and Epsom to 97°. Some of the nights were very warm also, a minimum of 67° at Hawarden Bridge on the morning of the 13th, and at Jersey, Westminster and Manchester on the 29th. At Balmoral there was a shade minimum of 32° on the morning of the 20th.

Down till the 24th the thunderstorms of the month were unimportant, afterwards they became widespread and heavy, but not producing much rain, excepting over very restricted areas. At Huddersfield a thundershower on the 25th yielded 0.20 in. of rain in 3 minutes; in a violent storm over London on the 28th 0.75 in. of rain fell in 10 minutes at Camden Square, and 1.1 in. in 15 minutes at South Kensington. The thunderstorm of the 29th was the most extensive of the month, abnormally violent in Ireland, 1.21 in. of rain falling at Dublin in 65 minutes, and 2.21 in. at Kilkenny in 2½ hours, the rainfall being very heavy generally over the southern half of Ireland.

Fog was of rare occurrence along the English Channel, while on our western and eastern coasts it was reported almost daily, most frequently round Ireland.

The temperature of the coastal waters was higher than in June, by as much as 5° in the south-east, between Eastbourne and the Shipwash, but with the exception of the north-west and north of Ireland and the Minch the water was colder than the air on shore, by 5° or 6° in many localities, and by 7° on the coast of Berwick.

Rainfall.—With the exception of a few stations in Scotland and Ireland there was a general deficiency of precipitation, and as a rule the deficiency was very large. Kilkenny received a total of 4.9 in., or 183 per cent. of the average, Stornoway 5.3 in., or 175 per cent., and Loch Torridon (Ross) 8.5 in., or 158 per cent., but in numerous localities the aggregates were only a fraction of the normal, a considerable number of stations returning less than 0.25 in., Cardiff, Shaftesbury, Portland Bill, Nottingham, Wilton, Clifton, Swarraton, and Cirencester gave from 4 per cent. to 1 per cent. of their usual quantities, while Bath had none at all. Rain was measured on 24 days at Inverary, Quinish (Mull) and Loch Torridon, but at scores of places on less than five days—even those returning one day only are too numerous to mention.

Bright Sunshine.—There was everywhere a large excess of insolation. The smallest aggregate for the month, 139 hours at Fort Augustus, was 139 per cent. of the average. In southern England the excess was very striking, averaging about 5 hours a day more than usual at some stations. Eastbourne and Hastings had 160 per cent. of the average, Greenwich and Kew Observatories 161, Brighton 163, Plymouth 169, Torquay 172, and Tunbridge Wells 180 per cent.