

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.—The area of high atmospheric pressure which on the last day of April was expanding north-eastward over Western Europe from the Atlantic continued its advance only into the opening day of May, when the barometer stood above 30·5 ins. over the greater part of Ireland, rising to 30·56 ins. at Valencia, the highest reading registered in the United Kingdom during the month. Diminishing slightly in intensity the system then withdrew to the westward, and for some days its central space was found over the region between the Azores and Newfoundland. This transfer of the anticyclone from our neighbourhood was coincident with the advance of a low pressure area from the Arctic Sea, northward of Iceland, down to North-Western Europe. As this system approached the north of Scotland it became considerably deeper, the barometer sinking to 28·85 ins. as the centre passed across the Færøe on the morning of the 6th, and to 28·81 ins. at Sumburgh Head in the following night, the lowest record in this country during the month. Readings below 29 ins. were registered at all the more northern stations in Scotland. Immediately after the lowest pressure was attained a very slow rise of the barometer set in, and the filling up process was completed on the 10th, when the centre was over southern Norway. The observations taken on the morning of the 11th showed that a sudden and very great change in the distribution of pressure had been developed. Over an extensive region there had been a rapid rise of the barometer, about an inch in many localities, and it now stood at a moderately high level in a system which extended from the vicinity of the Tropic of Cancer north-eastward across the Azores, the British Isles, Scandinavia and Northern Russia to the Ural range and Siberia. It was flanked by well-marked disturbances centered respectively over northern Italy and to the westward of Iceland. No sooner had the high pressure area been formed than another swift alteration in the conditions began to declare itself. On the morning of the 12th the anticyclone was already being broken up, one portion taking up the usual position on the Atlantic, the other settling down over Northern Europe and spreading across to Iceland and Greenland. This separation was marked by the advance of the Italian depression on a north-westerly path across the Continent, and already on the morning of the 12th its minimum of pressure had reached the north-east of France, where the barometer had dropped below 29·5 ins. The disturbance subsequently followed a somewhat unusual and erratic course. It moved westward along the English Channel, with the barometer descending to 29·4 ins., and after passing beyond Scilly it bore away southward to the Portuguese coast, then for a week it wandered about irregularly in the Bay of Biscay region, and after the 21st it dispersed or became merged in a depression over the Western Mediterranean. With its disappearance from our vicinity there was a general rise of the barometer, and the Atlantic anticyclone, moving to the eastward of the Azores, spread quickly northward up the western coasts, and for nearly a week an anticyclonic type of conditions prevailed over these islands, pressure being only a little below 30·5 ins. over the northern districts on the 24th. After the 27th the high pressure again withdrew south-westward to the Atlantic, and a well developed disturbance from Iceland moved on a south-easterly course, its centre arriving over Shetland on the 31st, the barometer sinking to 28·95 ins. at Sumburgh Head.

The main features of the pressure distribution described in the foregoing are reflected in the mean results for the month, which show an area of high barometer on the ocean beyond our south-western coasts, with pressure as high as 30·31 ins. at Horta, Azores, and another over Northern Europe, barometer above 30 ins. at Bodö. These two systems were connected by a belt of relatively high pressure, above 29·9 ins., stretching north-eastward across the middle regions of the British Isles and the North Sea. From the south east of England to Central Europe and Italy the values show a depression, with the barometer below 29·9 ins., and in the north another depression between Scotland and Iceland, barometer 29·81 ins. in the Færøe. There was thus a marked variation from the normal conditions, the low to the south-eastward replacing the usual high. The extreme values in these islands were 29·99 ins. at Valencia, against 29·87 ins. at Jersey and on the Straits of Dover, and 29·85 ins. at Sumburgh Head. Everywhere the mean results were below the average, by 0·01 in. at Valencia, 0·09 in. at Wick and Sumburgh Head, 0·13 in. at Dungeness, and 0·14 in. at Jersey. As no deep disturbance visited the southern districts the range of pressure there was comparatively small, only 0·8 in. on the coast of Kent, but in the north and west it exceeded an inch at all stations, and in Shetland it was as much as 1·6 in. With the more complex distribution of pressure the winds were very variable in direction, but with Westerly to Northerly and Easterly largely predominating, and in the western and northern districts calms were rather frequently recorded.

Taken as a whole the month was not a very windy one, the observations at the telegraphic reporting stations showing that during more than half the period the force of a strong breeze was not exceeded. The most disturbed days were the 3rd to the 8th, when a high wind from between

South-West and North-West was felt daily in many localities. On the 4th Malin Head had a strong gale; on the 6th Donaghadee, Holyhead, Shields and Spurn Head a gale; on the 7th Malin Head and Spurn Head a gale, Nottingham a strong gale; and on the 8th Roche's Point and Nottingham a gale. From the 11th to the 14th there was a rather strong Easterly current over southern England, but only Portland Bill and Scilly attained gale force on the 12th. At the close of the month Castlebay and Shields had a Westerly gale on the 30th, and Portland Bill a Southerly gale on the 31st. The self-registering anemometers disclosed no very high velocities, the greatest movements in gusts being at the rate of 60 miles an hour at Roche's Point on the 6th, and at Pendennis on the 12th, and 62 miles an hour at Roche's Point on the 8th.

Broadly, the weather experienced during the month may be divided into two main types. Through the first three weeks it was of a cold inclement character, rain was practically of every-day occurrence, frequently accompanied by hail, and on some days sleet or snow was experienced in many places. At Epsom, on the 8th, hail fell to the depth of an inch, and in places to the depth of 4 ins. Between the 15th and 17th temperature attained a high level in some of the western and northern districts, 77° at Oban, and 78° at Killarney, but as a rule low temperatures were commonly recorded, night values below 30° being registered at a considerable number of stations on the mornings of the 3rd, and 9th to 11th. On the 9th the minimum was 22° at West Linton, 24° at Eskdalemuir, and 25° at Balmoral, and on the 10th and 11th Wokingham touched 25°. Many of the afternoon maxima were also very low, in numerous instances below 50° in some cases at southern stations. The 6th was the coldest day, with a maximum of 42° at Aspatria and West Linton, 41° at Glencarron, and 40° at Eskdalemuir.

With the anticyclonic type which followed the conditions improved greatly, most days were rainless or produced only slight showers, and there was a general increase of temperature, but only a few days of marked warmth were experienced. Day maxima above 75° occurred on the 20th, and 22nd to 24th, the only record above 80° being at Hillington, 83° on the 20th. The nights also at this time were warm, many of the minimum temperatures being as high as 56° to 58°. On the 30th there were low maxima in the north, 50° at Fort Augustus and Poltalloch, 47° at Glencarron.

Thunderstorms formed a very striking feature of the month. With the exception of the 1st, 2nd and 25th there was not a day without its record of storms. Extensive areas were affected on the 7th, 8th, 12th to 22nd, 28th and 31st. In many instances they were described as severe or violent, but their singularity was in the almost entire absence of heavy downpours of rain, few falls of more than $\frac{1}{2}$ in. being recorded, in some cases they were noted as dry thunderstorms, and many produced only slight showers. At Hillington the rainfall on the 8th was 1·2 in., and the Whitby observer notes that while the storm of the 20th was unimportant at his station it was of unexampled violence along the Esk Valley, 1·1 in. of rain falling at Goathland in one hour, and a terrific rainfall at Sandsend swept away a substantial stone bridge, and carried to the seashore trees, cattle, sheep, haystacks and buildings of all kinds. At Abergavenny, during a terrific storm on the 16th, 0·7 in. of rain fell in 14 minutes, and at Southend-on-Sea, on the 28th, 0·7 in. in 30 minutes.

Fog was very prevalent on our western and eastern coasts from the 10th onward, and in the east in particular it was frequently dense, especially between the 14th and 22nd. Along the English Channel it was reported mainly from the 15th to the 21st, and the 28th to the 31st.

The temperature of the sea water round our coasts was everywhere warmer than in April, by as much as 5° or 6° in many neighbourhoods. Up the west of Ireland the water was slightly warmer than the air on shore, but elsewhere it was colder, by 4° or 5° off the east of Ireland and the north-east of England.

Rainfall.—Over the east and west of Scotland and the English Midlands there was a deficiency in the amount of precipitation, but generally there was an excess, as a rule slight to moderate. Glencarron, Hillington, Geldeston and Southend-on-Sea returned an excess of more than 2 ins. Notwithstanding the numerous and severe thunderstorms totals for the month of 5 ins. and upwards were limited to a few of the normally wettest mountain stations, 7·5 ins. at Seathwaite, and 13·2 ins. at Glenquoich. Several localities received less than 1½ in., Bath 1·1 in., and Balruddery 0·9 in. At Dundee rain was measured on 11 days, and at Falmouth on 12, against 23 at Kingston-on-Soar, and 26 at Foynes.

Bright Sunshine.—Taken all round the duration of bright sunshine did not differ greatly from the normal, but Jersey lost 50 hours, and Guernsey 44 hours, while Westminster gained 37 hours, Blackpool 38 hours, and Stornoway 55 hours. The totals ranged from 117 hours (24 per cent. of the possible) at Newcastle-on-Tyne, and 131 hours (26 per cent.) at Fort Augustus to 257 hours (53 per cent.) at Yarmouth, and 258 hours (51 per cent.) at Castlebay, so that the Hebrides had the best record.