



## Weather Front

2021/1921

2021

### Observers Notes.

**Lowdham:** The highest minimum temperature for December was recorded on the 31<sup>st</sup> since 1994. 38.2 hours of sunshine was recorded at Radcliffe-on-Trent.<sup>i</sup>

**Mickleover:** Most rain days since 1999, and second on the station record (1981). The highest maximum temperature was the highest in December since 2016 (15.6 C) and the second highest since 1981.

**Bablake:** It was the dullest December since 1989 (20.0 hours); only four Decembers months have had less sunshine in the last 50 years.

**Middleton:** The minimum temperature of 10.9 C, on the 31<sup>st</sup>, was the highest on record for December since 1977. It was also the dullest December since 1989 and the dullest of any month since January 1996. It was also the foggiest December since 2002.

**Mountsorrel:** It was the mildest December since 2018 at my station with a mean of 6.5c+1.7c. Rainfall at 61mm was 102% of average. It was the dullest December in my 20 years of records with just 23.5 hours recorded or just 40% of the long-term average. The first week was mainly mild and showery. Storm Barra arrived on the 7th but caused little problem here in the East Midlands with my maximum gust of wind being just 43mph on the 7th and just over 12mm of rain over the 6/7th. It then became very mild with 14.1c being recorded on the 12th. A big change took place on the 15th when a large Anticyclone developed over the UK with a max pressure of 1041mbs on the 17th. There was an extended 12-day period without any sunshine between the 15th and 27th before wet and extremely mild conditions returned in the last week. My max temperature was 14.8c on the 31st after a minimum the previous night of 12.3c the warmest December night i have ever recorded. The day maximum of 14.8c on the 31st was the second highest Dec max i have recorded after 19th December 2015 when I logged 15.3c. There was no falling snow this month and only 2 air frosts recorded.<sup>ii</sup>

**Ely:** The maximum temperatures on the 12<sup>th</sup>, 29<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> were all the highest for those days in 51 years of recording. The highest Maximum temperature for the month of 15.6 C,

on the 30<sup>th</sup>, just failed to reach the December statin Max of 15.8 C set on 19<sup>th</sup> December 2015.

**Derby:** There was a 63 mb pressure range (977-1040 mb) during December. Although the final two days of December were the warmest on record for those dates (30<sup>th</sup>/31<sup>st</sup>), no extreme records were threatened at all. 15 C is rarely seen, but has been, on a handful of occasions, and the top of the list, 15.9 C, was well out of sight at Derby!

**Desford:** A very mild, dull and damp month. Often foggy around Christmas and approaching the end of the year.

Pitsford: Unsettled for the first fortnight with a succession of lows bringing wet and windy conditions. Settled later in the month, but with anticyclonic gloom. The Christmas and New Year period saw a return to unsettled conditions with some particularly wet days and unseasonable warmth as the year drew to a close.<sup>iii</sup>

### **Weather impacts<sup>iv</sup>**

Snow caused road closures on the 6<sup>th</sup> in Derbyshire and parts of Cumbria. Storm Barra arrived the next day, and in Northern Ireland there were reports of up to 6,000 properties without power, while all ferries between Belfast and Cairnryan were cancelled as well as all local ferries. Fallen trees affected rail services, and coastal routes were impacted due to large waves. Flooding and fallen trees affected a number of roads across Britain. In Wales, some fallen trees blocked roads, with a small number of properties without power, and the roof of a school in Llanelli was damaged by the strong winds. Snow fell on higher ground in north-west England, with some reports of fallen trees impacting both rail and road travel. In East Anglia some trees were brought down, impacting rail services between Norwich and Lowestoft and reducing the speed limit on the Orwell Bridge. In the south-east of England including London there were reports of flooding and fallen trees impacting travel, with delays to some train services. A spell of high pressure gave settled weather across the UK, but some fog warnings were issued during this time. Snow affected some roads across the Pennines on the 26<sup>th</sup>, including the A66, and the Honister Pass in Cumbria. In Northern Ireland on the 29<sup>th</sup>, strong winds and fallen trees impacted road travel, with closure of a temporary vaccination centre in Belfast and a temporary speed limit for high-sided vehicles on the Foyle Bridge. South-west England also saw some flooding and fallen trees. Sections of the A35 and A303 were temporarily closed due to flooding, and the M48 Severn Crossing was closed due to high winds. Rain on the 30<sup>th</sup> and 31<sup>st</sup> brought some travel disruption across the northwest of England, with flooding on the M6, M61, M66, and A6 and some lane closures reported. Flooding also affected some rail services such as between Preston and Lancaster, and between Carlisle and Workington.

## **1921**

### **Observers Notes.**

**Southport (Lancashire):** The month was abnormally mild and almost continuously of a westerly type. The latter half was very stormy.

**Newquay (Cornwall):** First ten days very quiet. Very rough towards end.

**Derby/Burton on Trent:** Pretty well all the known gauges yielded rainfall in the 45-55 mm range, which is a little lower than normal and certainly so by today's standards, where December's mean is around the 70 mm mark. It closed off one of the more remarkable dry years though, where several sites had an annual total below 500 mm. The driest was one of the Burton on Trent sites with 444 mm. The "wetter" locations exceeded 500 mm by only small amounts. This, probably, would rank locally as the driest year since 1887 and, although there have been just a few drier years since 1921, annual totals below 500 mm are most unusual. Temperatures in December 1921 suggest a fairly mild month for the time of year, with mean values in the order of 5.5 C to 6 C. The extreme maxima were around a very mild 14 to 15 C on the 17<sup>th</sup>, and minima around -4 C to -6 C on the 4<sup>th</sup> and 26<sup>th</sup>. Eleven air frosts were recorded in Burton on Trent.<sup>v</sup>

### **Overview of December 1921.**

Except for the first four days a westerly airstream predominated over the UK. It was mild for the time of year and unsettled, but the total precipitation was only moderate, except for the north and west of Scotland.

At the start of the month the UK lay between an anticyclone centred over Scandinavia and a depression over north-west Spain. This depression produced unsettled weather over the country with strong easterly winds, particularly in the south of the country. By the 2<sup>nd</sup> the depression had moved into the Mediterranean and produced heavy falls of rain in that area. By the 5<sup>th</sup> the anticyclone had moved south and left the whole of north-west Europe open to a series of Atlantic depressions which dominated for the remainder of the month. Temperatures rose considerably. At 0700 on the 5<sup>th</sup> the temperature at Valencia was [14 C] but at Kew, at the same time, it was [-1 C]. However, during the following day the milder conditions had affected the whole of the country and produced overcast and dull weather with rain everywhere. Temperatures continued high, but rainfall totals were not large. On the 8<sup>th</sup>, at Aberdeen, the temperature rose to [14 C], which equalled the record set on 15 December 1873, while at Eskdalemuir, on the same day, the temperature reached [12 C]. This was the highest for December in the twelve years 1910-1921. On the 13<sup>th</sup> a small secondary lay over the English Channel, but rainfall amounts were generally small. From the 15<sup>th</sup> an anticyclone near Spitsbergen forced depressions near Iceland to move towards southern Scandinavia. These produced frequent gales over a large area, which included the British Isles, the North Sea, and the Baltic. Temperatures continued high and throughout the night 18<sup>th</sup>-19<sup>th</sup> minima did not fall below [10 C] in many parts of south-eastern and southern England, with many minima well above this temperature in some places. On the evening of the 17<sup>th</sup> a depression over southern Norway produced gales which continued for several hours while, on the 19<sup>th</sup>, another depression to the south of Iceland caused a renewal of gales. However, the precipitation associated with these depressions was, again, not large. On Christmas Eve, a north-westerly associated with a depression centred over the Baltic, lowered

the temperature considerably over the country and reports of ground frost were widespread. A fresh depression on Christmas Day renewed the mild conditions and temperatures over southern England exceeded [10 C]. A ridge of high pressure, which spread over the English Channel and northern France, produced a sharp frost on Boxing Day morning, but was short lived as cyclonic conditions began to dominate again and, in the north and west heavy falls of rain were recorded, together with high winds and gales. At 0100 on the 28<sup>th</sup> winds of over [48 kt] were recorded at Plymouth. The passage of a depression to the north of Scotland, on the 30<sup>th</sup>, was accompanied by violent gales. Gusts in excess of [50 kt] were recorded at Kew, at Benson and Scilly gusts in excess of [60 kt] were noted while, at Holyhead gusts over [65 kt] were recorded. Much damage to property ensued. Heavy rain, snow and hail fell in south-west Scotland during this period, and at Eskdalemuir, 25 mm was recorded on three successive days.

The weather in Scotland was similar to that in England, being mild and unsettled, however, precipitation was much greater, particularly in the west. The rapid rise in temperatures on the 4<sup>th</sup> and 5<sup>th</sup> continued throughout the month, as was the case in England. There was however a brief period of wintry conditions around the 21<sup>st</sup> and again on the 28<sup>th</sup> and 29<sup>th</sup>. The mean temperature for the month was the mildest since December 1900. The lowest minimum was [-6 C] at Bangour on the 4<sup>th</sup>, and at Eskdalemuir on the 5<sup>th</sup>; this was an abnormally high minimum for December. The highest maxima were [15 C] at Perth on the 7<sup>th</sup>, Crathes on the 8<sup>th</sup>, and at Sterling on the 16<sup>th</sup>. Rainfall was generally below average in the north-east and south-east; at Aberdeen only around 50% of average was recorded. Elsewhere rainfall totals were above average. In the west unsettled weather was almost continuous from the 4<sup>th</sup>; a rainfall total of 100 mm occurred at Kinlochquoich on the 4<sup>th</sup> and again on the 31<sup>st</sup>. High winds and gales were frequent during the second half of the month, with thunderstorms and frequent hail showers being reported locally in the west between the 20<sup>th</sup> and 29<sup>th</sup>.

A noteworthy feature of the latter part of the month was the occurrence of frequent gales. Much structural damage was done, and several casualties occurred both inland and on the coast. Transatlantic liners experienced very rough weather. An unprecedented high tide, accompanied by strong gales, caused serious flooding at Hull on the evening of the 17<sup>th</sup>. Much damage ensued and many people rendered homeless.

The mean temperature for the month was above average throughout the country and ranged from [+1.4 C] in the south-west of England to [+2.6 C] in Northern Ireland. Precipitation was below average over much of the country, with less than 50% being recorded in the London area, eastern Aberdeen and south-east Ireland. However, 650 mm was noted at Glenquoich, which had only been exceeded twice since 1880. A large area of the Western Highlands received more than 250 mm and 1031 mm was recorded at Loan (Inverness), which was a rare occurrence, even for that area. Less than 25 mm was recorded in parts of south-east Ireland but, in the north-west 100 mm was noted.

General Rainfall for December 1921: England and Wales 83%, Scotland 133%, Ireland 80%, and the British Isles (as a whole) 101%.<sup>vi</sup>

**Central England Data.**<sup>vii</sup> (Averaging period is 1891 to 1920.)

Mean Maximum Temperature: 9.2 C. Average: 7.2 C.

Mean Minimum Temperature: 3.9 C. Average: 2.1 C.

Mean Temperature: 10.5 C. Average: 9.2 C.

England and Wales Rainfall: 76.2 mm. Average: 104.2 mm

Midlands Data (Averaging period is 1911-1920.)

Midlands Mean Maximum Temperature: 8.9 C. Average: 7.0 C.

Midlands Mean Minimum Temperature: 2.7 C. Average: 1.4 C.

Midlands Mean Temperature: 5.8 C. Average: 4.2 C.

Midlands Rainfall: 68.6 mm. Average: 97.9 mm.

### **2021 (Provisional)**

Central England (Averaging period is 1991-2020).

Mean Maximum Temperature: 8.7 C. Average: 7.9 C.

Mean Minimum Temperature: 4.0 C. Average: 2.2 C.

Mean Temperature: 6.4 C. Average: 10.2 C.

England and Wales Rainfall: 106.4 mm. Average: 103.6 mm.

### **Annual 2021 (Provisional).**

Central England (Averaging period is 1991-2020).

Mean Maximum Temperature: 10.3 C. Average: 10.2 C.

Mean Minimum Temperature: 6.5 C. Average: 6.5 C.

Mean Temperature: 14.1 C. Average: 14.0 C.

England and Wales Rainfall: 978.7 mm. Average: 971.4 mm.

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<sup>i</sup> J Osborne, by email.

<sup>ii</sup> P Morrish, by email, 2 January 2022.

<sup>iii</sup> Monthly Weather Report, December 2021, Pitsford Weather Centre, January 2022, p. 3.

<sup>iv</sup> Monthly Weather Report, December 2021, Meteorological Office, January 2022, p. 1.

<sup>v</sup> D J Stanier, by email, 2 January 1922.

<sup>vi</sup> Meteorological Office Monthly Weather Report, December 1921, HMSO, 1922, p. 155.

<sup>vii</sup> Hadley Centre, Central England and Midlands, Meteorological Office.