

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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FORTY-THIRD YEAR.

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Plentiful Sunshine, but nights cold; Rainfall deficient.

Very generally the month opened and closed with two hot days, the intervening period, especially about the 14th to 18th, being cool and unseasonable. Winds from points between North and West were frequent, and with anticyclonic conditions mainly prevailing "radiation weather" was much in evidence, the nights at some of the inland stations being very cold. Ground frosts also were frequent for the time of year, as many as nine or more being recorded at some English stations, a number that was abnormal for the month of June. At Raunds on the 5th a grass minimum of 26.6a was recorded, 27.0a being registered at Wisley on the 6th and at Greenwich on the 17th. Dew was less frequently reported than is commonly the case in June, and many stations also experienced a low percentage of humidity, this dryness combined with the scorching sunshine during the day and the low temperature at night, proving very unfavourable for the growing crops. At Huddersfield on the 1st at 15h. the humidity was only 31 %, and at Worksop 34 %, the corresponding values on the 2nd being 41% and 43%. During the first seven or eight days the drought, which in some parts of the country had lasted for sixteen days, came to an end. Thereafter the precipitation mainly fell in showers, but although the monthly aggregates were mostly below the normal, the number of rain-days was comparatively large and ranged from 18 in Scotland North to 9 in four other districts. Locally there were heavy down-pours, Beddgelert having 79 mm. on the 9th, Sheepstor on the 18th having 41 mm., Princetown 40 mm., and Cardiff 30 mm., 31 mm. being recorded at Fort William on the 13th. During a thunderstorm at Hawarden Bridge on the 6th 30 mm. fell in an hour and a half, the total for the day being 37 mm. In Scotland the days were, in general, warm until the 6th, but thereafter temperature was almost continuously below the normal until the last day or two of the month, when there was a decided recovery, 30.0a being recorded at Crathes on the 30th. Both days and nights were unusually cold around the 15th and abnormally so on the 25th, West Linton on the latter date recording a shade minimum of 27.0a and 26.9a in the open. On the 14th Ben Nevis was covered with freshly fallen snow to a level of 2,000 ft. Generally in Scotland the weather in most respects was unfavourable to agricultural and horticultural interests.

The following notes supplied by observers illustrate the general character of the month:—*Cargen, Kirkcudbright*.—Low temperature and drying wind occasioned a serious set-back to farm crops, and pasture is failing; but oats, except on light land, promise well. *Allan's Green, Northumberland*.—In this district June has been a very dry and barren month, with only a few showers of rain, which almost dried up as they fell. The nights have been cold, and there has been a lack of genial growing weather. *Kenninghall, Norfolk*.—The month began with a fairly high temperature, but the middle and end were remarkable for the exceptionally low temperature at night, there being several ground frosts. No rain of any importance fell until the last week. *Ipswich, Suffolk*.—A cold and unpleasant month in spite of sunshine considerably above the normal. The average minimum temperature, 28.0-2a, is the lowest ever recorded here in June. *Oundle, Northampton*.—A cold, dry month. There were only occasional thunder showers, and all kinds of vegetation suffered from the drought. A frost on the night of the 15th cut potatoes, beans, etc. *Weston Turville, Bucks*.—A very dry month; surface of ground baked and cracked; growth of vegetation retarded by night frosts. *Tenbury, Worcester*.—A very dry, sunny month, generally hot by day, but cold by night. Bracken much scorched by frost. Grand weather for the hay, the best crops for many years. *Bromyard, Hereford*.—A very dry month. Hay harvest unusually early, the crop being good and the quality fair. *Isleworth, Middlesex*.—Deficient rainfall, low temperature, and much arid northerly wind have damaged vegetable crops severely. *Dublin (City)*.—A cool, dry month of north-west wind and much cloud. Warm at the beginning and close, but very cool in the middle period, more particularly about the 14th-18th. Although the rainfall amounted to only 23 mm. it was distributed over as many as 13 days. *Carrigoran, Co. Clare*.—Except at the beginning and end the month was sunless, cold, and unseasonable, violent and parching winds having a very bad effect on the crops. *Fethard, Waterford*.—A dry month with rainfall less than 25 mm., cool for June, and remarkably windy, the gale of the 9th damaging foliage considerably.

Temperature.—During the month there were several very hot days, which to a large extent balanced the cold nights, so that although over the British Isles as a whole the mean monthly temperature was below the normal the deficiency was not large, the greatest deficit being 0.7a in Scotland North and England East. In England North-East the mean was normal, while in Ireland South there was a slight excess of 0.1a. Of the individual readings the highest was 30.2a at Kensington Palace and Killarney on the 1st and 2nd; and the lowest 27.0a at Fort Augustus on the 13th, and West Linton on the 25th.



Temperature Scales.

Air Pressure.—As shown by the map on p. 63 the mean isobaric lines differed considerably from their normal trend, the gradient moreover being much steeper than is usual in June, the direction of the isobars being more favourable for North-Westerly winds than for South-Westerly. Except to the North of Scotland the mean monthly pressure was above the normal, the greatest deficiency being 1.3 mb. at Lerwick and the greatest excess 6.5 mb. at Valencia Observatory. During the greater part of the month the distribution of atmospheric pressure was mainly anticyclonic, and cyclonic disturbances which passed directly over the British Isles or near them were infrequent, the most important of them being those of the 9th, 14th, 18th and 22nd. At 7 h. on the 9th an intense depression was centred over the North of Ireland, the pressure at Malin Head being 1,004 mb., this depression creating a very steep pressure gradient in its immediate neighbourhood. At Blacksod Point a surface wind of force 9 was recorded. By 13 h. this depression had advanced to the Clyde area, but subsequently moved on a South-Easterly course across England, and by 7 h. on the following morning was centred near the Straits of Dover, eventually passing away across France. It occasioned a breezy, squally, showery, and cool type of weather in most parts of the Kingdom. Much damage to trees and foliage was caused by this gale, the observer at Dunfanaghy, Co. Donegal, reporting that on looking at trees from the North-West they had become red or russet in colour, and were as in October and November. The observer at Fethard, Waterford, also reported that this gale damaged foliage considerably. During the night of the 13th-14th a deep depression passed Eastwards across the North of Scotland, and at 7 h. on the latter day was centred over Southern Norway, the minimum pressure being 980 mb. During its passage the wind very generally became Westerly, and was fresh or strong in Scotland and the North of Ireland, and moderate to fresh elsewhere. On the 18th at 7 h. a depression, with a minimum pressure of 995 mb., appeared off the West of Ireland, and by the next morning had reached the South-East of England. It had little depth, and the wind circulation was of slight force. At 7 h. on the 22nd depressions appeared over the Northern regions, the chief one being centred over the Northern part of the North Sea. This disturbance caused strong North-West and West winds in many localities, several stations in the Northern part of the Midlands reporting damage to trees and crops. Of the telegraphic reporting stations the lowest barometer reading recorded during the month was 989 mb. at Lerwick on the 13th, and the highest 1035 mb. at Birr Castle on the 1st. The highest gust recorded by the anemometers during the month was 34 m/s. at Holyhead on the 9th, 28 m/s. being registered at Weaver Point (Cork Harbour), also on the 9th; and at Edinburgh on the 13th. On the 9th 27 m/s. was recorded at Quilty, Co. Clare, at Rosyth on the 13th, and at Southport on the 22nd.

Precipitation.—In all districts, except in Scotland North, where there was an excess of 7 mm., the rainfall was below the normal, the deficiency ranging from 36 mm. in England North-East to 17 mm. in England North-West, the total in the former district and in the English Channel being only 15 mm., the largest aggregate being 76 mm. in Scotland North. In the North-West of Scotland the aggregates were fully equal to the normal, but, as a rule, there was a serious shortage. The latter was most marked in Eastern districts from the Tay Southwards, where some stations had only about 10 mm. for the whole month, and most only about one-fifth or less of the normal. At Smeaton (Haddington) the total was only 7 mm. Some of the English stations also had unusually small aggregates, Spurn Head, for instance, having only 4 mm., Kingston-on-Soar 5 mm., Peterborough (Eye) 7 mm., and Durham, Belvoir Castle, and Nottingham 8 mm., it being the driest June for more than fifty years at the two latter places. On the other hand, in contrast to this dryness, the monthly totals at Copper Mill and Intake, in Snowdonia, were 241 mm. and 206 mm. respectively, and at Beddgelert 162 mm.

Sunshine.—Except in Scotland North, where there was a deficiency of 0.15 hr., the mean daily amount of sunshine was above the normal in all districts, the excess varying from 1.78 hr. in England South-West and the English Channel to 0.56 hr. in the Midlands. There was most sunshine in the English Channel 9.70 hr. per day, and least in Scotland North (5.02 hr. per day). As regards the individual stations the variation in the mean daily amount of sunshine was very large and ranged from 4.63 hr. at Hull to 10.13 hr. at Guernsey (Villa Carey). At the latter station during the first five days of the month 73 sunny hours were registered, and at Douglas (Isle of Man) 71 hours.

Thunderstorms occurred here and there on various dates, principally around the 9th, 15th and 25th.

Optical Phenomena.—Solar halos were reported mainly at the end of the month, but lunar halos were rare. A sun pillar was seen at Valencia Observatory on the 25th.