

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS.

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DECEMBER, 1931.—Very mild, dry and mainly dull.

December, 1931, was characterised by high pressure and unusually mild and mostly dull weather with a marked deficiency of precipitation.

Cyclonic conditions prevailed during the first 10 days with strong winds or gales between the 3rd and 5th and unusually high temperatures for the time of year, maxima in the neighbourhood of 60° F. being recorded widely in England on the 4th. Heavy rain occurred in Ireland and Scotland on the 2nd, the rain extending to all districts on the 3rd. Moderate falls were again reported from several places on the 5th. On the 10th, the weather became anticyclonic, but continued mild until the 14th, when a depression west of Iceland moved eastwards, displacing the anticyclone. In the rear of this depression cold northerly winds brought a considerable drop in temperature and an anticyclone moved south from Iceland. This remained centred near the British Isles until the 22nd, giving cold weather in England, with slight local rain and from the 17th–20th considerable fog, though the 17th and 18th were sunny in some districts. Some low maxima were reported, 27° F. at Ross-on-Wye on the 18th and 19th and at Cheltenham on the 19th, and 30° F. at Leamington on the 18th, while minima in the screen fell to 15° F. at Rickmansworth on the 19th, and on the grass to 10° F. at Rhayader on the 18th. By the 23rd mild conditions had again become general. In Scotland the highest temperature during the month was recorded on the 24th, the maximum of 60° F. at Aberdeen on that day being the highest recorded in December for at least 60 years. Heavy rain was experienced in the west on the 23rd, 77 mm. at Dungeon Ghyll and 67 mm. at Sawrey (Lancs), but over the Christmas season the weather was mild and dry with some sun on most days. Thunderstorms occurred in north-west England on the 28th. On the 29th, however, cold northerly winds swept across the country and snowstorms were reported from Scotland, north-east England and the Midlands, and slight snow or sleet from elsewhere in the British Isles. On the 30th and 31st snow still lay thick in the north and it remained cold in the south, but on the evening of the 31st mild conditions were spreading from the west.

Pressure and Wind.—During the month the tracks of the main depression lay well to the north of the British Isles. From about the 10th to the 26th anticyclonic conditions prevailed and as a result monthly mean pressures were markedly above the normal, the excess ranging from 8·2 mb. at Lerwick to 15·7 mb. at Scilly (St. Mary's). Westerly winds predominated; at Southport their duration exceeded twice their normal duration. Strong winds or gales occurred widely from the 3rd to the 5th, in the west and north from the 22nd to the 24th and widely from the 26th to the 29th. During the gale on the 4th the wind in a gust attained a velocity of 77 mi./hr. at Liverpool (Bidston Observatory) and 72 mi./hr. at Holyhead and Quilty. The highest wind velocity in a gust was 87 mi./hr. at Lerwick on the 23rd whilst 80 mi./hr. was recorded in gusts at Kirkwall on the 27th and at Butt of Lewis on the 27th and 28th.

Temperature.—Apart from short spells of cold weather from about the 17th to 23rd and during the last few days, the month was remarkably mild; in all districts monthly mean temperatures exceeded the normal, locally by 4° F. in the western parts of Scotland and Ireland. The 4th was abnormally mild in England and southern Ireland and in some places the maximum temperatures, which were mostly in the neighbourhood of 60° F., were the highest ever recorded in December; at Richmond (Kew Observatory) the maximum temperature, 59° F., was the highest recorded in December since at least 1871, at Ross-on-Wye 59° F. was the highest December temperature for over 70 years, at Cambridge 60° F. was the highest recorded since at least 1876, whilst 58° F. at Oxford has only once been equalled in December since at least 1871, viz., in 1897. Exceptionally mild conditions again prevailed from the 23rd to 28th. On the 24th the temperature rose to 61° F. at Aberdeen, the highest recorded there since at least 1871. In Scotland and the north of Ireland the 24th was generally the warmest day of the month.

Associated with anticyclonic conditions and fog some low maximum temperatures were recorded on the 18th and 19th, e.g., 27° F. at Ross-on-Wye on both days, the lowest temperatures recorded there since February 12th and 13th, 1929.

Ground frost was most severe on the mornings of the 7th, 8th, 17th to 20th and 28th to 31st. The extreme temperatures for the month were:—(England and Wales) 61° F. at Worcester (Perdiswell) and at Margate on the 4th, 15° F. at Rickmansworth on the 19th and at Appleby on the 31st. (Scotland) 60° F. at Aberdeen, Banff, Craibstone and Gordon Castle on the 24th and 16° F. at Dalwhinnie on the 31st. (Ireland) 60° F. at Killarney on the 3rd, 24° F. at Kilkenny on the 31st.

Precipitation.—Associated with the prevalence of anticyclonic conditions was a marked deficiency of precipitation in almost all parts of the country. The general precipitation over the British Isles, expressed as a percentage of the normal for the period 1881–1915, was 57; the values for the constituent countries were:—England and Wales 45, Scotland 81, Ireland 66.

The deficiency was most pronounced in the south and south-east of England where less than one-third of the normal December precipitation was recorded in several places. Thus monthly totals, expressed as a percentage of the December normal, amounted to only 17 per cent. at Margate, 19 per cent. at Southampton, and 24 per cent. at Grayshott and Totland Bay. Only along the western seaboard of Scotland, in the Orkneys and in the Shetlands did precipitation exceed the normal. In these areas some places had only one or two dry days. On the other hand, between Aberdeen and the border district large areas had less than 30 per cent. of the normal. At Marchmont, with the exception of December, 1926, the month was the driest December since 1808. In Ireland a small excess was recorded on high ground in Tyrone but elsewhere totals were below the normal, the deficiency being greatest in the Dublin and Cork areas which received less than half the normal.

The heaviest daily falls were 82 mm. at Kinlochquoich and 60 mm. at Glenbranter on the 2nd. Falls exceeding 25 mm. occurred also in the north and west on the 22nd or 23rd.

Snow and hail occurred in the north between the 25th and 30th, and were widely reported on the 29th. Snow lay 6 in. deep at Balmoral on the 30th and 7 in. at Achnashellach on the 31st.

Sunshine.—In the north-east and east of Scotland, the north-east of England and locally in the Midlands, sunshine aggregates exceeded the normal, but elsewhere were, with few exceptions, below the normal. As illustrating the general dullness of the month, it may be mentioned that in London (Greenwich and Westminster) no sunshine was recorded from the 11th to the 26th inclusive, while the month at Southport was the dullest December since that of 1912. Representative totals for Districts, expressed as a percentage of the normal for the period 1881 to 1915, ranged from 58 per cent. in Scotland N. to 138 per cent. in England N.E. The sunniest periods occurred at the beginning and end of the month and on the 7th, 17th, and 18th. Outstanding daily records were 7·1 hours at Eastbourne and 7·0 hours at Ross-on-Wye and Torquay on the 7th and 7·2 hours at Torquay on the 30th.

Fog.—Dense fog occurred in many places on the 1st and 2nd, in London and the south-east on the 18th and more widely on the 19th and 20th.

Miscellaneous Phenomena.—Aurora was observed locally in the north of Scotland on the nights of the 1st, 5th, 11th, 13th, 14th, 17th, 22nd 23rd and 31st.