

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,

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SUMMARY OF OBSERVATIONS.

Pressure, Winds and Weather.—In the early part of September the country experienced a continuance of the abnormally fine hot weather which had prevailed so extensively throughout the two preceding months. After about the 12th the type of pressure distribution underwent an entire change, and for the remainder of the month the weather was cool, changeable and showery.

In the opening days the greater part of the United Kingdom lay under the influence of a large anticyclone having its central portion over Austria, our extreme western and northern districts being affected at the same time by a rather deep depression which passed from Iceland to Northern Europe. During the latter part of the 2nd a new anticyclone came in from the Atlantic, and shortly afterwards the two high pressure systems became united, the combination resulting in a spell of fine warm weather, which lasted almost uninterruptedly until the 9th. During this period the winds were mainly from the Southward and South-Westward in our more northern districts, but from points between North and East in the south, neither current being of any great strength. On the 10th the large high pressure area withdrew bodily to the eastward, the change being followed, in the first instance, by the passage of a deep cyclonic disturbance from Iceland to Norway, and later, on the 12th, by the movement of a shallow depression north-eastwards from the Bay of Biscay across England to the North Sea. Between the 13th and 15th the arrival of a new anticyclone off our western coasts was marked by cool Northerly winds, blowing with considerable strength at exposed places in the north and north-west. The central portion of the anticyclone eventually advanced directly over these islands, and at various times between the 15th and 17th the barometer attained its highest level for the month, the readings being above 30.3 in. over the United Kingdom generally, above 30.4 in. in Ireland and Scotland, and above 30.45 in. on the 15th, in the Hebrides. After the 19th an extensive low pressure system of little depth spread south-eastwards from the Icelandic region over practically the whole of North-Western Europe, and on the 20th the barometer in these islands reached its minimum level, the mercury falling below 29.5 in. over the country generally, and below 29.3 in. over nearly the whole of North Britain. The winds at the time were mostly from between South and West and of little force, but on the 21st, when the depression travelled eastwards, a strong current from North and North-West set in, reaching in gusts a velocity of 52 miles per hour at Quilty, Co. Clare, 54 miles at Roche's Point, and 62 miles at Scilly. Between the 22nd and 24th, a South-Westerly type of weather was produced by a new depression whose borders extended southwards from Iceland; while from the 26th to the 28th the conditions were influenced by another disturbance which passed eastwards along the Arctic Circle, and occasioned in these islands brisk cool winds from South-West, veering to West and North-West.

Until very nearly the close of September no autumn gale of any consequence had occurred on any part of our coasts. The immunity from such visitations was rudely broken at the end of the month. At 6 p.m. on the 28th, wireless reports from Atlantic liners indicated the existence of a shallow barometrical depression slightly to the westward of the 30th meridian, with its centre in about Lat. 53° N. During the ensuing 24 hours the system advanced steadily eastwards, and by 6 p.m. on the 29th its centre had reached a position about 200 miles to the westward of the Southern Hebrides. In the course of the ensuing night the disturbance passed rapidly (at the rate of over 40 miles per hour), across North Britain, and increased in depth, the minimum readings of the barometer next morning, when the centre had reached the Yorkshire coast, being below 29.6 in., or apparently about 0.3 in. lower than those of the previous evening. A further intensification took place as the depression passed on to the Continent, and by 6 p.m., when the centre was over the Zuyder Zee, the barometer had fallen below 29.2 in. After this the disturbance began to fill up, its subsequent progress comprising a slow and very erratic movement across North Germany, the Baltic and Denmark to the North Sea, where the system appears to have entirely dispersed on the night of October 3rd. In the front of the depression the Southerly and South-Westerly winds were of no great strength, but in its rear (owing partly to the decrease in pressure which took place within the central area, and partly to a rapid increase on its western side), a gale from North or North-West was experienced on nearly all the English and Welsh coasts, and a severe gale over the entire southern half of the North Sea area. At the telegraphic reporting stations the extreme force of the gale by Beaufort's Scale was returned as 10 (a whole gale) at Spurn Head, Yarmouth and Dover, while at sea the wind was described by several observers as "of hurricane strength." At none of the anemometrical stations in this country did the mean hourly velocity reach 47 miles per hour (the minimum limit of a strong gale), but in squalls that rate was greatly exceeded. At Pendennis Castle, Falmouth, an extreme of 57 miles was attained, at Shoeburyness 58 miles, at Gorleston 64 miles, and at Dover 66 miles. The gale resulted in numerous casualties in the North Sea and on the French and Dutch coasts, accompanied in many instances by serious loss of life.

The mean barometrical pressure of the month was slightly above the average, and as the divergence was greater in the west and south than

elsewhere the gradient was favourable for winds from the Westward rather than from the South-Westward, as shown by the map of normal pressure. The actual mean values over these islands varied from a trifle below 30.10 in. in the Channel Islands, and 30.05 in. and upwards over the southern portions of the country generally, to 29.85 in. and less in Shetland. Further to the northward the values decreased to a little below 29.65 in. in Iceland.

In the early part of the month there was a decided preponderance of fair, dry weather, but while several English localities experienced an absence of rain lasting for 10 or 12 days, the returns include no record of an absolute drought. Thunderstorms occurred in various isolated parts of England on the 4th, and more generally in the north and east of England on the 8th. The passage across England of the shallow barometrical depression of the 12th was accompanied by much electrical disturbance, and by a heavy downpour of rain over nearly the whole of North Wales and the north-west of England, as well as in the Scilly Islands. At St. Asaph the fall amounted to 1.6 in.; at Scilly to 1.7 in., at Southport and Lampeter to 1.8 in., and at Ruthin to 1.9 in. Thunderstorms were again experienced over a large portion of the country on the 20th and 21st, but, with a few local exceptions, the accompanying rainfall was small. During the formation of a small secondary depression over the St. George's Channel on the 25th, exceedingly heavy rain occurred in the south-east of Ireland; at Waterford the fall amounted to 2.2 in., and at Roche's Point to as much as 3.0 in.

The first twelve days of the month were marked by three touches of unusual warmth. On the 2nd, the thermometer rose above 85° in many parts of our eastern, midland and south-eastern counties, and reached 90° at Camden Square, Cromer and Hillington, and 91° at East Ham. Still higher readings were observed on the 7th and 8th, when shade maxima exceeding 90° occurred over a large portion of England; at Hampstead, Cambridge, Rugby and Bath the thermometer on the 8th reached 93°, and at Greenwich, Isleworth, and Raunds, Northamptonshire, it touched 94°, the Greenwich reading being the highest on record for the month of September. The third burst of warmth, and the last of the season, occurred on the 12th, when the thermometer rose to 85° and upwards in many parts of our eastern and south-eastern counties, to 88° at Greenwich, and to 89° at Camden Square. Between the 8th and 12th the nights were extremely mild, and the minimum temperature in the south of England on some occasions exceeded 65°. After the middle of the month no midday temperatures appreciably above 70° were recorded in any part of the United Kingdom. Sharp ground frosts occurred in most of the northern and central districts on the 15th and 16th, and again on the 21st and 22nd.

The temperature of the sea water was lower than in August, but at all but a few places round our north-east and south-west coasts it was higher than that of the air on shore.

Rainfall.—Owing mainly to the heavy downpour of the 12th the total rainfall in the north of England was in excess of the average. A decided excess was reported also in those parts of Southern Ireland which experienced the rainstorm of the 25th, but in nearly all other portions of the United Kingdom the aggregate was small, many stations in Southern England and the south and east of Scotland recording considerably less than half the normal quantity. The largest totals reported to the Meteorological Office were 9.6 in. (114 per cent. of the average) at Glencarron, 7.7 in. at Gruline, Mull, 6.8 in. (92 per cent. of the average) at Fort William, 5.4 in. at Cruachan, and Caragh, Co. Kerry, and 5.1 in. (respectively 115 and 173 per cent. of the average) at Stonyhurst and Liverpool. At a number of places in eastern and central Scotland, and at a few scattered stations in Ireland and the South of England, less than an inch was collected, the smallest totals being 0.4 in. at Balmoral (only 14 per cent. of the average), 0.5 in. at Killiney, near Dublin, and 0.6 in. at Crathes and Foynes (at the latter station only 21 per cent. of the average). Over a large portion of Eastern, Central and Southern England and in some parts of Eastern and Central Scotland there were less than 10 days with a measurable quantity of rain, at Harefield only 6, and at Carnoustie only 5. Many stations in the west and north of Scotland reported at least 20 such days, the highest numbers being 28 at Baltasound and Stornoway, and 26 at Glencarron.

Bright Sunshine was rather deficient in Orkney and the Hebrides, as well as at Scilly, but was in excess of the average over the United Kingdom generally, and largely in excess over Eastern, Central and Southern England. South of a line drawn from Yarmouth to Plymouth the total duration exceeded 210 hours, and at some stations in Kent and Sussex it exceeded 250 hours, the largest aggregates reported being 264 hours (158 per cent. of the average) at Hastings, 261 hours (156 per cent. of the average) at Eastbourne, and 257 hours (164 per cent. of the average) at Tunbridge Wells and Worthing. In the north and west of Scotland and the neighbouring islands the aggregates were mostly below 120 hours, Castlebay and Deerness experiencing only 106 hours, Oban only 102 hours, and Fort Augustus only 94 hours. At Deerness the total amounted to only 97 per cent. of the average, but at Fort Augustus the total, though small, was equal to 115 per cent. of the average.