

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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JANUARY, 1923: A MILD MONTH.

General.—January was characterised by mild sunny weather in the south of the British Isles and by frequent gales in the north. During the first few days depressions from the Atlantic influenced the weather which was unsettled, with somewhat heavy rain at times but considerable bright intervals. Coastal gales occurred on the 2nd and again on the 9th and 10th when a deep depression passed over the extreme north of Scotland; in its rear came northerly winds associated in Scotland with showers of hail, sleet and snow. Although the temperature continued above normal on the whole, some cold days were experienced, for instance on the 17th, when a small centre of high pressure was over the London area. Frost and fog prevailed on this day in many parts of London; the maximum temperature at Kew being only 29°F., but on the neighbouring coasts readings were 10° to 15° higher and 6 or 7 hours bright sunshine were enjoyed.

The general character of the month is illustrated by the following remarks taken from observers' returns:— Alfriston (Sussex).—On the 20th the first snow fell since Oct. 29th, a period of 82 days. Ardingly (Sussex).—A very mild month. Hodsock Priory (Nottingham).—A very mild and dry month with no wintry weather; vegetation unusually forward. Ipswich. —A mild dry bright month. Isleworth. —A spring-like month, fine and mild, with only three days of bad weather. Skegness. —The month has been remarkable for the absence of any easterly wind; the sunniest January since 1910, and generally mild. Southport. —By far the most persistently westerly January during the 52 years observations and one of the mildest and most equable of the months of that name. Totland Bay (Isle of Wight). —On the 13th the screen temperature fell below 30·5°F. for the first time this winter. On the 31st cowslips were in full bloom. Cargen (Kirkcudbright). —Pasture extraordinarily verdant. Buds of trees prematurely active; garden and farm work well advanced. Dublin City. —Some cold spells of brief duration occurred during the first fortnight, otherwise the month was distinctly mild ranking in this respect next to January, 1916, and January, 1921. Snow and sleet fell on only one day. At Willoughton (Lines) near the end of the month pansies and primroses were in bloom and roses were budding.

Pressure and Winds.—The mean pressure of the month was above the normal except in the extreme north. At the telegraphic reporting stations the departure of the monthly means of pressure from normal varied from +10mb. at Scilly, to -2mb. at Lerwick. The isopleths of mean pressure trended from W.N.W. to E.S.E. and they lay closer together than those of the normal map.

With the exception of a short-lived secondary depression on the 29th in northern Scotland and one or two minor secondaries further south no centre of low pressure crossed the British Isles during the month, all the tracks lying north of latitude 58°N. in this neighbourhood. The deepest depression was that which lay to the South of Iceland on the morning of the 2nd and which subsequently passed up the coast of Norway (Track C).

The strongest winds of the month were those of the 9th—10th and 19th—20th, the former associated with a depression which travelled across the north of the Orkneys to Norway (Track F), and the latter with a very steep gradient of pressure which lay over the British Isles on the night of the 19th and the morning of the 20th. Lerwick had 15 days during which the wind had a mean strength of more than 38m.p.h., for a period of not less than one hour, while Deerness had 11 such days. The strongest gust of the month was one of 85m.p.h. recorded at Lerwick on the 19th while a gust of 74m.p.h. occurred at Southport on the 10th. High gusts were recorded at many stations on the 19th and 20th.

Temperature.—The mean temperature of all districts was 43°F. and the mean temperature of each district was above the normal not only for the month as a whole but also for each week of the month. The largest excess was in Scotland east, +4·5°F., the mean temperature being 42°F. and the smallest excess was in the Channel Islands and Scilly, +1·8°F., the mean temperature being 46°F. In the northern part of the British Isles the temperature increased relatively to its normal value as the month progressed and Scotland east had an excess of +7·4°F. for the week ending on the 27th. The abnormal mildness which had characterised the winter in Scotland was thus maintained and a milder January has only twice been experienced in that country during the last 60 years (in 1898 and 1916); only once (in 1897—8) has the period November to January had a higher mean temperature.

It is interesting to note that at several stations at the end of the month the temperature never fell below 50°F. for four days, this temperature being in excess of the mean maximum for the month at any of the stations. At South Kensington the temperature did not fall below the mean maximum (42·7°F.) between 5h. on January 29th and 22h. on February 4th, a period of six and a half days. This hot spell was associated with a complex pressure system, the main feature of which was a tongue of high pressure from the neighbourhood of the African coast to the north of Spain. Pressures over England were not unduly high, the Kew reading at 7h. on the 31st being 1023·2mb. Upper air temperatures were very high, notably on February 1st when the 10h. values for 5,000 ft. over Utrecht and

the Helder gave readings well in excess of summer anticyclonic temperature for that altitude. These facts indicate that the hot air had been transported from western Africa. The lower strata of this current were cooled by passage over the sea and yielded a considerable amount of sea-fog on the western coasts notably on February 1st and 2nd.

The extreme screen temperatures for the month were:— (England and Wales) 59°F. at Torquay on the 30th, 21°F. at Luton and South Farnborough on the 17th; (Scotland) 56°F. at Kelso on the 26th, 19°F. at Eskdalemuir on the 1st and 13th; (Ireland) 58°F. at Newtownbarry on the 31st, 24°F. at Newtownforbes on the 1st. The lowest grass minimum temperature was recorded at Rhayader, 13°F. on the 23rd, while at Tunbridge Wells 14°F. was recorded on the 17th and 24th.

Precipitation.—Scotland north, Scotland west and Ireland north, had precipitation in excess of the normal, all other districts having a deficit. The values for the several countries, expressed as a percentage of the average were England and Wales 82, Scotland 123, Ireland 90, British Isles 98.

There were several regions in England and Wales with precipitation of over 100% of the average, the two chief ones being (i) an area embracing northern Lancashire and the Lake District (ii) a coastal area including parts of Cardiganshire, Merionethshire and Montgomeryshire. There were three small areas with less than 50% of the average the largest being on the borders of Northumberland, Cumberland and Durham. Apart from the above mentioned local areas the line of normal precipitation ran obliquely through Ireland and Scotland, the north-western parts of both countries being wet and the south-eastern parts dry. In the north-west regions there were areas with precipitation exceeding 150% of the average, three in Scotland and one in Ireland. The largest of these Scottish wet areas was one embracing Ross and Cromarty and parts of Inverness and Sutherland. At Glenquoich in West Inverness-shire a total of 615mm. fell representing 176% of the average; this quantity of precipitation in January has only been exceeded in 1916 and 1921, during the last 40 years. The Irish wet area extended from Donegal Bay into Tyrone and Fermanagh. In parts of south-eastern Scotland the rainfall was much below normal, the month being for some places the sixth in succession with deficient rainfall. The extreme south-east Irish coastal region had precipitation under 50% of the average.

Daily rainfalls exceeding 30mm. were recorded at several Scottish climatological stations, notably 41mm. at Achnashellach on the 23rd and 37mm. at Fort William on the 7th. Falmouth had 22mm. on the 5th and Buxton 21mm. on the 19th.

There was an unusual absence of snow throughout the month. A few unimportant falls occurred in the northern areas of Scotland.

Thunderstorms occurred locally, mainly between the 9th and the 11th, associated with the depression (Track F) referred to in the pressure section. Hail also occurred on various occasions but not in large quantities.

Sunshine.—The duration of sunshine was appreciably above the normal in Scotland east and the whole of eastern England including the Midland counties and England south-east. Over the western part of Great Britain and the whole of Ireland sunshine was somewhat below the average. The largest mean daily excess occurred in England north-east (+0·62hr.) and the largest mean daily deficiency was experienced in Ireland north (-0·39hr.). The duration of sunshine reached 25% of the possible in England north-east and England south-east; Scotland north on the other hand had only 10%. Places on the south-east coast of England had nearly 80 hrs. sunshine during the month and Gorleston's total of 71 hrs. was more than double that recorded in January, 1922. The sunniest days were the 6th when a large number of stations recorded 6 to 7 hrs. of sunshine; the 11th and 12th, 5 to 6 hrs., general; the 17th, nearly 7hrs., south and south-east coasts; the 23rd, on which day a large number of stations had more than 7hrs. (Falmouth 7·8 hrs.).

Fog was of not infrequent local occurrence but there were no extensive or serious fogs reported except that which covered parts of the London area on the 17th (see general section). The most remarkable feature about this fog was its patchy character with many sudden transitions from thick fog to bright sunshine in a short distance. Some districts had fog continuously all day, such as South Kensington and Hounslow, while others, such as Hampstead, had no fog at all.

Miscellaneous Phenomena.—Glazed frost was observed at Tynemouth on the 1st and at Ilkley on the 21st. Aurora was seen at Deerness on the 10th and at Gordon Castle on the 10th and 13th. Solar and lunar halos were widely observed and parhelia were seen at Oxford on the 1st and 6th and at Ross-on-Wye on the 12th. A lunar rainbow occurred at Inverness on the 3rd. The Zodiacal Light was observed at Oxford on the 8th, 9th, 10th, and 11th and at Ross-on-Wye on the 7th, 11th and 18th while at Wadhurst (near Tunbridge Wells) it was seen on every evening from the 7th to the 17th inclusive, with the exception of the 13th.