

April 2024 Monthly Weather Report

This document provides a summary of the UK's weather and climate statistics for April 2024.

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UK overview

April continued the theme of the previous few months, being unsettled, wet and dull. The April showers were present from the beginning of the month, with frontal systems bringing persistent rain across the UK. The eleventh named storm of the season, Kathleen, arrived on the 5th/6th, bringing heavy rain to Scotland, Wales, parts of Northern Ireland, and the west coast of England. Kathleen also brought strong winds across the UK, with gales along coasts, particularly in the north and west of the UK. However, the southerly source of the wind led to mild temperatures, particularly along the south-east coast of England: Santon Downham, Suffolk recorded 20.9°C on the 6th. After a warm start to the month, temperatures dropped, with the last two weeks of April cooler than average. A high-pressure system moved over the UK on the 20th, bringing some drier weather but cool temperatures to much of the UK. By the 25th, low pressure was back, and the showers increased.

The cooler second half of the month balanced out the warmer first half of the month, resulting in a provisional average mean temperature of 8.3°C for the UK, only 0.4°C from the 1991-2020 long-term average. It was a wet month, with all countries provisionally recording over 100% of the average monthly rainfall. The UK overall recorded a provisional 111.4mm of rain, 155% of the long-term average. Scotland and northern England were particularly wet, recording 160% and 176%, respectively, of the average April rainfall. Edinburgh received over 200% of the average April rainfall, provisionally the second wettest April on record in a series from 1836. The month has overall been quite dull, with the UK provisionally recording only 122.9 hours of sunshine, 79% of the average.

Reference climatology used for calculating anomalies is the period 1991-2020 unless otherwise stated.

Weather impacts

- **Heavy rain and strong winds from storms Kathleen and Pierrick led to flooding and travel disruption**
- **Significant coastal flooding affected the south coast as strong winds coincided with high spring tides**

April started with a complex low-pressure area over or close to the UK with appreciable rainfall observed on a daily basis. Surface flooding across the Lothian district led to road closures and delays on the rail network.

Storm Kathleen arrived on the 4th, bringing adverse road and rail conditions across Scotland due to the rain and snow in higher elevations. Strong winds associated with Storm Kathleen fringed the western UK during the 6th and led to various impacts, including a car swept into the sea by large waves in Fife and the roof of the Titanic Centre in Belfast being damaged. A few localised power outages were also reported across Northern Ireland.

Low and medium impact yellow warnings for wind and rain were issued for the 7th, several of them associated with the low-pressure system that was named storm Pierrick by Meteo-France. Strong winds affected primarily the Channel Islands and the south coast, coinciding with high spring tides that led to significant coastal flooding. A coastal holiday village at Bracklesham in West Sussex experienced severe flooding that injured as many as 100 people and triggered a major rescue operation.

Persistent frontal rain affected NE England and E Scotland on the 9th and resulted in road flooding and the temporary closure of the East Coast Main Line between Newcastle and Morpeth. Coastal flooding risk moved north from the south coast to North Wales, where strong winds brought coastal flooding to several communities.

The weather was generally much less impactful from mid-month onwards and no further warnings were issued for the second half of the month.

Monthly extremes

The table below lists UK monthly weather extremes recorded at individual weather stations during April 2024 from data available on 02/05/2024. The map shows the location of these stations.

Highest Maximum	21.8°C on 13th at Writtle (Essex, 32mAMSL)
Lowest Maximum	3.5°C on 4th at Altnaharra No 2 (Sutherland, 81mAMSL)
Highest Minimum	13.8°C on 6th at London, St James's Park (Greater London, 5mAMSL)
Lowest Minimum	-6.3°C on 26th at Shap (Cumbria, 263mAMSL)
Lowest Grass Minimum	-10.1°C on 26th at Dalwhinnie No 2 (Inverness-shire, 351mAMSL)
Most Rainfall	64.8mm on 29th at Mickleden, Middlefell Farm (Cumbria, 99mAMSL)
Most Sunshine	13.8hr on 29th at Manston (Kent, 49mAMSL)
Highest Gust	66Kt 76mph on 7th at Loch Glascarnoch (Ross & Cromarty, 269mAMSL)
Highest Gust (mountain*)	93Kt 107mph on 12th at Cairngorm Summit (Inverness-shire, 1237mAMSL)
Greatest Snow Depth at 0900 UTC	2cm on 5th at Kinross (Kinross-shire, 116mAMSL)

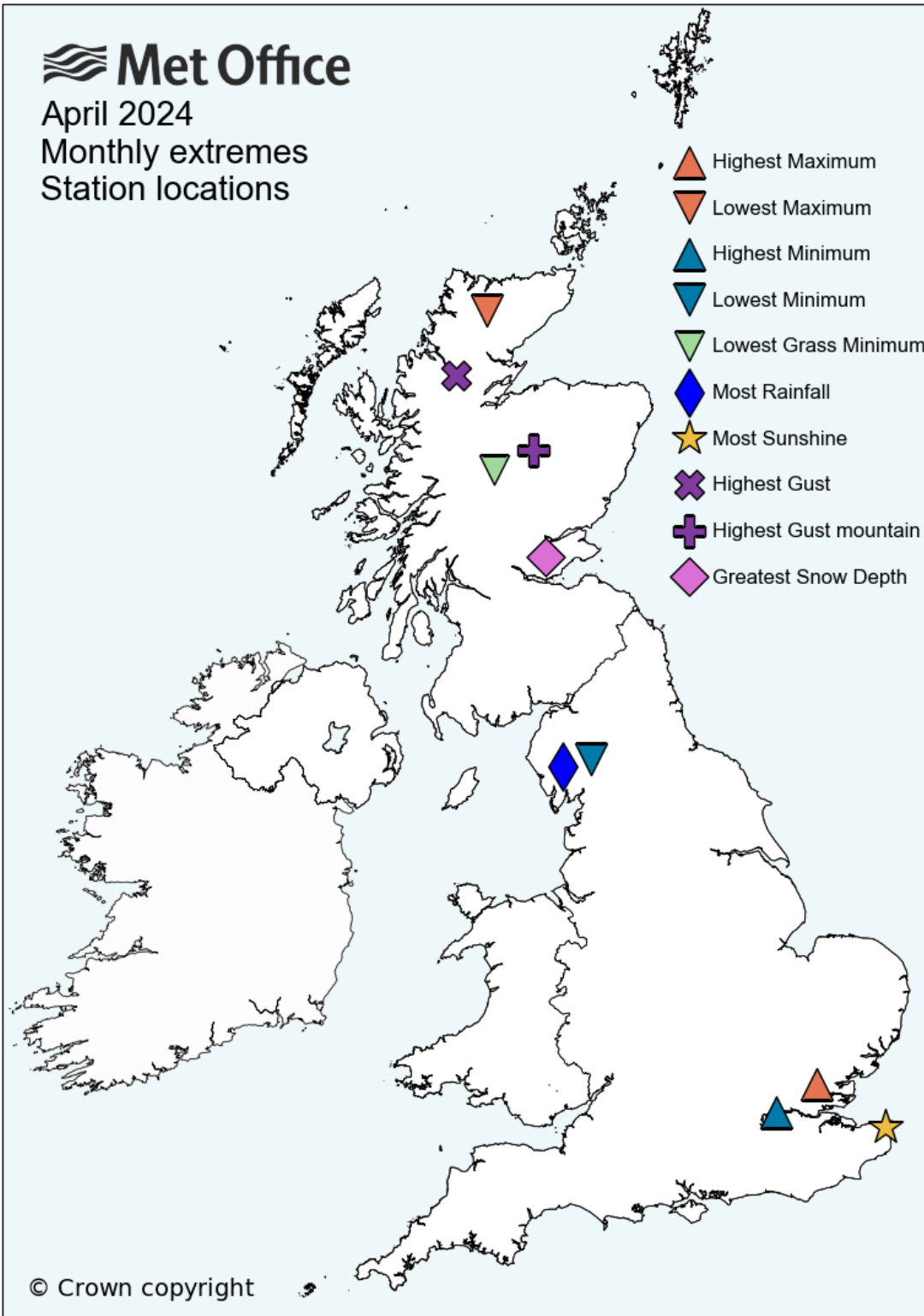
mAMSL refers to station elevation in metres above mean sea level.

*Mountain stations are above 500mAMSL.

April 2024

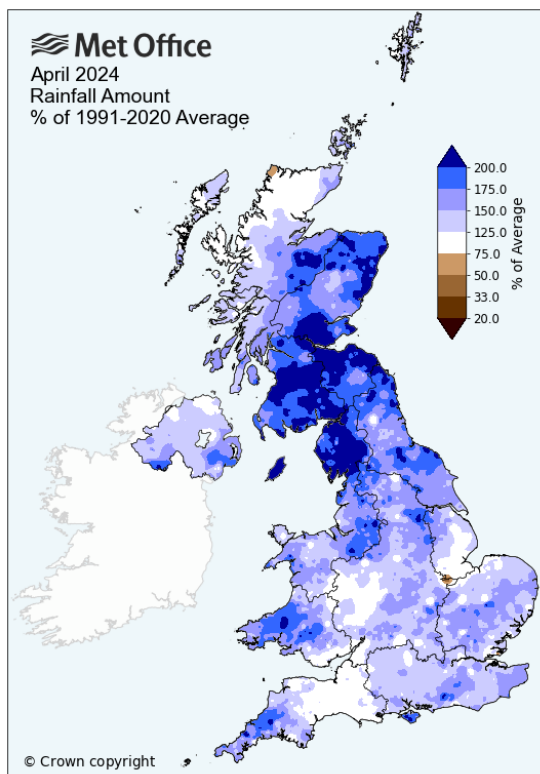
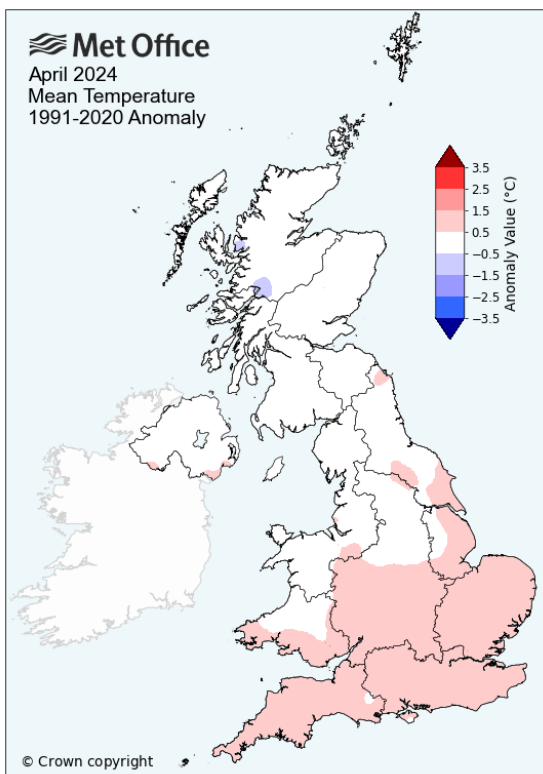
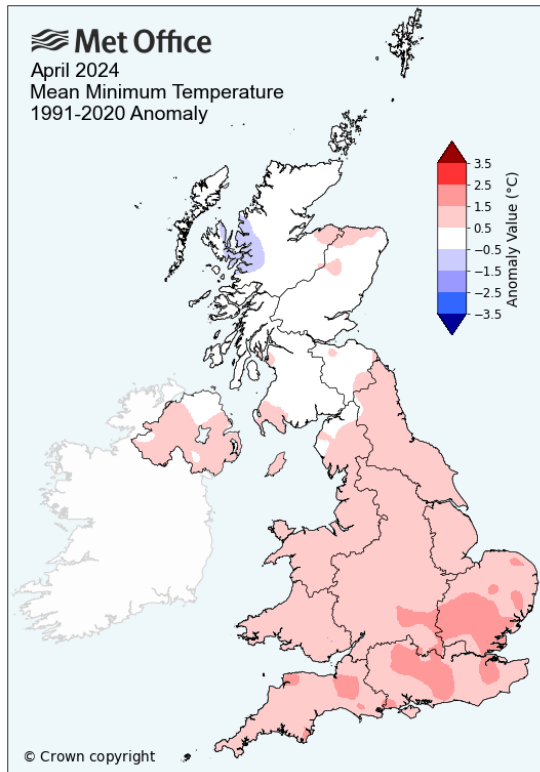
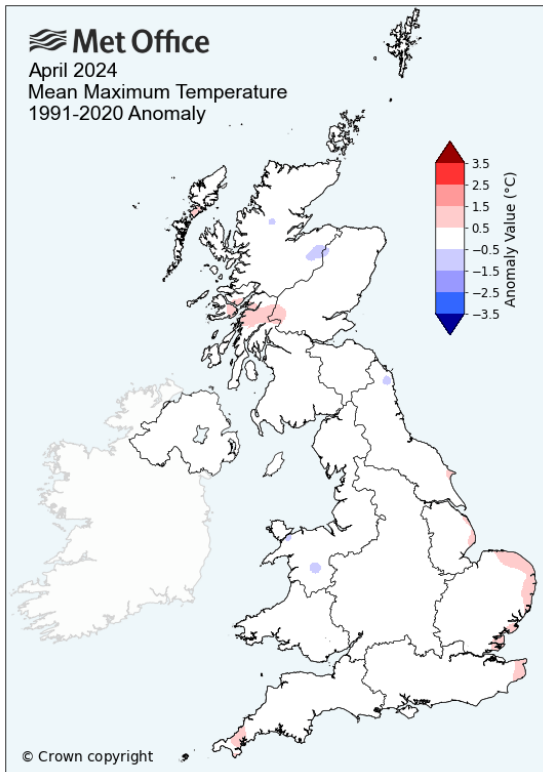
Monthly extremes

Station locations

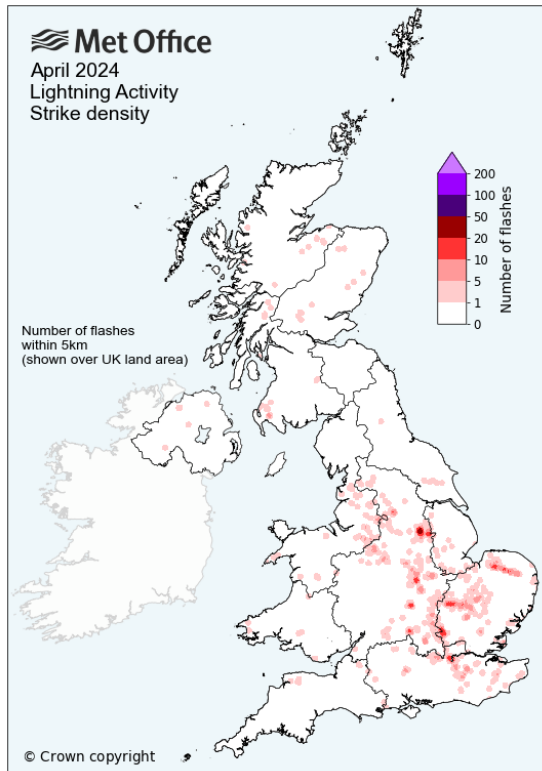
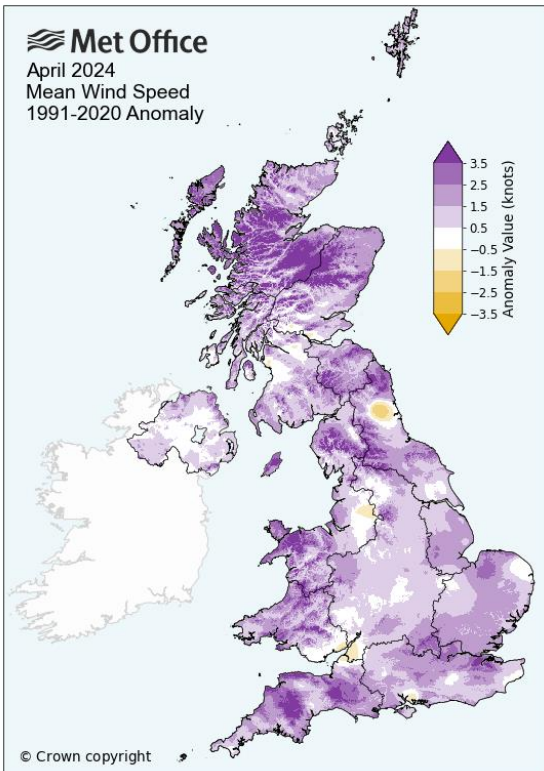
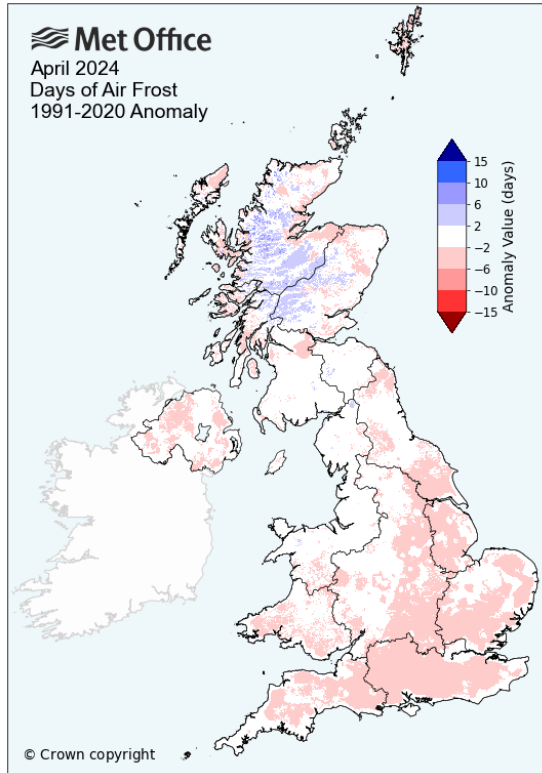
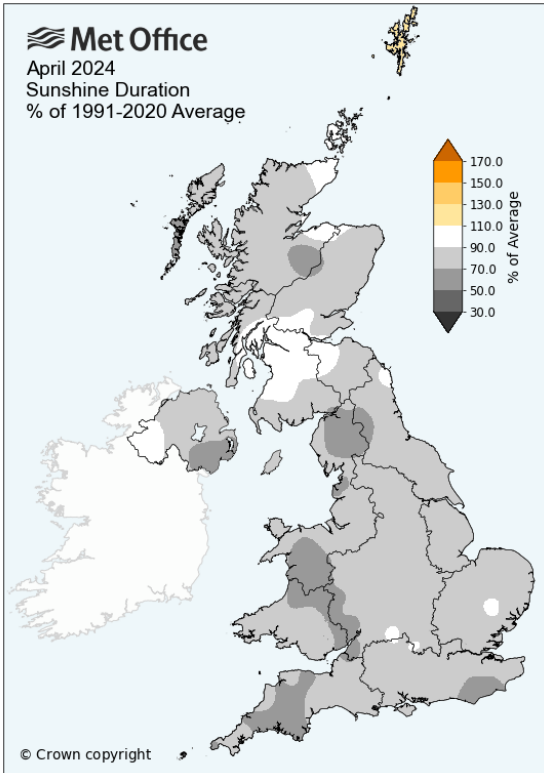


Monthly maps

These maps show monthly average daily maximum, monthly average daily minimum and monthly mean temperature and monthly rainfall for April 2024 as anomalies relative to the April 1991-2020 long term average.



These maps show monthly sunshine, monthly air frost and monthly windspeed for April 2024 as anomalies relative to the April 1991-2020 long term average, plus a map showing lightning activity as the number of strikes within a 5km radius of any land location.



Monthly climate statistics - actuals and anomalies

These tables show the UK and national climate statistics for April 2024 for max, min and mean temperature, rainfall, sunshine and windspeed as actual values and anomalies relative to the April 1991-2020 long term average. The position of the value within the full series (in both ascending and descending order) is shown in the two 'Rank' columns. Central England Temperature (CET) and England & Wales Precipitation (EWP) are also included.

Mean maximum temperature

Region	Maxtemp (°C)	1991-2020 Anomaly (°C)	Rank - warmest	Rank - coldest	Series length (yrs)
UK	12.0	-0.0	37	105	141
England	13.1	0.0	33	109	141
Wales	11.9	-0.2	44	98	141
Scotland	10.3	-0.0	40	102	141
Northern Ireland	12.1	0.2	33	109	141
Central England	13.4	0.1	34	114	147

Mean minimum temperature

Region	Mintemp (°C)	1991-2020 Anomaly (°C)	Rank - warmest	Rank - coldest	Series length (yrs)
UK	4.6	0.8	10	132	141
England	5.4	1.2	7	135	141
Wales	5.2	1.1	7	135	141
Scotland	2.9	0.2	33	109	141
Northern Ireland	4.5	0.6	23	119	141
Central England	5.8	1.2	10	138	147

Mean temperature

Region	Meantemp (°C)	1991-2020 Anomaly (°C)	Rank - warmest	Rank - coldest	Series length (yrs)
UK	8.3	0.4	22	120	141
England	9.3	0.6	16	126	141
Wales	8.5	0.4	20	122	141
Scotland	6.6	0.0	38	104	141
Northern Ireland	8.3	0.3	27	115	141
Central England	9.6	0.6	32	335	366

Rainfall

Region	Rainfall (mm)	% of 1991-2020 Average	Rank - wettest	Rank - driest	Series length (yrs)
UK	111.4	155	6	184	189
England	85.5	152	15	175	189
Wales	135.8	154	13	177	189
Scotland	148.9	160	4	186	189
Northern Ireland	104.6	141	24	166	189
EWP (England and Wales)	95.4	151	21	239	259

Sunshine

Region	Sunshine (hours)	% of 1991-2020 Average	Rank - sunniest	Rank - dullest	Series length (yrs)
UK	122.9	79	93	23	115
England	127.0	78	90	26	115
Wales	113.3	72	108	8	115
Scotland	119.2	84	84	32	115
Northern Ireland	118.4	80	95	21	115

Windspeed

Region	Windspeed (knots)	1991-2020 Anomaly (knots)	Rank - windiest	Rank - calmest	Series length (yrs)
UK	11.1	1.7	7	50	56
England	9.9	1.5	8	49	56
Wales	11.4	2.0	8	49	56
Scotland	13.1	2.2	3	54	56
Northern Ireland	9.5	0.8	12	45	56

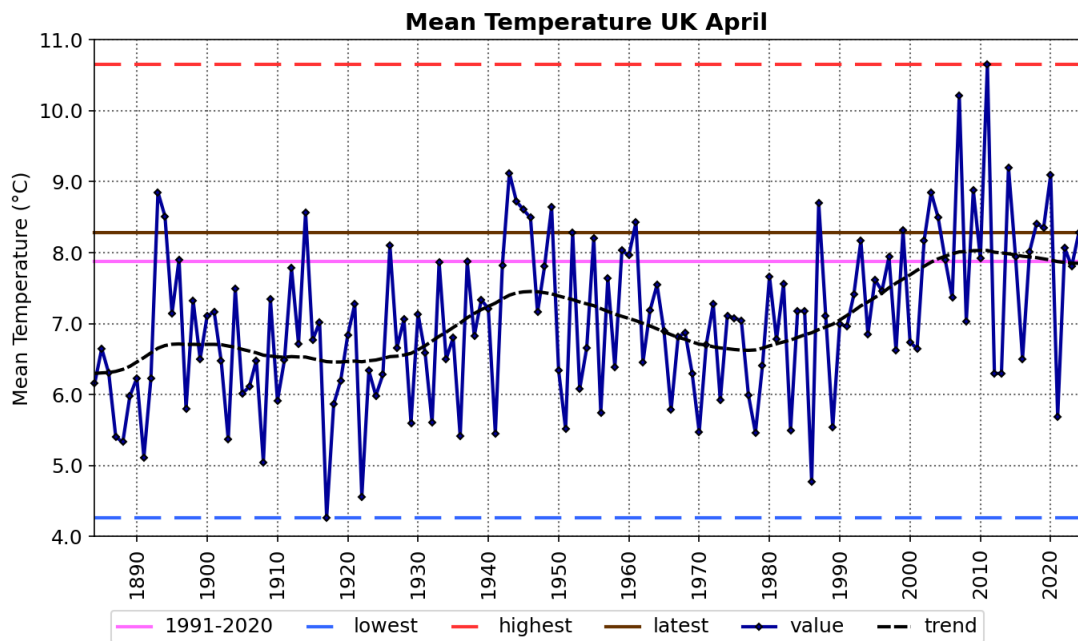
Monthly time-series

These charts show time-series for the UK for April for monthly mean temperature (from 1884), monthly rainfall (from 1836) and monthly sunshine (from 1919). The brown line shows the latest (2024) value. The hatched black line is a smoothing filter which shows the long-term trend. The tables below show statistics for the latest year, latest 10 years 2015-2024, the most recent 30-year climate reference period 1991-2020 and the 30-year baseline climate reference period 1961-1990.

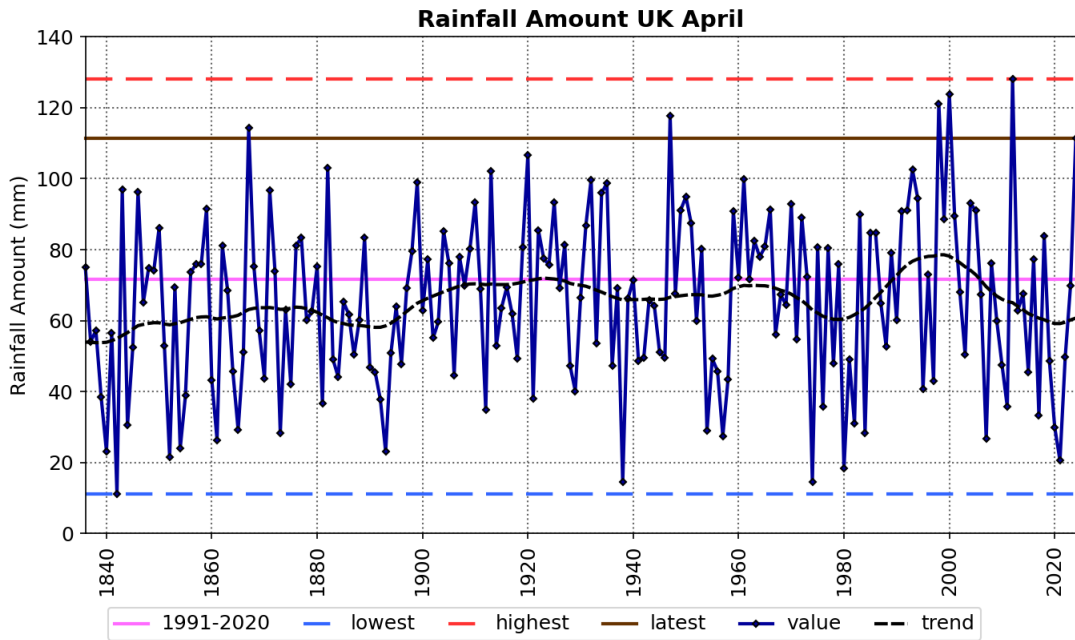


Source: HadUK-Grid 01/05/2024 11:40

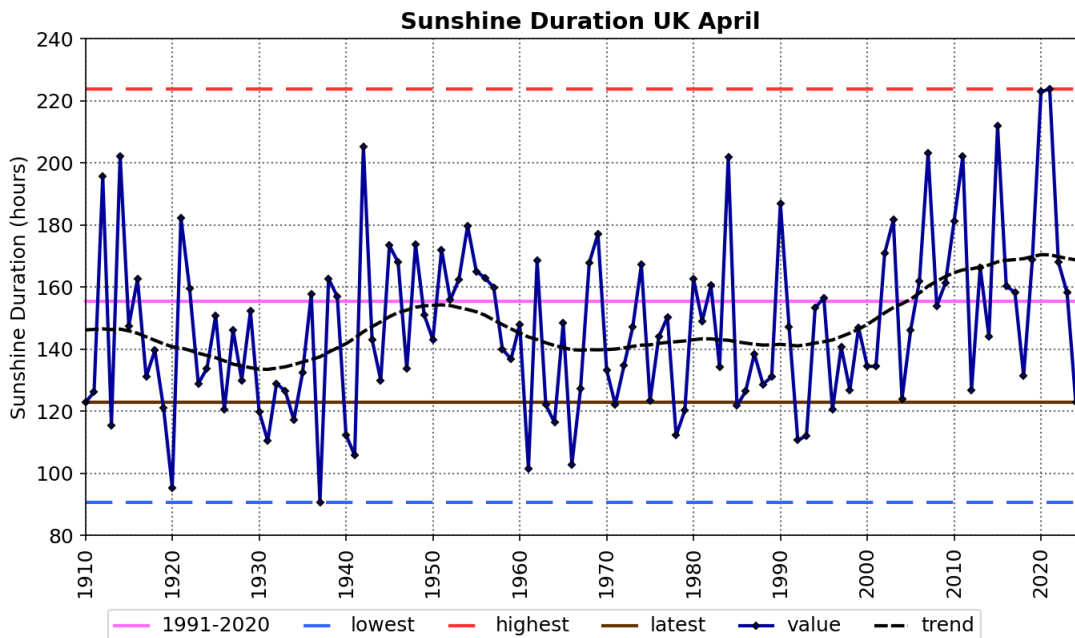
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Period	1961-1990	1991-2020	2015-2024	2024
Meantemp (°C)	6.7	7.9	7.8	8.3



Period	1961-1990	1991-2020	2015-2024	2024
Rainfall (mm)	66.0	71.7	57.0	111.4



Period	1961-1990	1991-2020	2015-2024	2024
Sunshine (hours)	140.9	155.4	172.7	122.9

Daily time-series

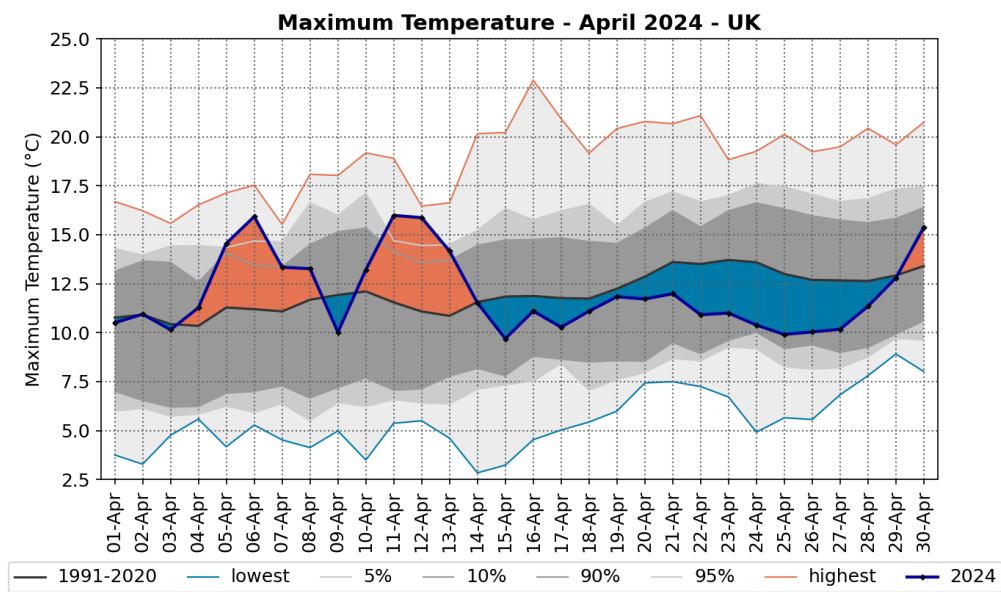
These charts show time-series of UK area-average daily maximum and daily minimum temperature and daily rainfall for each day of April 2024. The areas shaded in grey show the highest and lowest values in the daily temperature series (from 1960) and daily rainfall series (from 1891) together with percentiles and the 1991-2020 long term averages for each day. The rainfall accumulation chart shows the daily rainfall series as an accumulation through the month.

Daily maximum and daily minimum temperature



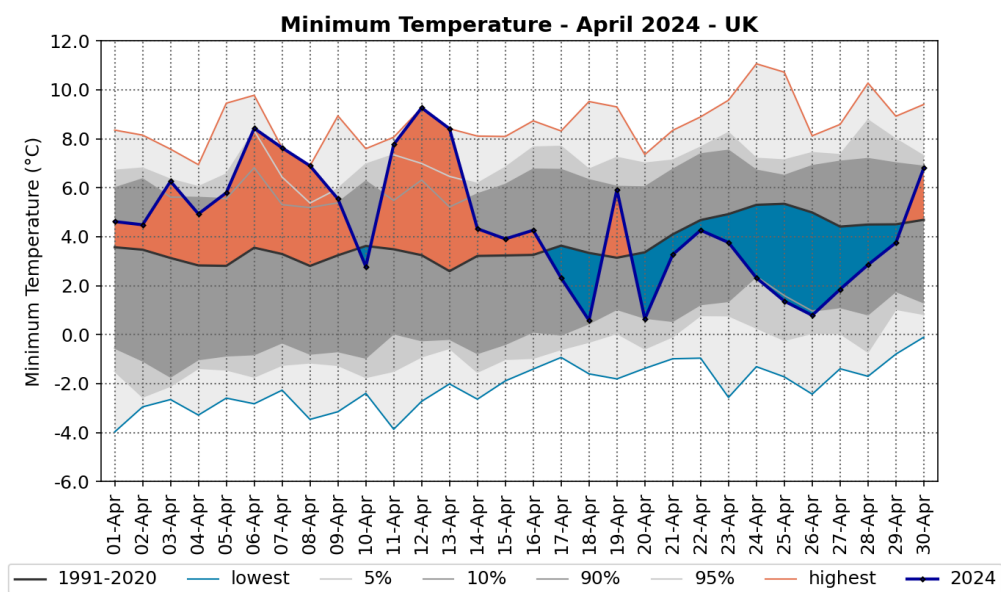
Source: HadUK-Grid 01/05/2024 11:50

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Source: HadUK-Grid 01/05/2024 11:51

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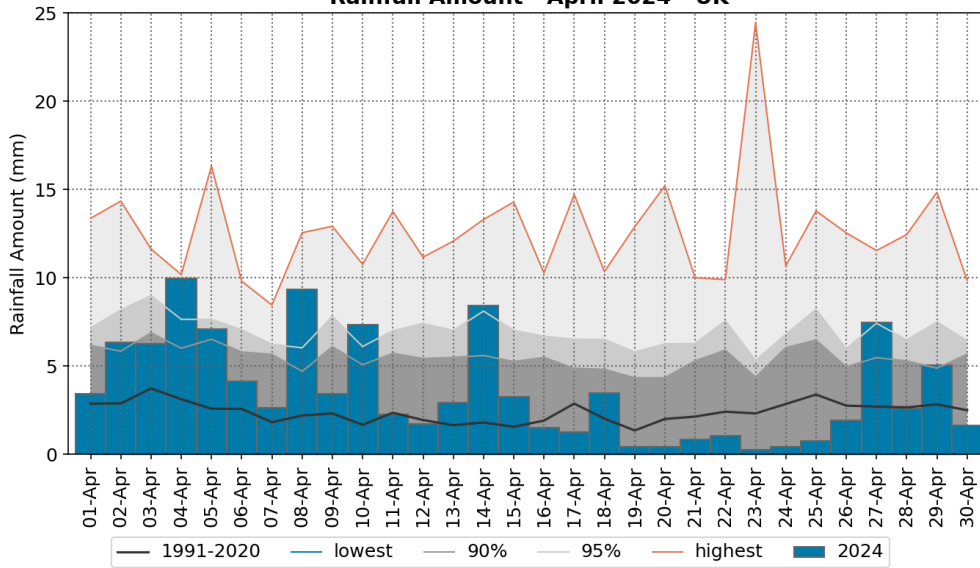
Daily rainfall and rainfall accumulation

Met Office

Source: HadUK-Grid 01/05/2024 11:51

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Rainfall Amount - April 2024 - UK

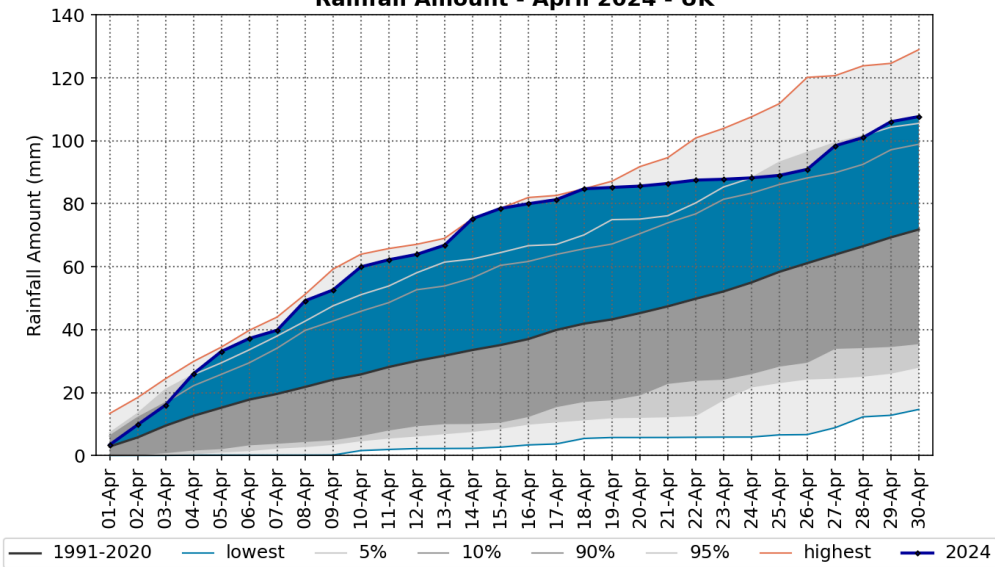


Met Office

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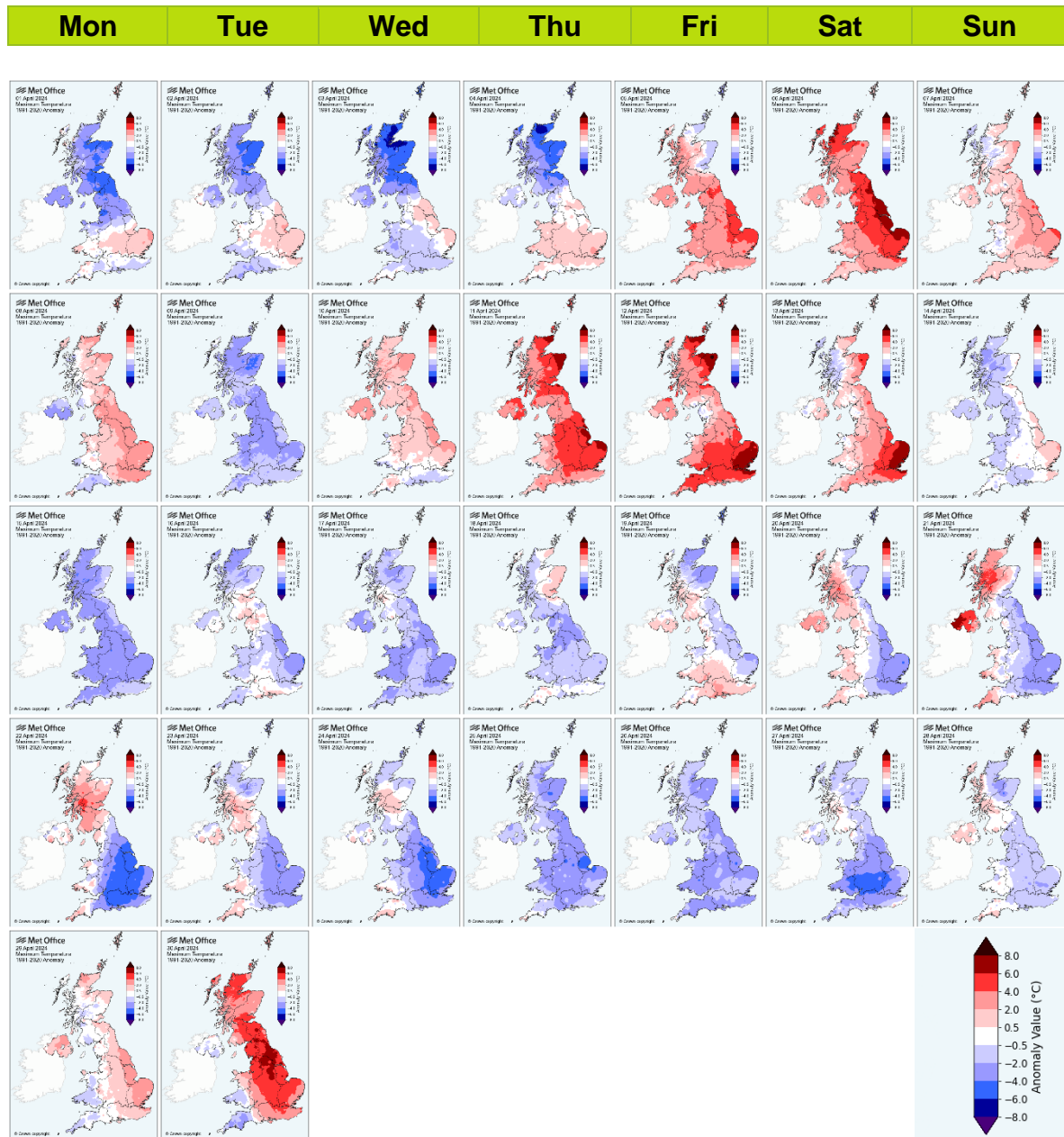
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Rainfall Amount - April 2024 - UK



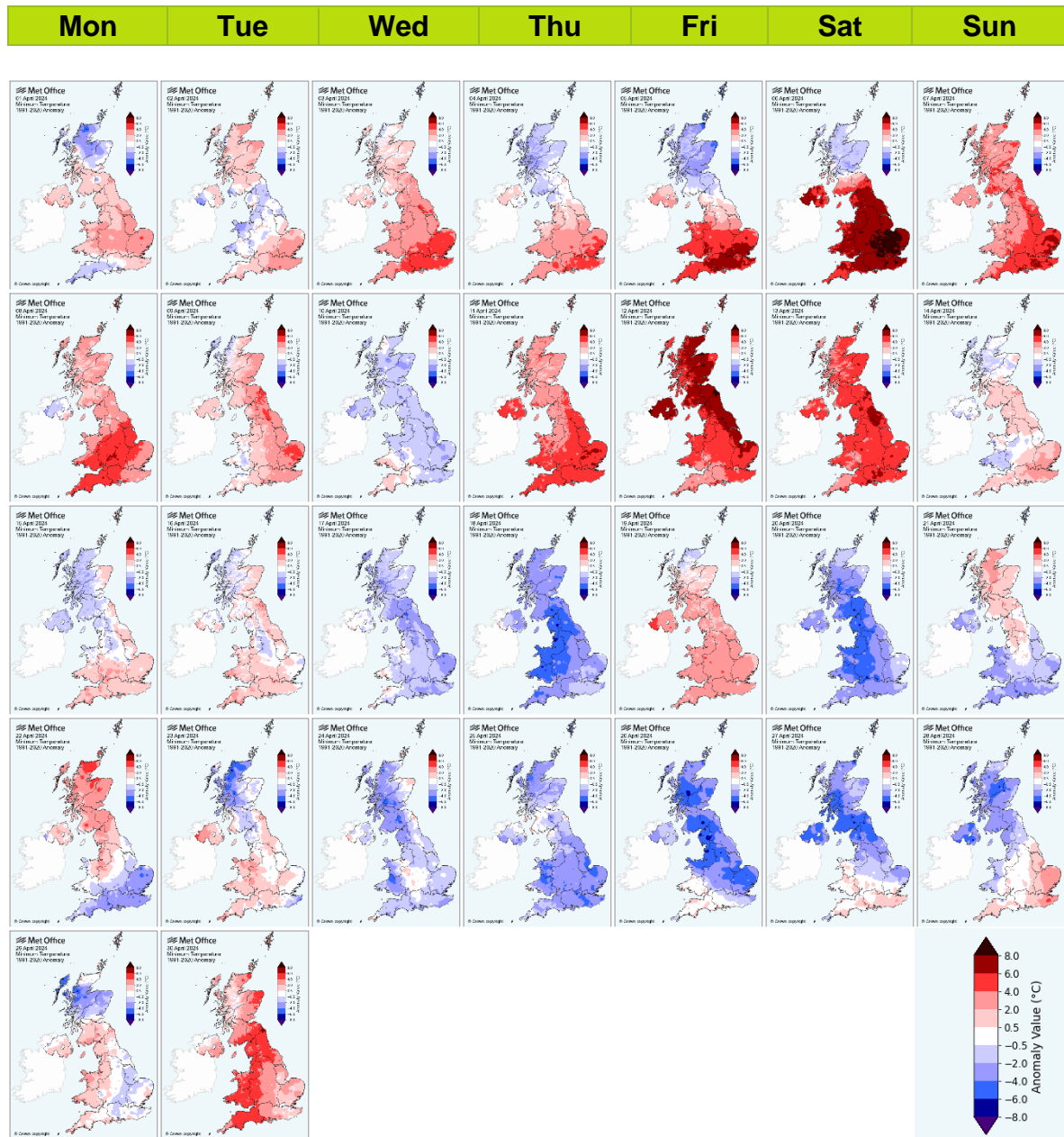
Daily maximum temperature maps - calendar view

These maps show daily maximum temperatures for each day of April 2024 as anomalies relative to the April 1991-2020 long term average. The daily maximum temperature is the maximum from 0900UTC on the day in question to 0900UTC the following day. Normally, the maximum occurs in the early afternoon.



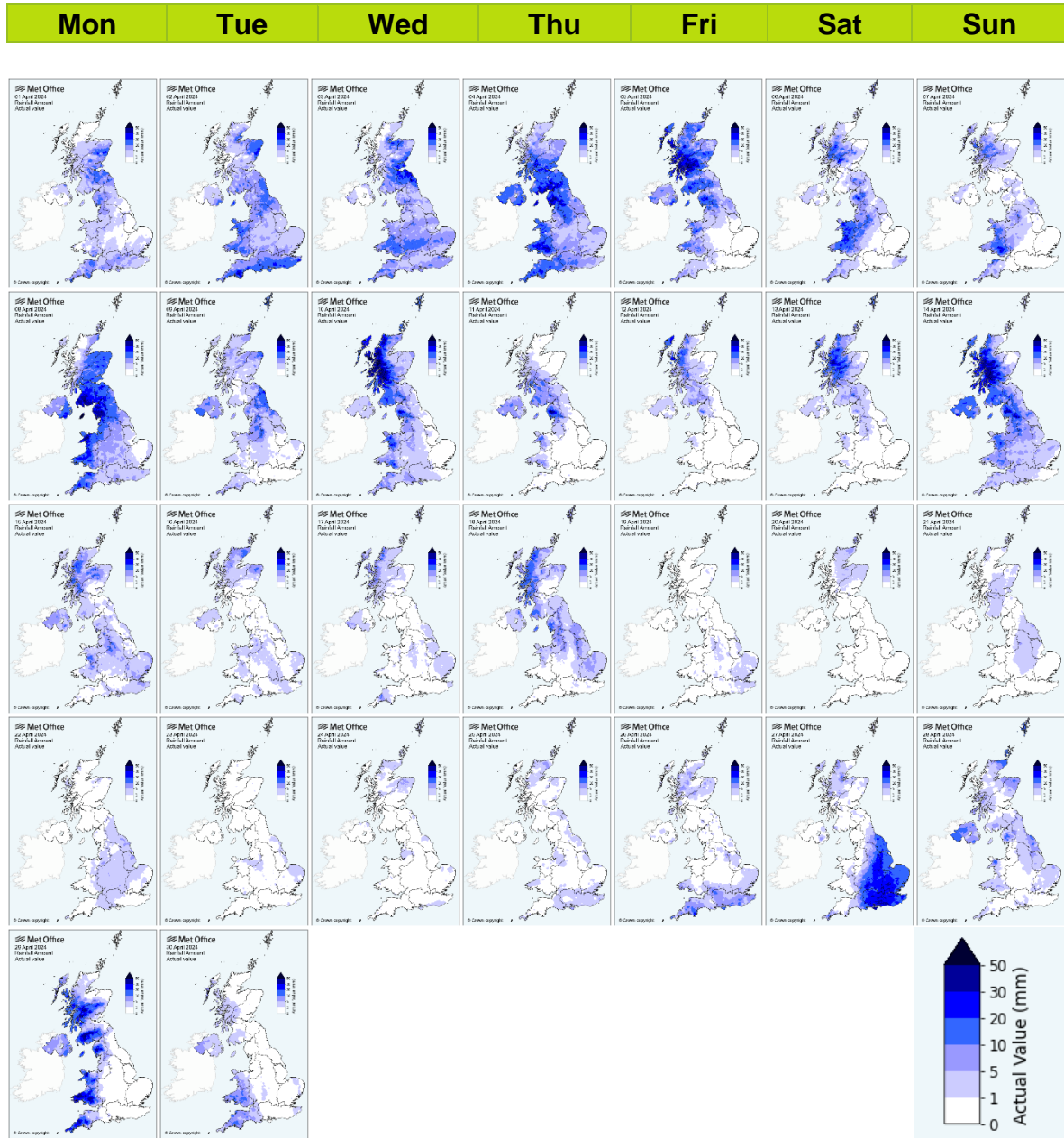
Daily minimum temperature maps - calendar view

These maps show daily minimum temperatures for each day of April 2024 as anomalies relative to the April 1991-2020 long term average. The daily minimum temperature is the minimum from 0900UTC the previous day to 0900UTC on the day in question. Normally, the minimum occurs in the early morning.



Daily rainfall maps - calendar view

These maps show daily rainfall for each day of April 2024 as daily totals. The daily rainfall is the total from 0900UTC on the day in question to 0900UTC the following day.

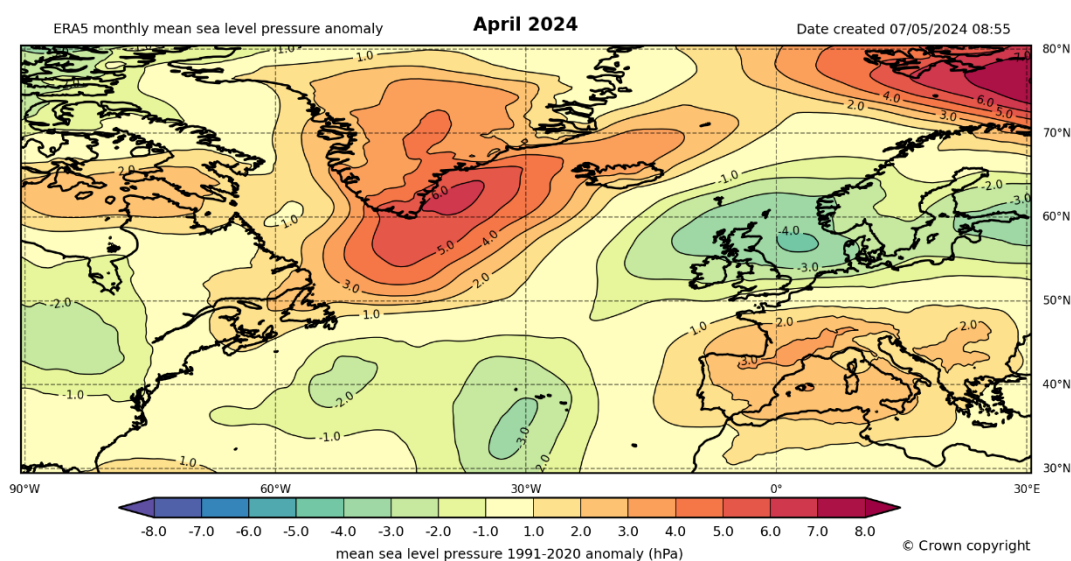
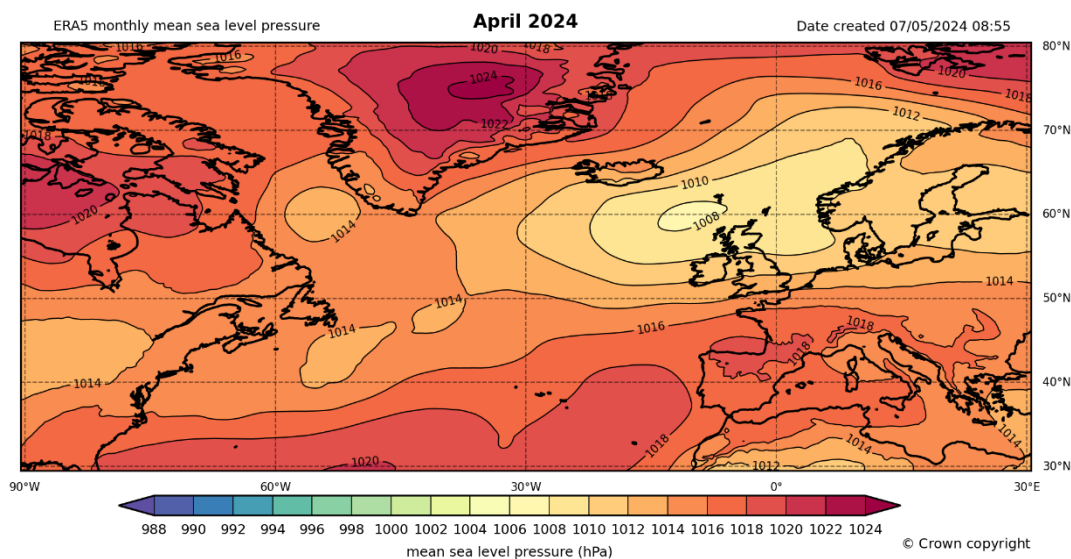


Monthly atmospheric circulation

Mean sea level pressure

These charts show the monthly mean sea level pressure for April 2024 for the UK and north Atlantic, based on the ERA5 reanalysis (Hersbach et al, 2019), both as actual values and as an anomaly relative to the April long term average. These charts provide an indication of the weather characteristics of the month overall i.e. whether the weather type has been generally settled (high pressure) or unsettled (low pressure) during the month.

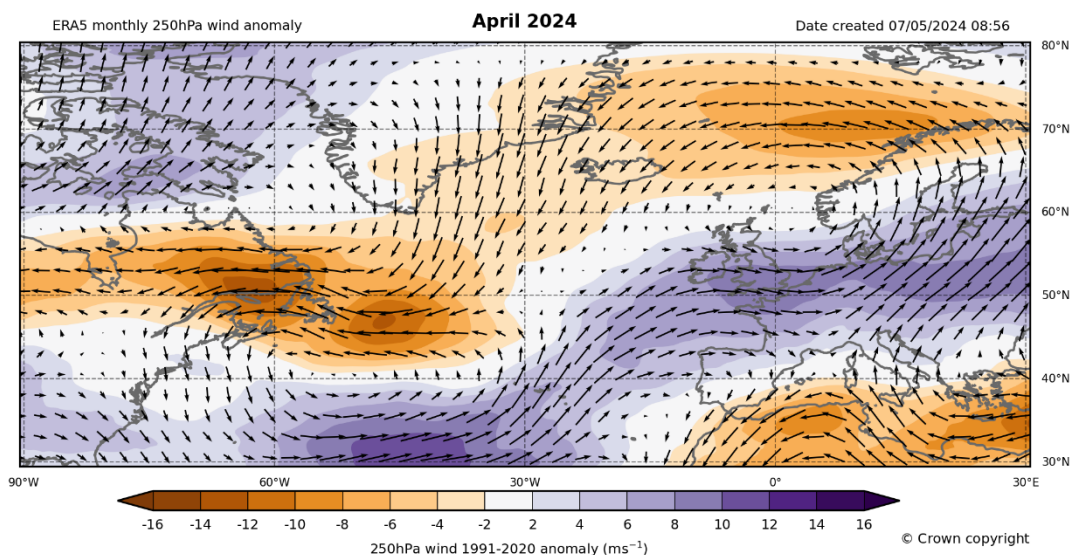
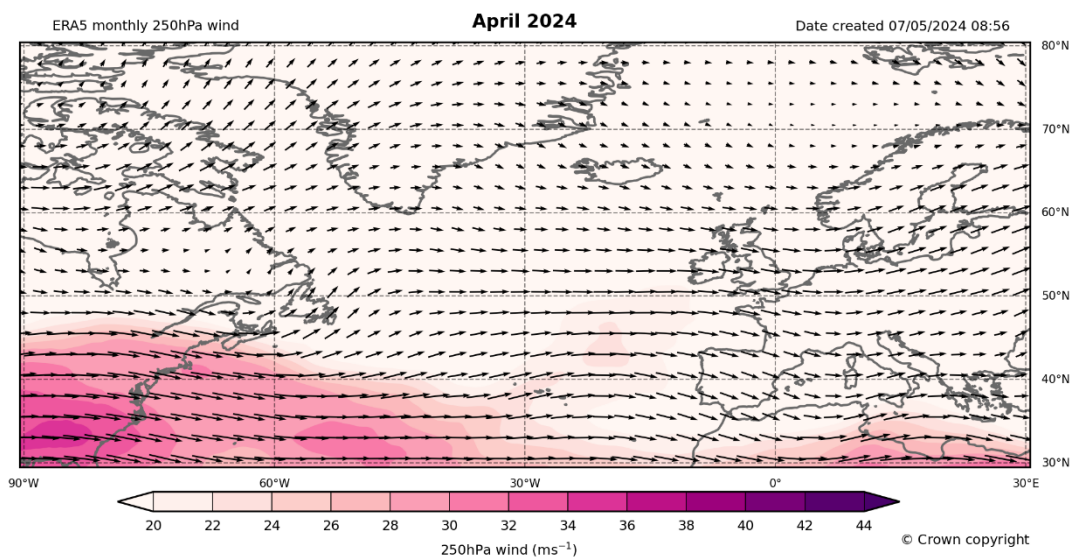
The Icelandic low was displaced further south of its usual position, with high pressure over Greenland. Pressure over the UK was slightly lower than average, especially in the north, with a small low-pressure anomaly centred off the east coast of the UK.



250hPa wind speed and direction

These charts show the monthly 250hPa wind speed and direction for April 2024 for the UK and north Atlantic, based on the ERA5 reanalysis (Hersbach et al, 2019), both as actual values and as an anomaly relative to the April long term average. This provides an indication of the mean strength and position of the jet stream compared to normal. The wind anomaly map shows shaded (scalar) wind speed anomalies with arrows as (vector) wind anomalies.

During April, the mean jetstream westerly flow was slightly stronger over the UK than normal, and there was an anomalously easterly flow over the northeastern seaboard of North America.



Weather diary

- **April showers, rain, snow, thunder and storms**

If there was ever a month that gave you more, then April 2024 fits that brief with a mixture of weather ranging from temperatures into the low 20s Celsius to snowfall to spring storms, all in the first 2 weeks of the month.

The early days of the month saw a distinct north south split, with cold continental easterlies affecting the northern half of the UK, with the south basking in warm southwesterlies and maximums hitting the high teens Celsius. That split was evident up to the 5th when warm southwesterly winds eventually extended north to all bar the Northern Isles.

The 6th hailed the arrival of Storm Kathleen and with it very strong winds and remarkably warm temperatures. Unusually, the effects of Storm Kathleen were felt across the whole country, with winds generally gusting to 70mph or more, and temperatures hitting 20°C from the northwest highlands to the southeast of England, and these effects were still obvious into the 8th with mild southerlies continuing and maximum temperatures reaching the high teens over England and Wales.

From the 10th to the 16th, we were subjected to systems off the Atlantic with periods of wet and windy weather interspersed by sunshine and showers. An area of high pressure established itself to the west of the UK from the 16th, meaning a change to colder conditions by way of a northerly airstream, bringing outbreaks of snow and night frosts. Scotland, northern England and Wales felt the cold the most with temperatures falling to -3°C or below in one or two places.

The influence of the high pressure ended by the 25th and various areas of low pressure took over the UK until the end of the month. One system moved north over eastern counties of England on the 28th bringing strong winds and heavy and persistent rain over these areas.

Notes

The Met Office National Meteorological Library and Archive holds a near-continuous record of monthly weather reports from 1884, and this report forms a continuation of that series. The purpose of each report is to provide an overview of the weather conditions across the UK for that month. The emphasis is mainly based on observations from the surface network of weather stations. Climate series based on data from these stations are used to provide long term context.

This summary was produced on 07/05/2024 10:09. The statistics are a provisional assessment of the observational data available at the time of production. Ongoing data receipt and quality assurance processes may result in subsequent updates to the statistics presented.

If you have any questions or feedback about this product, spot any data errors or omissions, or wish to obtain further data, please contact the Met Office.

For historical monthly weather reports please visit the Library and Archive.

- The land-surface observations presented in this report are from the Met Office official weather station network which includes both automatic weather stations and manual climate stations operated by volunteer observers. Rainfall data are from the official registered rain-gauge network which includes rain-gauges operated by a number of key partners including the Environment Agency, Scottish Environmental Protection Agency and Northern Ireland Water.
- The observations are carefully managed such that they conform to current best-practice observational standards as defined by the World Meteorological Organization (WMO). The observations also pass through a range of quality assurance procedures at the Met Office before application for climate monitoring.
- Daily and monthly maps, monthly statistics and monthly time-series are primarily based on the HadUK-Grid dataset of 1km resolution UK gridded climate data (Hollis et al, 2019). Monthly statistics from the monthly Central England temperature series 1659 (Manley, 1974) and England and Wales precipitation series from 1766 (Wigley et al, 1984) provide long term context.
- The monthly lightning activity map is based on data from the Met Office ATDnet (Arrival Time Difference Network) system. This is an automatic lightning location network comprising around ten lightning outstation sensors located across Europe.
- The monthly maps of mean sea level pressure and 250hPa wind speed and direction are based on the ERA5 reanalysis (Hersbach et al, 2019). ERA5 is the fifth generation ECMWF reanalysis for the global climate and weather for the past 4 to 7 decades. Reanalysis combines model data with observations from across the world into a globally complete and consistent dataset using the laws of physics.

Hersbach, H., Bell, B., Berrisford, P., Biavati, G., Horányi, A., Muñoz Sabater, J., Nicolas, J., Peubey, C., Radu, R., Rozum, I., Schepers, D., Simmons, A., Soci, C., Dee, D., Thépaut, J-N. (2019): ERA5 monthly averaged data on single levels from 1959 to present. Copernicus Climate Change Service (C3S) Climate Data Store (CDS).
<https://doi.org/10.24381/cds.f17050d7>

Hollis, D, McCarthy, MP, Kendon, M, Legg, T, Simpson, I. HadUK-Grid - A new UK dataset of gridded climate observations. *Geosci Data J.* 2019; 6: 151-159.
<https://doi.org/10.1002/gdj3.78>

Manley, G. (1974), Central England temperatures: Monthly means 1659 to 1973. *Q.J.R. Meteorol. Soc.*, 100: 389-405. <https://doi.org/10.1002/qj.49710042511>

Wigley, T.M.L., Lough, J.M. and Jones, P.D. (1984), Spatial patterns of precipitation in England and Wales and a revised, homogeneous England and Wales precipitation series. *J. Climatol.*, 4: 1-25. <https://doi.org/10.1002/joc.3370040102>

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