



Weather Front.

December 2022/1922

December 2022

Observers notes.

Ely: It was the coldest December since 2010, and very cold between the 6th and 19th with continuous night frosts. The month also saw the lowest air and ground frosts since 1995.

Pitsford: A cold start but becoming even colder with much of the UK plunged into Arctic air for much of the month. Turning milder and more unsettled around Christmas.ⁱ

Desford: Colder and drier than the long-term average. The 11th saw the first December Ice Day since December 2012; there were a further three Ice Days. The cold spell brought patchy fog and lots of ice and frost deposits that resembled a covering of snow [hoar frost], however no snowfall occurred in the dry, frosty conditions.

Saltfleetby: Cold snap from the 1st building up to days of frost, and daytime temperatures reaching only low figures. There was one Ice Day on the 13th.

Coton-in-the-Elms: December 2022 was characterised by a very cold first half and milder, more unsettled, second half. On the 15th and 16th minima were -10.5 C and -10.1 C respectively, the coldest temperatures recorded in any month since December 2010.

Mickleover: The mean air temperature was the lowest since 2010, and the 3rd lowest since 1996. The diurnal range of 13.0 C, on the 19th, was the most on the December record (1985).

Mountsorrel: An average start, but the cold Arctic air moved down from the north on the 7th and lasted until the 17th. There were 12 consecutive frosts and the average temperature for these 12 days was -0.1 C. The 18th saw a change to Tropical air from the SW. The temperature on the 19th reached 13.8 C, nearly 21 C warmer than just four days earlier.

Derby: The mean temperature for the period 7th to 17th was -0.7 C.

Middleton: The coldest December since 2010. A very dry first half with only 9.1 mm recorded up to the 15th; a wet second half. Snowfall was minimal with a maximum depth of 0.7 cm on the 9th. The least windy December since 1992.

Bablake: The coldest December since 2010, only five colder in the past 30 years.

Weather impacts

An extended cold spell, most intense between the 6th and the 17th, saw various snow/ice events. Rather milder, more unsettled conditions thereafter saw rain becoming the main hazard, although snow and ice continued at times in Scotland. Wintry shower activity occasionally extended further south, with heavy snow showers causing travel disruption across northern parts of Devon and Cornwall on the morning of the 10th, resulting in numerous traffic accidents and several road closures. Then on the afternoon of the 11th and into the evening an area of heavy snowfall developed over parts of SE England and London, with more than 10 cm of fresh snow unofficially recorded in parts of Kent and widespread transport disruption ensuing: the M25 in Essex was closed for several hours and multiple snow-related accidents were reported from the M20 and M2 across Kent, while gritting/ploughing vehicles became stuck in stationary traffic and unable to operate. Temporary runway closures were reported at Gatwick and Stansted airports to enable snow to be cleared. Further north, during the 12th heavy wet snowfall, combined with strong winds, caused significant accretion, and resulting damage to power transmission cables, especially across Shetland, with some 3,800 properties losing power at one stage. Numerous cars became stranded on the Scottish mainland road network, with power/phone outages leading to radar failure at Sumburgh Airport, in turn delaying the arrival of power engineers attending to the damaged transmission lines. Heavy snow fell on the morning of the 16th across central Scotland, with several roads closed including the A83, A85 and M90. Glasgow Airport suffered delays and cancellations, whilst later that day over 50 people were stranded on the A85 near Crianlarich where a rest centre was hastily convened for the overnight period. The weekend of the 17th/18th saw the cold spell finally relent, and on the 18th much of the Pennines, North Yorkshire, Cumbria and Northumberland saw freezing rain amid the transition to much milder conditions, although the precipitation proved light and fragmented, with impacts limited to just one or two icy roads across N Yorkshire. However, the rapid temperature rise by the 19th caused many burst water pipes and mains, notably in the area served by Welsh Water. In Gloucester a burst water main caused road flooding, and the Gloucestershire Royal Hospital had to use its own water reserves after the main supply was cut. The weather became very unsettled during the closing days of the month, as the cumulative effect of several days' successive rainfall began to be felt across Scotland especially, causing rising river levels. In the wake of the rain, with numerous flood warnings issued, landslips closed the West Coast Main Line between Lockerbie and Carstairs, with the Edinburgh to Aberdeen line similarly disrupted in Fife. The River Nith in Dumfries overtopped its banks on the afternoon of the 30th, with property and surface water flooding arising in the centre of Dumfries, while elsewhere sections of both the M9 and M74 were closed due to flooding. On the same day Northern Ireland suffered widespread road flooding, especially across County Down. ⁱⁱ

December 1922.

Observers Notes.

Dornoch (Sutherland): Unusually mild, three varieties of primrose are in bloom in my garden.

Cargen (Kirkcudbright): Gardens still show many blooms; farm work at a standstill.

Southport: Extremely mild and equable with a notable deficiency of south-easterly winds. Barometer high and steady with much cloud, but fair weather, during the earlier half of the month, very low and unsteady with frequent and considerable rainfall, but many sunny intervals, afterwards.

Lenton Fields (Nottingham): There was a marked difference between the anticyclonic weather of the first fortnight and the stormy weather of the second.

Alfriston (Sussex): Last half of the month very stormy.

Dublin (City): An open month. Westerly and south-westerly winds prevailing almost to the exclusion of all others. The first 12 days had a rainfall of only 4 mm. The remainder of the month was very unsettled without, however, very heavy rain.

Seskin (Carrick-on-Siar): The absence of rain to any extent for the first 10 days, and a paucity of sunshine for 17 days, were unprecedented during my observations in December.ⁱⁱⁱ

Derby/Burton-on-Trent: Most of the rainfall sites received between 80 and 90 mm, which would have been a little above normal. Two "outliers" are Burton-on-Trent, with one at 70.6 mm and the other at 121 mm, while at a higher altitude, Byrkley Gardens, near Burton, recorded 136 mm. [Belper School 93 mm, Belper (Quarry Bank 97 mm and Buxton 133 mm.]^{iv} Temperatures were about 1 C above normal, with a mean at Burton of around 5.7 C. The highest daily value was around 12 to 13 C on the 5th, and the lowest minimum -1 C on the 28th. Only two air frosts occurred at Burton.^v

December 1922 Weather Summary

Mild, Quiet at First, Stormy Later.

The first half of the month was anticyclonic but, by the third week, pressure fell over the British Isles and Atlantic depressions extended further south, with secondaries frequently crossing England. After the 18th frequent gales affected some part of the coast. The month was mild, with temperatures above average. Sunshine was also above average in the east of the country.

An anticyclone was centred over the Bay of Biscay at the start of the month and it maintained its' position for the first week. During this time westerly winds and mild

weather dominated the country. There was little rain in the south but, further north, Atlantic depressions and occasional gales affected coastal areas. By the 8th high pressure covered the area from Madeira to Iceland and, by the 9th, covered the British Isles. Depressions began to take a more southerly course making the weather more unsettled. This continued to the end of the month.

On the evening of the 18th a deep depression was centred off the Hebrides producing south to south-westerly gales along the coast; thunderstorms were also being reported. On the 20th an intense secondary appeared at the entrance to the English Channel and moved rapidly north-east, accompanied by gales and heavy rain over southern England. In its' rear sleet and snow fell in Scotland and northern England. Further depressions crossed the country during the last week of the month producing gales and, in the west of the country, heavy rain and thunderstorms. By the 31st one depression had moved into Scandinavia while another moved along the southern coast of the British Isles.

Rainfall was, in general terms, average. Except for eastern England, the remainder of England and Wales was above average, while in Scotland rainfall was slightly below. Departures from average ranged from +24 mm in the Midlands to -27 mm in western Scotland. Rain fell in amounts of 20 mm or more and some measurements exceeded 40 mm; 41 mm at Plymouth during the night of the 19th, and 42 mm at Petersfield on the 22nd. In Scotland the first half of the month was dry in the east, but rather wet in the west, 72 mm fell at Ardgour on the 13th. During the second half of the month rain was fairly general, though heavy falls were confined to the west. The most widespread falls occurred at Leadhills with 54 mm on the 22nd, and at Glen Etive, 65 mm and Killin, 55 mm on the 25th. During the night of the 29th heavy falls were experienced in the east and south.

Snow, hail, and sleet were experienced during the second half of the month with snow laying over considerable areas in the western and central areas of Scotland on the 27th and 28th. Melting soon occurred apart from on high ground where some drifting was noted. There was no general snowstorm but an observer in Perthshire commented that the month was remarkably free from snow for December. During the latter part of the month snow or sleet showers fell briefly in southern Ireland and England. Thunderstorms were reported in all parts of the country during the last week.^{vi}

Some observations from around Europe and the World.

A depression near the Azores gave 48 mm of rain at Ponta Delgada on the 2nd while, on the 7th, a depression over Germany produced snow at many places in Germany, Poland and, locally, in Denmark. This depression moved south-east causing unsettled weather with snow and low temperatures over Central Europe; some days the temperature did not rise above freezing. The depression which appeared off the Hebrides on the 25th was followed by further depressions and produced a strong westerly gradient over the Atlantic. In the

early hours of the 29th the White Star liner “Baltic” reported winds reaching Storm Force 11 in longitude 29 W.

In northern Europe the weather throughout the month was unsettled with frequent falls of snow and sleet. On the 11th the trawler “Celerina”, from Grimsby, was wrecked in a snowstorm off Vardo.

During the first part of the month low pressure dominated the central Mediterranean producing a period of unsettled weather; on the 10th 43 mm of rain fell at Malta.

The month was cold and stormy in the area of the Great Lakes; on the 18th ice was reported to be forming at the head of Lake Superior.

In Australia much needed rain was reported, especially in central Queensland, where a good cotton crop was anticipated.

In central Brazil thunderstorms were rare, but the coffee and cotton crop were found to be promising, however, in the south of the country wheat suffered severely from rust.^{vii}

December 1922.

Central England Data.^{viii} (Averaging period is 1891 to 1920.)

Mean Maximum Temperature: 8.0 C. Average: 7.2 C.

Mean Minimum Temperature: 3.6 C. Average: 2.1 C.

Mean Temperature: 5.8 C. Average: 4.5 C.

England and Wales Rainfall: 116.4 mm. Average: 104.2 mm. 112%.

Midlands Data. (Averaging period is 1911 to 1920).

Midlands Mean Maximum Temperature: 7.5 C. Average: 7.0 C.

Midlands Mean Minimum Temperature: 1.6 C. Average: 2.2 C.

Midlands Mean Temperature: 4.5 C. Average: 4.6 C.

Midlands Rainfall: 100.6 mm. Average: 97.9 mm. 103%.

2022 (Provisional)

Central England (Averaging period is 1991-2020).

Mean Maximum Temperature: 6.6 C. Average: 7.9 C.

Mean Minimum Temperature: 0.2 C. Average: 2.2 C.

Mean Temperature: 3.4 C. Average: 5.1 C.

England and Wales Rainfall: 102.0 mm. Average: 103.6 mm. 101%

ⁱ Monthly Weather Report, December 2022, Pitsford Weather Centre, January 2023.

ⁱⁱ Monthly Summary, December 2022, Meteorological Office, HMSO, January 2023.

ⁱⁱⁱ Monthly Weather Report, December 1922, Meteorological Office, HMSO, February 1923, p. 155.

^{iv} Monthly Weather Report, December 1922, Meteorological Office, HMSO, February 1923, p. 160.

^v D J Stanier, by email 2 January 2023.

^{vi} Monthly Weather Report, December 1922, Meteorological Office, HMSO, February 1923, p. 155.

^{vii} Meteorological Magazine, January 1923, Meteorological Office, HMSO, February 1923, pp. 345-350.

^{viii} Hadley Centre, Central England and Midlands, Meteorological Office.