

April 2023 Monthly Weather Report

This document provides a summary of the UK's weather and climate statistics for April 2023.

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UK overview

April was a predominantly unsettled month, with little in the way of consistent warmth, though it was more settled for a time around mid-month, when it became warmer especially over Scotland. This was followed by a return to rather chilly and unsettled conditions until just before month-end.

Temperatures fluctuated somewhat, but averaged out to around normal, with Northern Ireland warmest relative to average, and with maximum temperatures a little below normal over most of England. The provisional UK mean temperature for the month was 7.8 °C, which is 0.1 °C below average. Rainfall was close to average overall, but with regional variations, most parts of Scotland being drier than average, but southern and eastern parts of England being rather wet, most notably in Kent, and for the UK overall rainfall was 97% of average. Sunshine was also close to normal overall, but with northern areas generally brighter relative to average than the south and west, giving 102% of average for the UK overall.

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

Weather impacts

- **April was a mostly unremarkable spring month across the UK. There was relatively little in the way of impactful weather, and severe weather warnings were few.**
- **At times there was high pressure blocking to the north and east of the UK, giving settled weather, but there were also spells of rather disturbed Atlantic weather, making it a rather wet month in the south and east of England.**

The most noteworthy adverse weather came around the 11th and 12th, when the interaction between a pair of low pressure centres over the UK brought strong winds to South Wales and southern England in particular during the 12th, these winds also extending into northern France where MeteoFrance named the storm 'Noa'. Wind warnings were issued for various parts of the UK, and on the night of the 11th/12th there were reports of HGVs overturning in high winds on the M6 near Carlisle and also on the M62 close to the Greater Manchester/West Yorkshire border. The morning of the 12th saw the temporary closure of the Cleddau Bridge in Pembrokeshire, with short-term closures also affecting the M48 Severn crossing and a section of the M4 in South Wales because of the high winds. Across parts of Devon and Cornwall there was disruption due to the strong winds, with the Taw road bridge in Barnstaple closed for a time and several hundred properties losing their electricity supply. In Plymouth a number of cars were damaged by falling tree debris next to the Guildhall.

Monthly extremes

The table below lists UK monthly weather extremes recorded at individual weather stations during April 2023 from data available on 05/05/2023. The map shows the location of these stations.

Highest Maximum	21.2°C on 17th at Kinlochewe (Ross & Cromarty, 25mAMSL)
Lowest Maximum	5.0°C on 24th at Braemar No 2 (Aberdeenshire, 327mAMSL)
Highest Minimum	11.7°C on 30th at Castlederg (Tyrone, 49mAMSL)
Lowest Minimum	-7.4°C on 25th at Tulloch Bridge (Inverness-shire, 249mAMSL) also on 26th at Loch Glascarnoch (Ross & Cromarty, 269mAMSL)
Lowest Grass Minimum	-12.0°C on 25th at Tulloch Bridge (Inverness-shire, 249mAMSL)
Most Rainfall	54.6mm on 11th at Seathwaite (Cumbria, 129mAMSL)
Most Sunshine	14.3hr on 21st at Orkney: Loch Of Hundland (Orkney, 28mAMSL)
Highest Gust	83Kt 96mph on 12th at Wight: Needles Old Battery (Isle Of Wight, 80mAMSL)
Highest Gust (mountain*)	79Kt 91mph on 11th at Cairngorm Summit (Inverness-shire, 1237mAMSL)
Greatest Snow Depth at 0900 UTC	1cm on 25th at Poolewe (Ross & Cromarty, 6mAMSL)

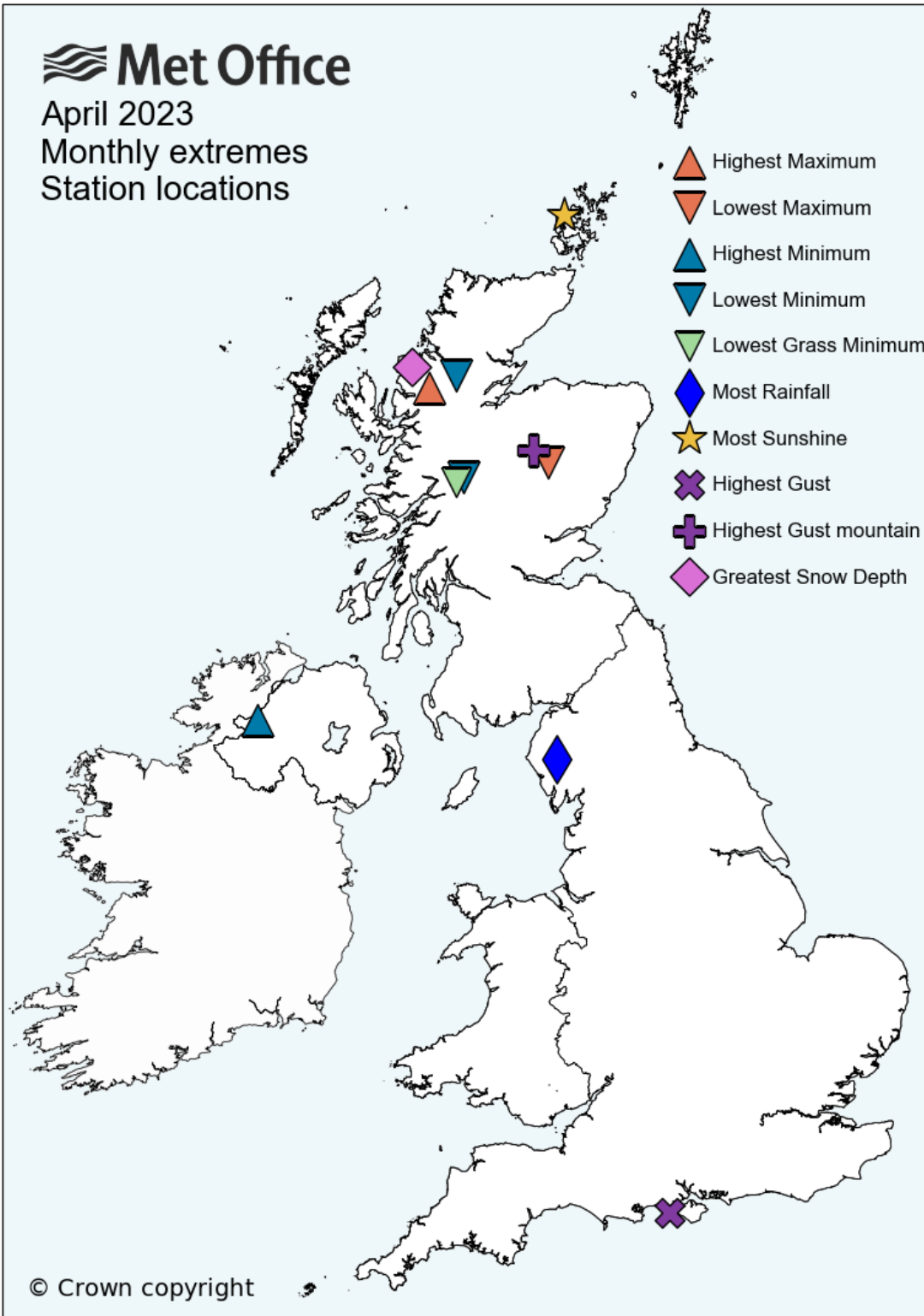
mAMSL refers to station elevation in metres above mean sea level.

*Mountain stations are above 500mAMSL.

April 2023

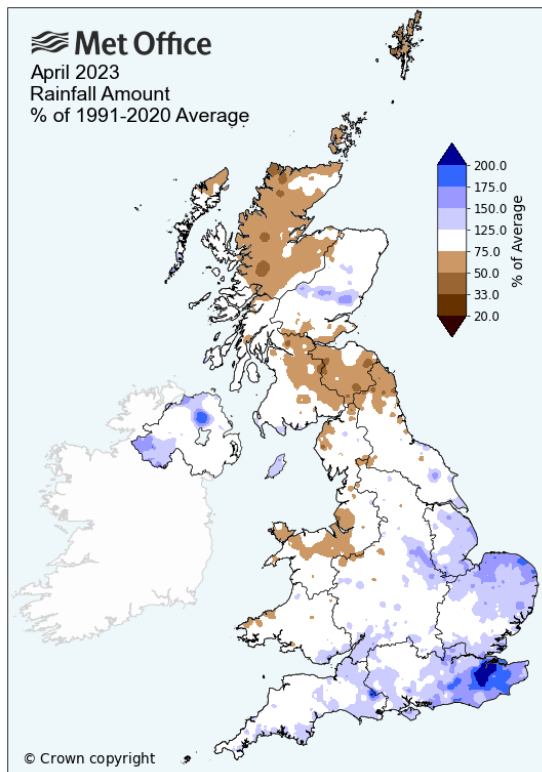
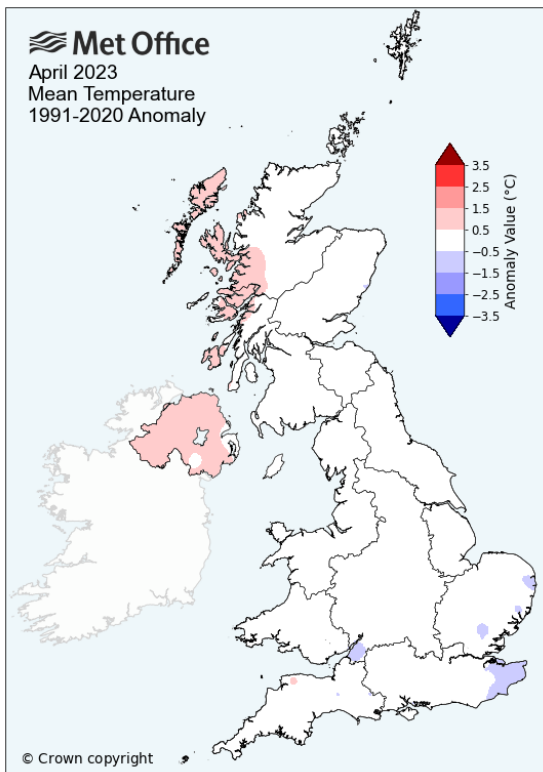
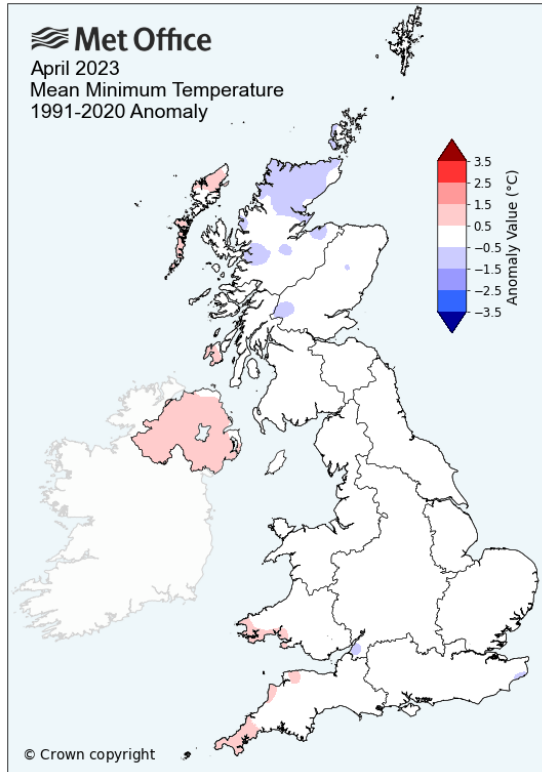
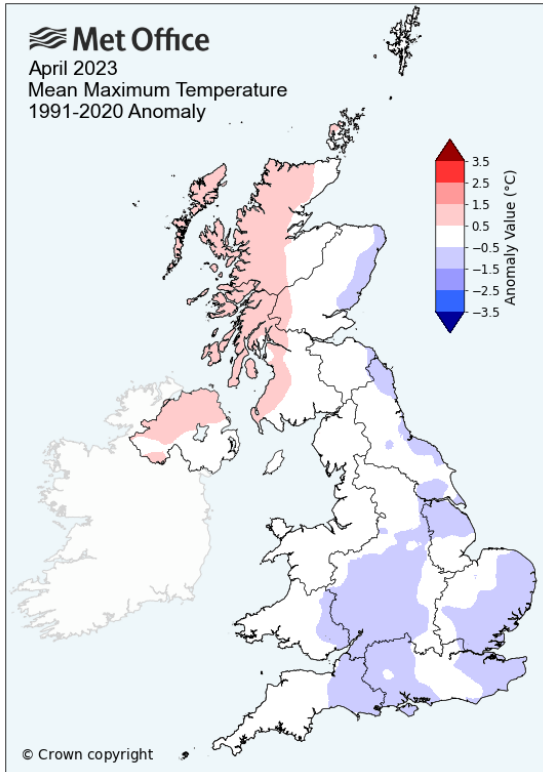
Monthly extremes

Station locations

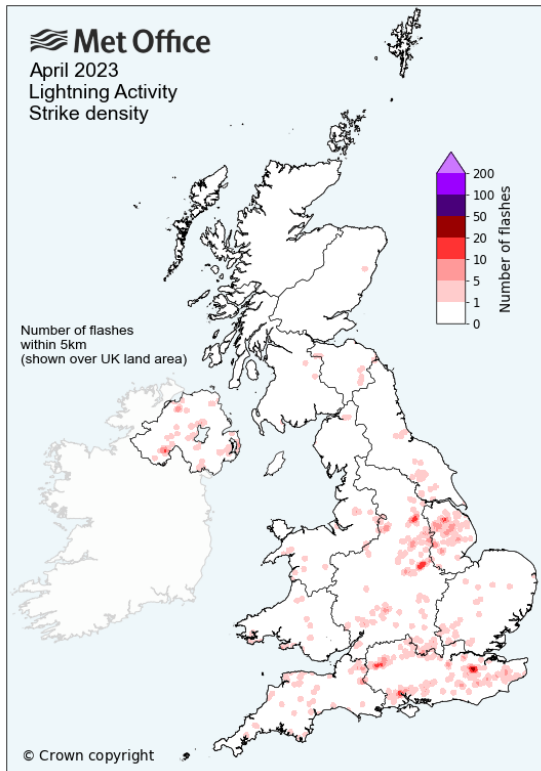
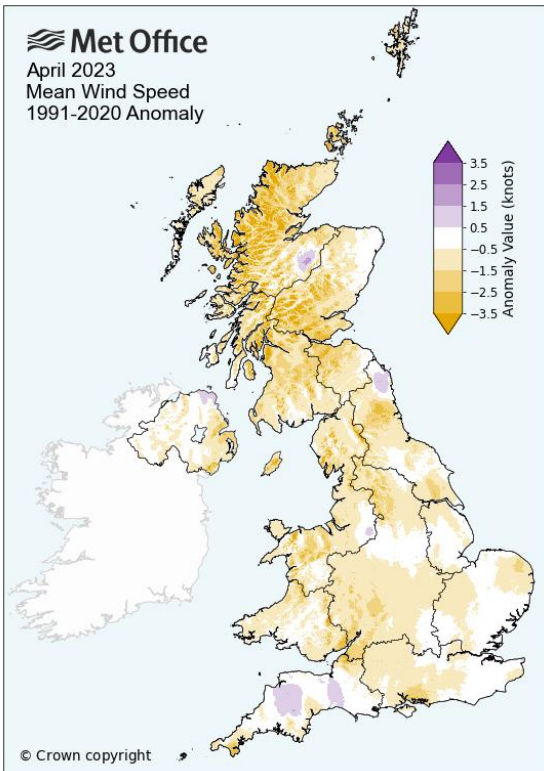
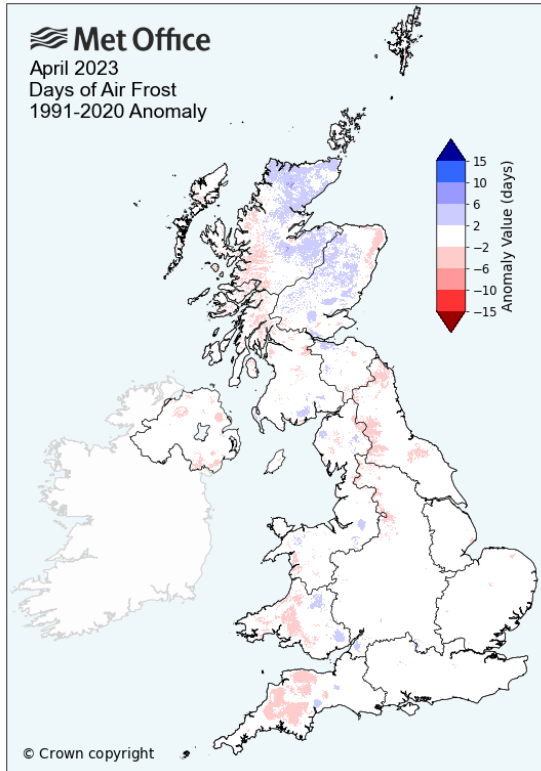
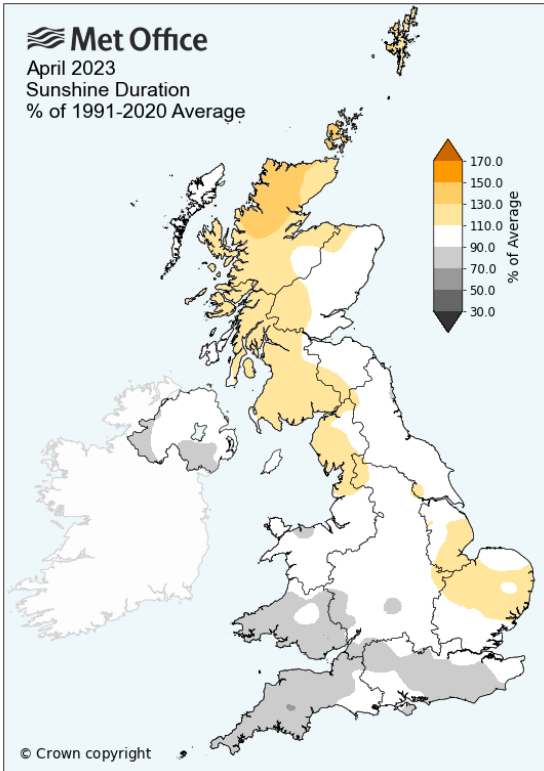


Monthly maps

These maps show monthly average daily maximum, monthly average daily minimum and monthly mean temperature and monthly rainfall for April 2023 as anomalies relative to the April 1991-2020 long term average.



These maps show monthly sunshine, monthly air frost and monthly windspeed for April 2023 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 2023 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	11.9	-0.1	40	101	140
England	12.6	-0.4	48	93	140
Wales	12.0	-0.2	38	103	140
Scotland	10.7	0.4	32	109	140
Northern Ireland	12.5	0.5	18	123	140
Central England	13.0	-0.4	47	100	146

Mean minimum temperature

Region	Mintemp (°C)	1991-2020 Anomaly (°C)	Rank - warmest	Rank - coldest	Series length (yrs)
UK	3.7	-0.1	35	106	140
England	4.2	-0.1	29	112	140
Wales	4.2	0.1	33	108	140
Scotland	2.5	-0.2	47	94	140
Northern Ireland	4.8	0.8	13	128	140
Central England	4.3	-0.3	57	90	146

Mean temperature

Region	Meantemp (°C)	1991-2020 Anomaly (°C)	Rank - warmest	Rank - coldest	Series length (yrs)
UK	7.8	-0.1	38	103	140
England	8.4	-0.3	40	101	140
Wales	8.1	-0.0	37	104	140
Scotland	6.6	0.1	33	108	140
Northern Ireland	8.6	0.6	15	126	140
Central England	8.7	-0.4	111	255	365

Rainfall

Region	Rainfall (mm)	% of 1991-2020 Average	Rank - wettest	Rank - driest	Series length (yrs)
UK	69.8	97	81	108	188
England	63.9	114	57	132	188
Wales	77.7	88	100	89	188
Scotland	73.7	79	109	80	188
Northern Ireland	89.7	121	36	153	188
EWP (England and Wales)	76.9	122	58	201	258

Sunshine

Region	Sunshine (hours)	% of 1991-2020 Average	Rank - sunniest	Rank - dullest	Series length (yrs)
UK	158.2	102	40	75	114
England	160.0	98	42	73	114
Wales	142.4	90	71	44	114
Scotland	162.9	115	19	96	114
Northern Ireland	137.7	93	75	40	114

Windspeed

Region	Windspeed (knots)	1991-2020 Anomaly (knots)	Rank - windiest	Rank - calmest	Series length (yrs)
UK	8.4	-1.0	50	6	55
England	7.8	-0.7	44	12	55
Wales	8.5	-0.9	41	15	55
Scotland	9.4	-1.5	50	6	55
Northern Ireland	8.2	-0.5	40	16	55

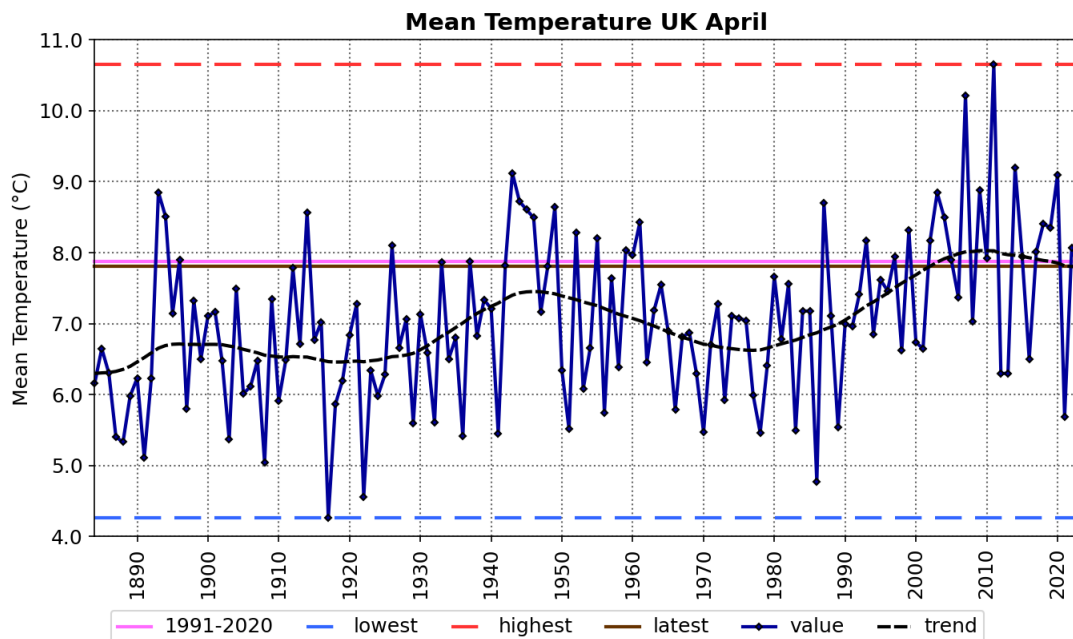
Monthly time-series

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 (2023) 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 2014-2023, the most recent 30-year climate reference period 1991-2020 and the 30-year baseline climate reference period 1961-1990.

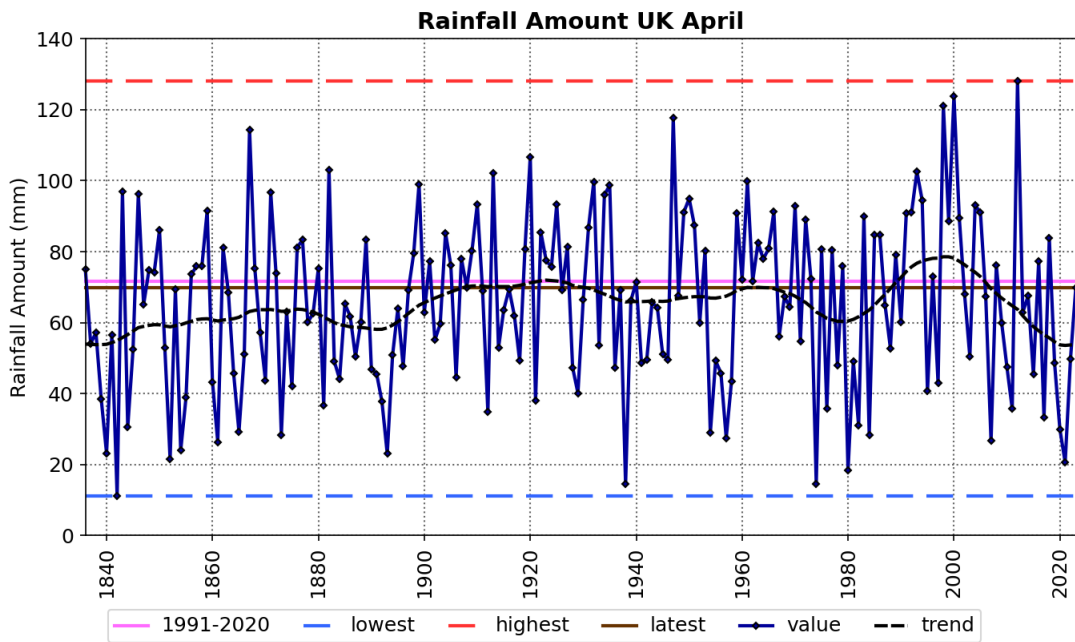


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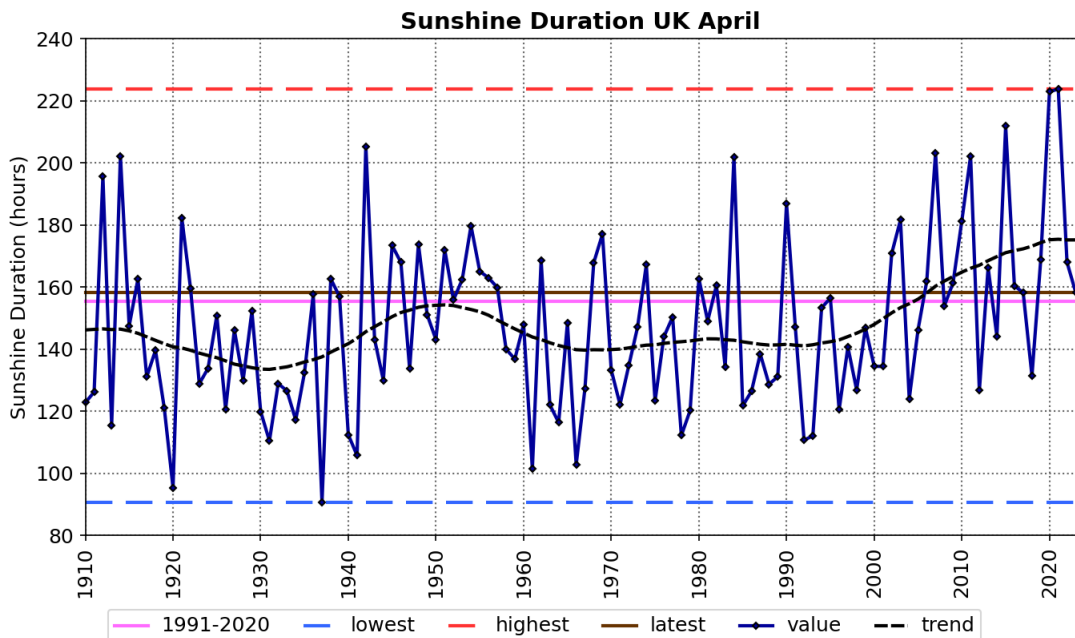
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Period	1961-1990	1991-2020	2014-2023	2023
Meantemp (°C)	6.7	7.9	7.9	7.8



Period	1961-1990	1991-2020	2014-2023	2023
Rainfall (mm)	66.0	71.7	52.6	69.8



Period	1961-1990	1991-2020	2014-2023	2023
Sunshine (hours)	140.9	155.4	174.8	158.2

Daily time-series

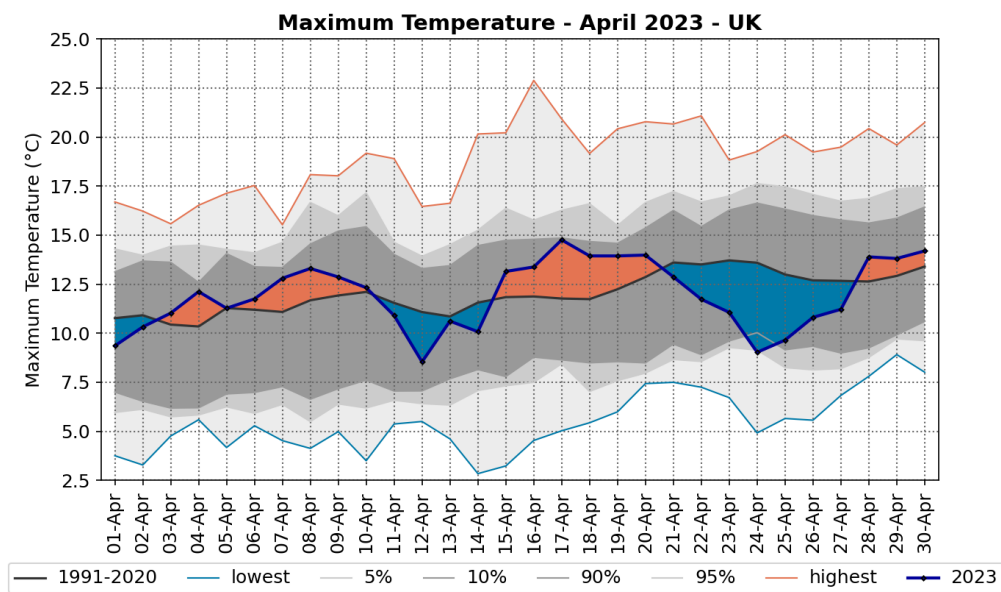
These charts show time-series of UK area-average daily maximum and daily minimum temperature and daily rainfall for each day of April 2023. The areas shaded in grey show the highest and lowest values in the daily temperature series (from 1960) and daily rainfall series (from 1891) together with percentiles 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



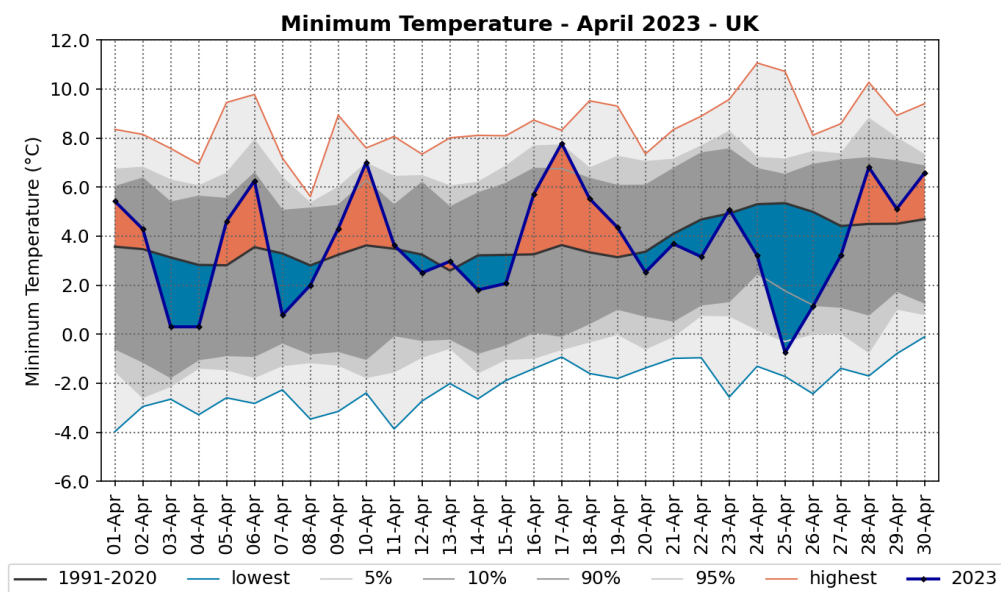
Source: HadUK-Grid 01/05/2023 10:51

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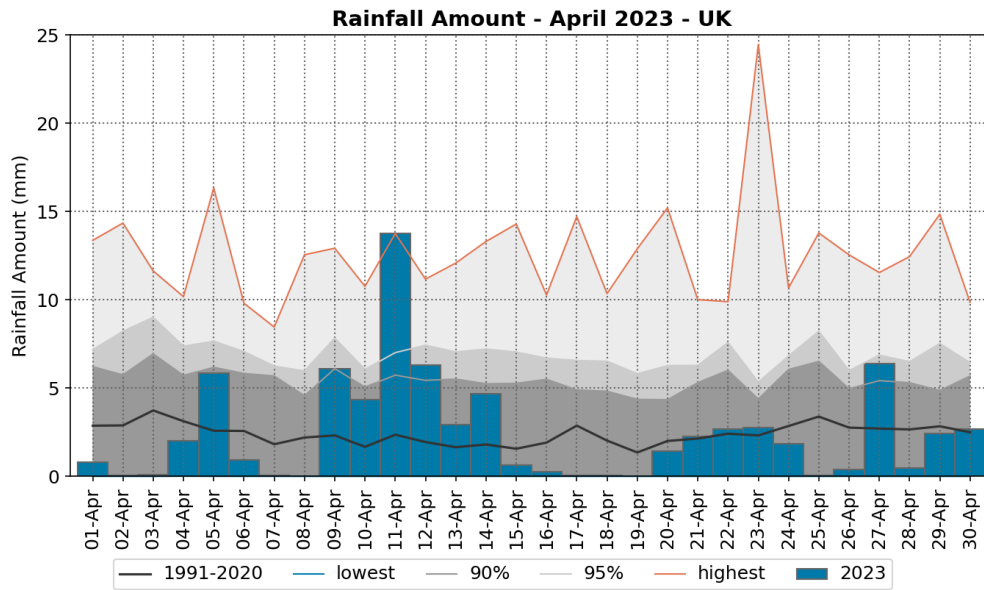


Daily rainfall and rainfall accumulation

Met Office

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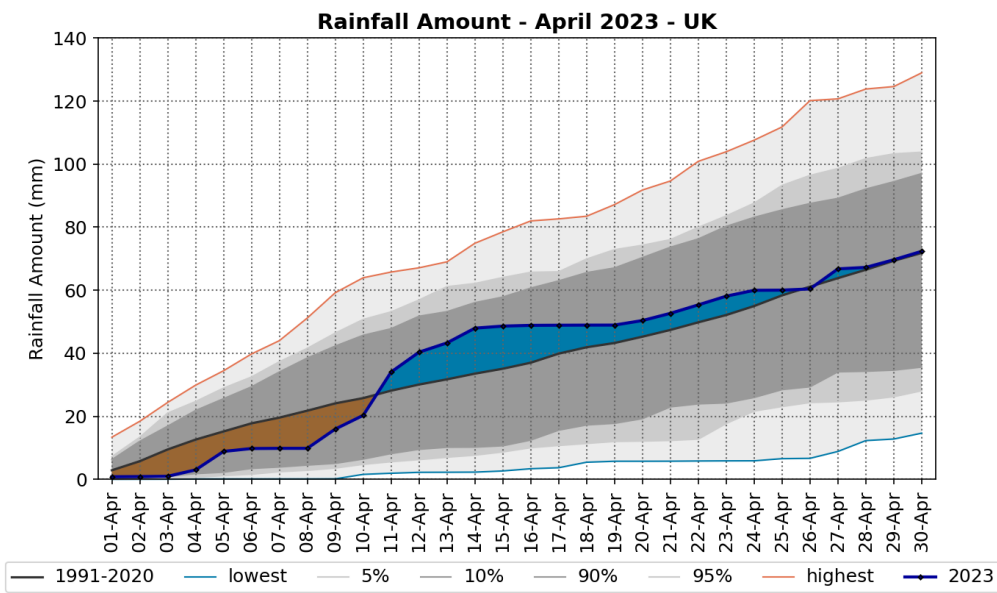
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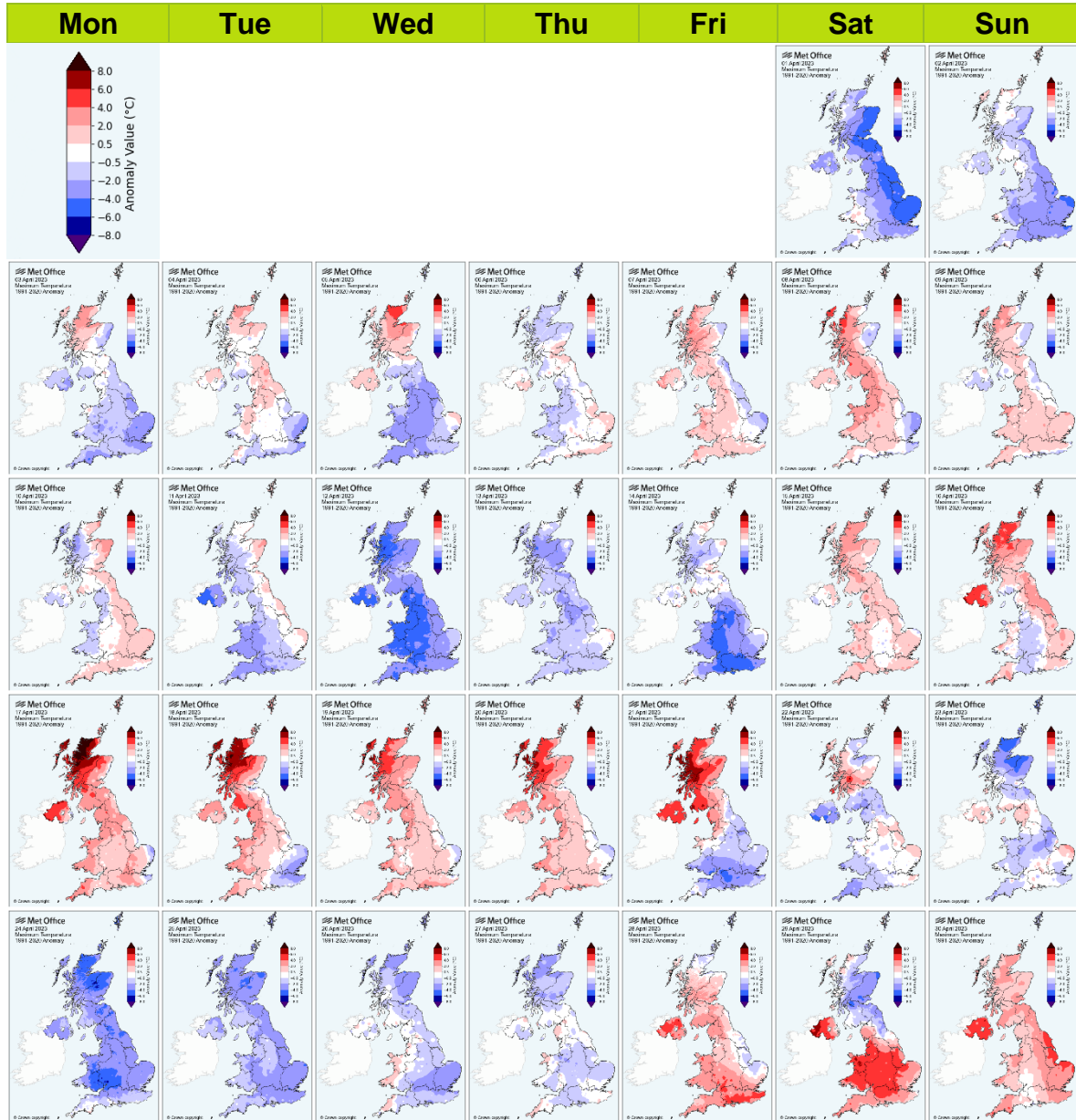
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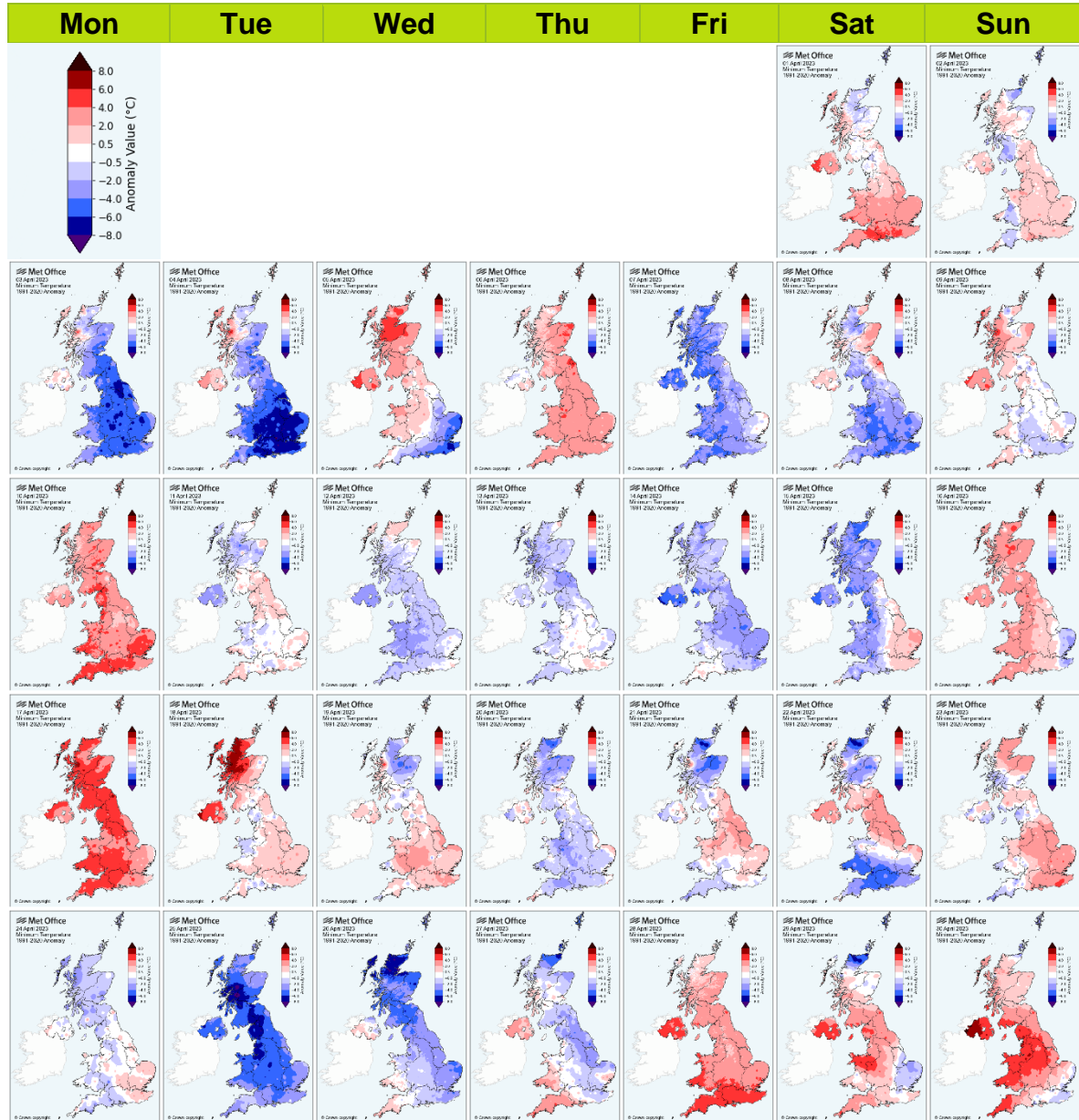
Daily maximum temperature maps - calendar view

These maps show daily maximum temperatures for each day of April 2023 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.



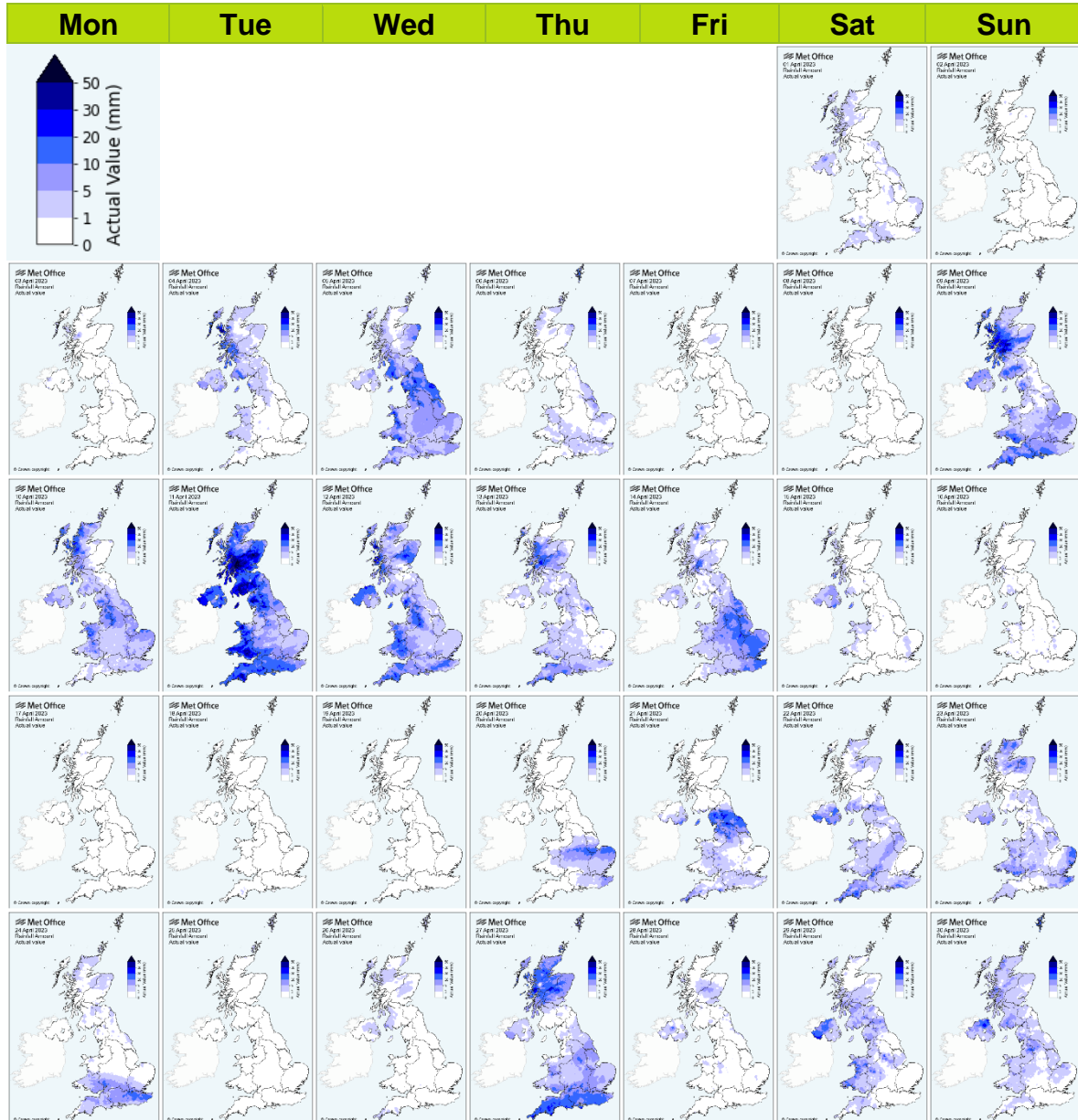
Daily minimum temperature maps - calendar view

These maps show daily minimum temperatures for each day of April 2023 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 2023 as daily totals. The daily rainfall is the total from 0900UTC on the day in question to 0900UTC the following day.

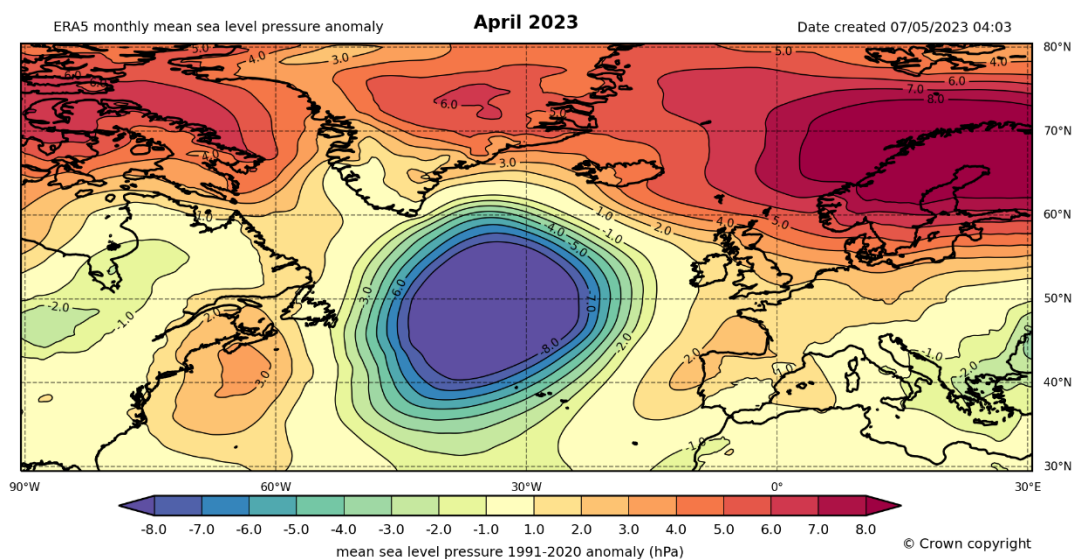
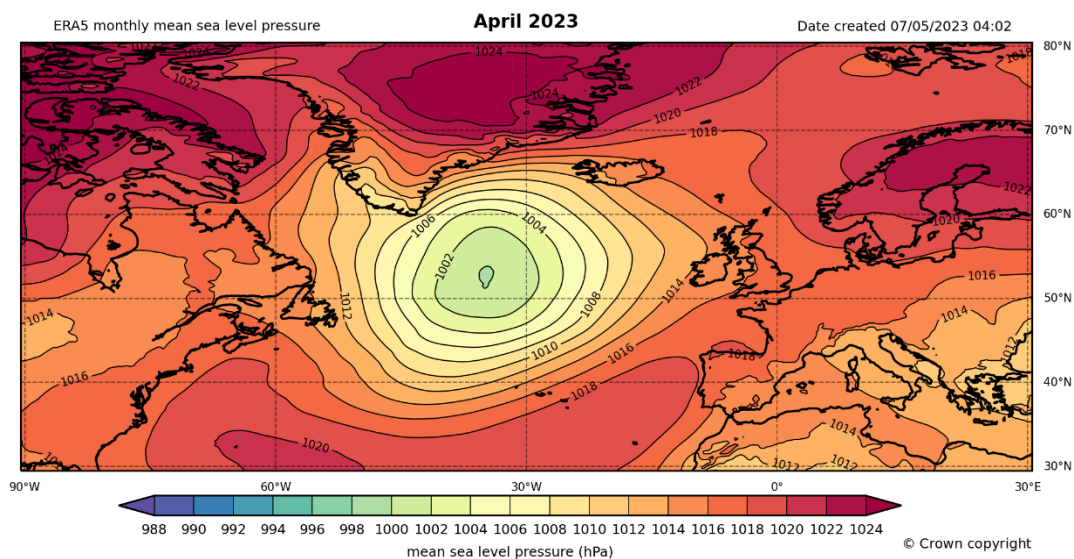


Monthly atmospheric circulation

Mean sea level pressure

These charts show the monthly mean sea level pressure for April 2023 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.

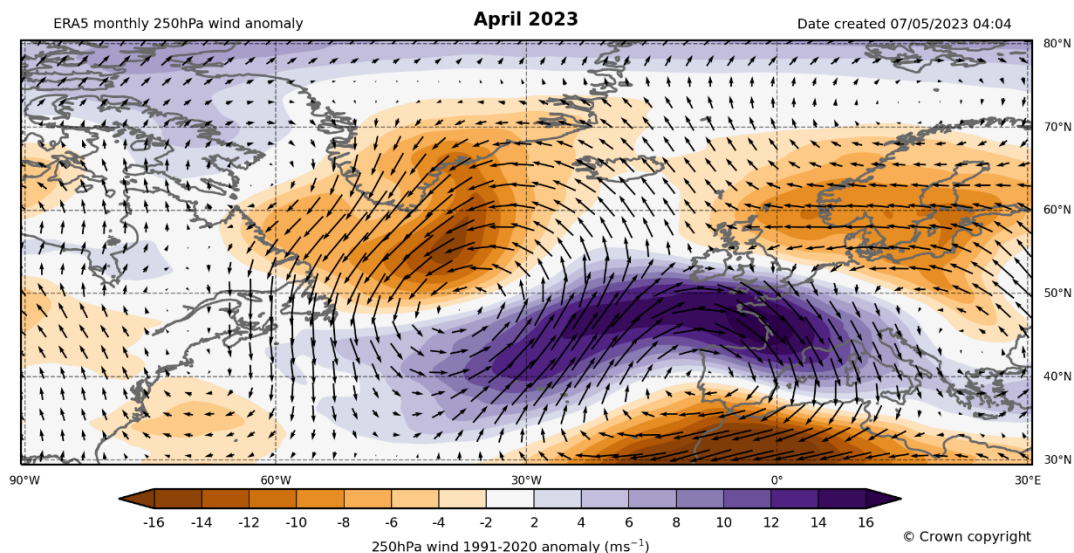
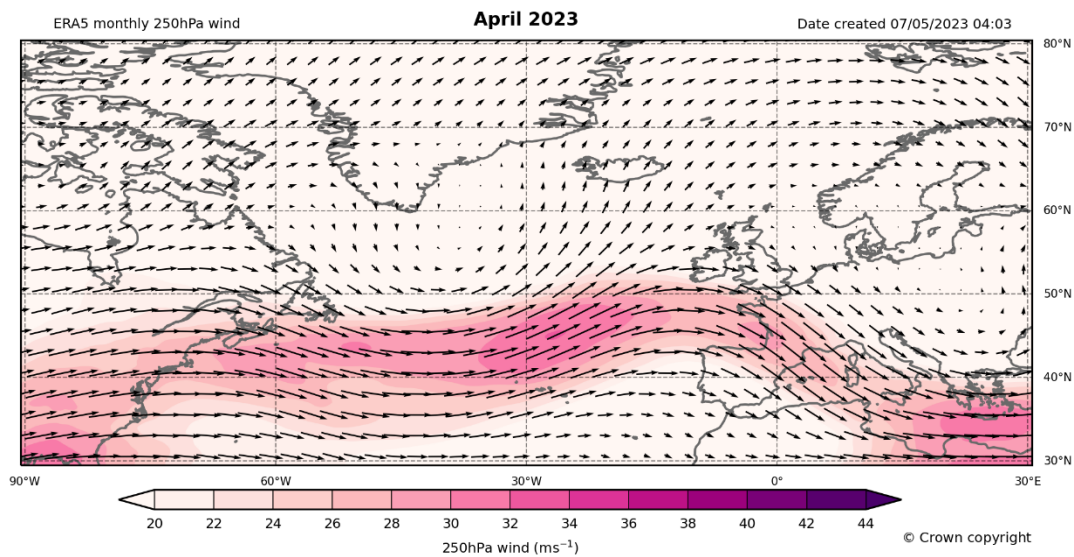
Mean monthly sea-level: The Icelandic low was displaced to the south-west of its usual position, with high pressure over Greenland and Scandinavia. Pressure over the UK was slightly higher than average, particularly across the north.



250hPa wind speed and direction

These charts show the monthly 250hPa wind speed and direction for April 2023 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.

The jetstream across the North Atlantic was displaced somewhat to the south of its usual track, and blew quite strongly to the south of the UK, but was weaker further north.



Weather diary

- **High pressure dominating, wet and windy mid-month**

With high pressure centred either to the east or north of the UK for most of the month, any weather systems or fronts that made inroads off the Atlantic were weak features. Maximum temperatures were generally subdued due to winds being predominantly easterly, and frosts were evident in sheltered parts. Benson (Oxfordshire) fell to -5.6°C on the 4th.

A significant depression did affect the UK from the 11th to the 14th, producing strong winds and some high rainfall totals. All nations saw 24-hour totals in excess of 40mm on the 11th, Seathwaite (Cumbria) recording 54.6mm. The strongest winds arrived on the 12th. Most parts of the UK saw gusts above 50mph, with gales being reported widely along the coast, and the Needles on the Isle of Wight registering gusts to 95mph.

As high pressure began to re-establish itself from the 16th, winds turned briefly from the south allowing the temperature at Kinlochewe (Ross & Cromarty) to reach 21.2°C on the 17th. Winds then backed to an easterly from the 18th with small-scale features resulting in eastern and central counties being plagued with showers and thunderstorms.

General weather conditions turned unsettled and cool from the 21st, with all parts subject to showers or longer spells of rain up to the end of the month. There were, however, some warmer conditions drawn up from the south, particularly on the 29th with temperatures in many parts of England, Wales and Northern Ireland reaching the high teens or low 20s Celsius.

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 09/05/2023 09:34. 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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