May 2024 Monthly Weather Report

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

Table of Contents

UK overview

May started with thunderstorms across southern England, and the weather continued to be unsettled for the first week. Low pressure systems brought scattered showers across the UK, some of them locally heavy. However, a high pressure system covered England and Wales on the 8th and brought more settled weather, extending up towards Scotland by the 10th. The clear weather coincided with a large solar flare on the 10th that led to the aurora borealis being visible across the entire UK. However, low pressure systems returned towards the middle of the month, bringing further unsettled weather and more thunderstorms across the UK. Rainfall was at times heavy, especially in northern England on the 21st and 22nd, but otherwise patchy and light, with some bright, sunny spells. This pattern of unsettled weather continued for the rest of the month.

The UK experienced its warmest May on record, in a series going back to 1884. The UK provisionally recorded a mean temperature of 13.1°C, 2.4°C above the average May temperature and 1°C above the previous record (12.1°C in 2008). England, Scotland and Northern Ireland all provisionally experienced their warmest Mays on record, while Wales experienced its equal-warmest May. Although the first half of the month saw average rainfall, amounts increased for many by the end of the month, resulting in the UK recording a provisional 82.5mm of rain (116% of the average May rainfall). Much of this was concentrated in England, especially northern England, which saw 155% of its average May rainfall. Provisionally, the 22nd was the wettest spring day on record for northern England, and some stations in the area experienced record-breaking amounts of rainfall: for example, Keswick received provisionally 94.8mm of rain on the 22nd, doubling its previous May record of 44.6mm. Northern Ireland was the driest country, provisionally recording just 63% of its average May rainfall. Sunshine hours were slightly below average, with the UK provisionally recording 159.3 sunshine hours (83% of the average for May).

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

Weather impacts

- **Warmest May on record for the UK, England, Northern Ireland, and Scotland, and the equal-warmest May for Wales**
- **Thunderstorms led to lightning damage and surface water flooding**
- **Heavy rain on the 21st to 23rd led to flooding and travel disruption especially in Cumbria**

May started with thunderstorms in Wales, the Midlands and southern England, leading to reports of lightning damage to the rail electricity supply in Wiltshire and damage to homes and power supply in Sussex. Some areas in Devon and Somerset saw travel disruption due to surface water flooding and fallen trees. Further scattered heavy downpours over the first week of May led to surface water flooding in Aberdeenshire, Leeds and Bradford.

Settled weather moved in from the 7th as a high pressure centre took up residence close to the UK. Clear weather across the UK coincided with a major geomagnetic disturbance which led to widespread sightings of the aurora on the 10th. However, thunderstorms returned on the 12th, with reports of marble-sized hail in Coleford, Gloucestershire and surface flooding in Wales. Around 3000 homes in Ballymoney, Northern Ireland lost power as the storms moved north, and surface water flooding was reported from the centre of Ross-on-Wye. In Manchester, a large cascade of water poured through the Old Trafford roof towards the end of the Man United/Arsenal Premier League game, while at Manchester Airport a similarly spectacular leak was reported from the duty-free lounge. The storms continued north into Scotland where significant surface water flooding was reported in Greenock town centre.

Between the 21st and 23rd, a low pressure system that had moved from the Netherlands towards the UK across the southern North Sea brought persistent rain to northern Wales, northern England, and southern/central Scotland. Initially impacting south/east England, the rain caused flash flooding and damage to railway signalling that led to travel disruption in Norfolk. As the system moved north, prolonged heavy rain across north Cumbria saw multiple reports of surface water flooding in Carlisle and households were temporarily cut off by rapidly rising rivers in and around the hamlet of Stockdalewath. Across north Cumbria the heavy rain severely disrupted rail travel. The system continued northwards and on the 23rd caused flooding across the Edinburgh area and in the city centre.

The last week of the month saw low pressure continuing to dominate, with outbreaks of heavy showers and thunderstorms across the UK. Some surface water impacts were observed, including short-term closures of roads and rails in parts of Cheshire, Lancashire, Greater Manchester and West Yorkshire on the 26th and over north-east England and south/central Scotland on the 27th/28th. The 29th saw further flooding reported from Fife

and Tayside, with a funnel cloud observed over Dundee. On the 30th/31st, strong northerly winds caused damage to trees in west Norfolk that caused travel disruption.

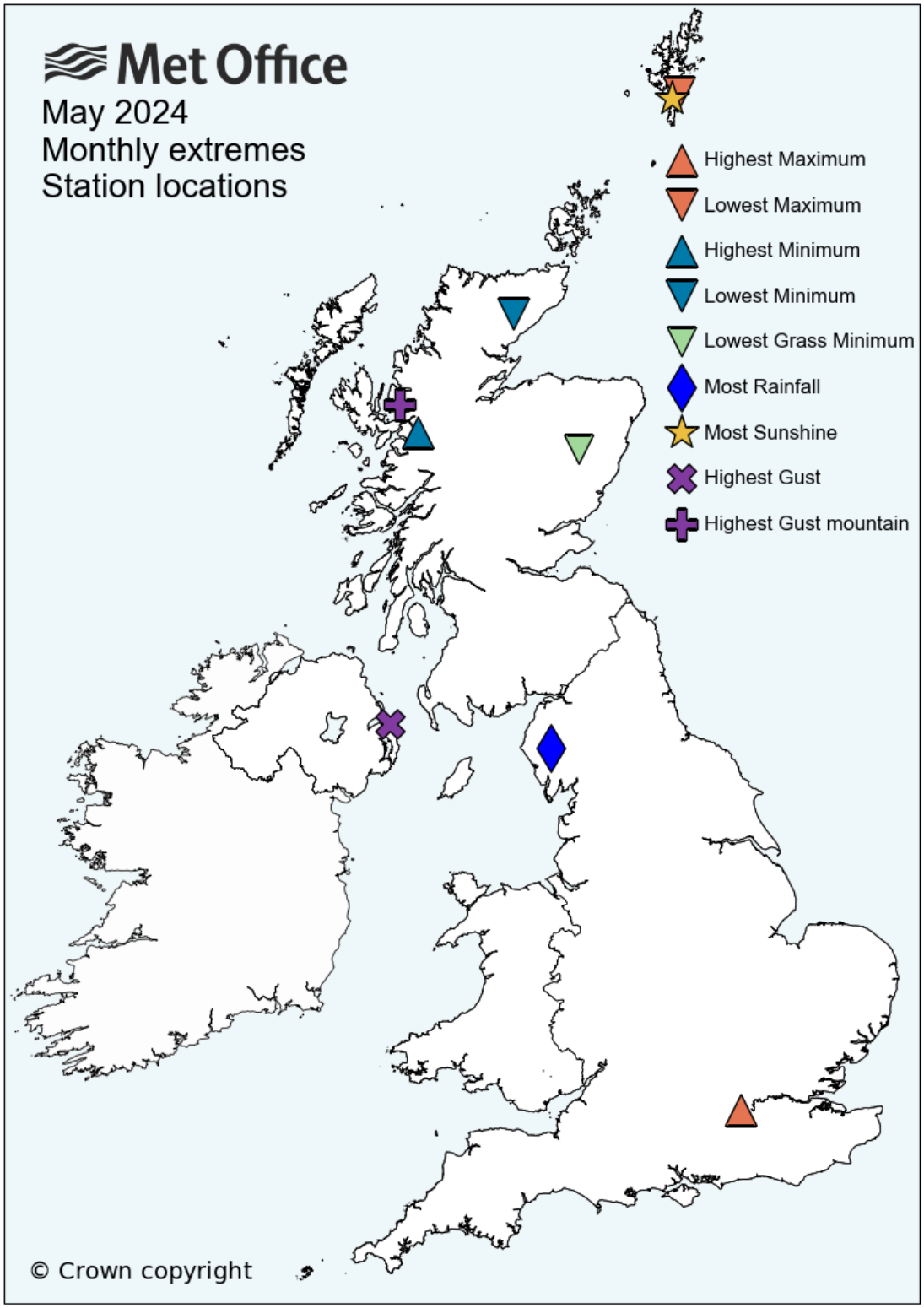
Monthly extremes

The table below lists UK monthly weather extremes recorded at individual weather stations during May 2024 from data available on 03/06/2024. The map shows the location of these stations.

Highest Maximum	**27.5°C** on **12th** at Chertsey, Abbey Mead P Sta (Surrey, 12mAMSL)
Lowest Maximum	**8.8°C** on **5th** at Lerwick (Shetland, 82mAMSL)
Highest Minimum	**17.1°C** on **12th** at Achnagart (Ross & Cromarty, 15mAMSL)
Lowest Minimum	**-1.1°C** on **21st** at Kinbrace, Hatchery (Sutherland, 103mAMSL)
Lowest Grass Minimum	**-4.6°C** on **21st** at Aboyne No 2 (Aberdeenshire, 140mAMSL)
Most Rainfall	**124.0mm** on **22nd** at Honister Pass (Cumbria, 358mAMSL)
Most Sunshine	**15.7hr** on **16th** at Lerwick (Shetland, 82mAMSL)
Highest Gust	**48Kt 55mph** on **23rd** at Orlock Head (Down, 35mAMSL)
Highest Gust (mountain*)	**63Kt 72mph** on **23rd** at Bealach Na Ba No 2 (Ross & Cromarty, 773mAMSL)
Greatest Snow Depth at 0900 UTC	No non-zero values.

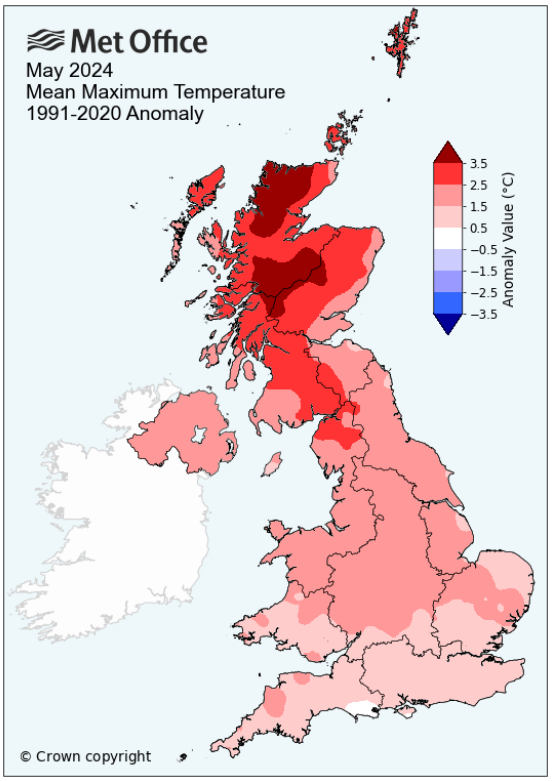
mAMSL refers to station elevation in metres above mean sea level.

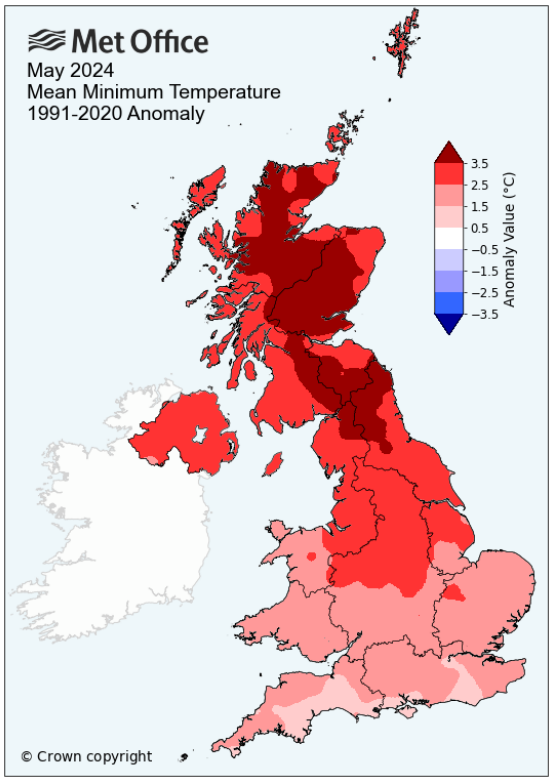
*Mountain stations are above 500mAMSL.

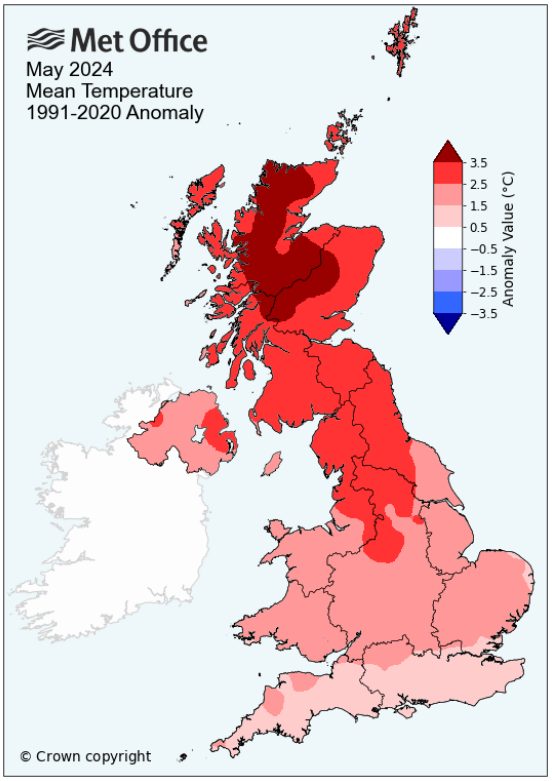

Met Office
May 2024
Monthly extremes
Station locations
Highest Maximum
Lowest Maximum
Highest Minimum
Lowest Minimum
Lowest Grass Minimum
Most Rainfall
Most Sunshine
Highest Gust
Highest Gust mountain
© Crown copyright

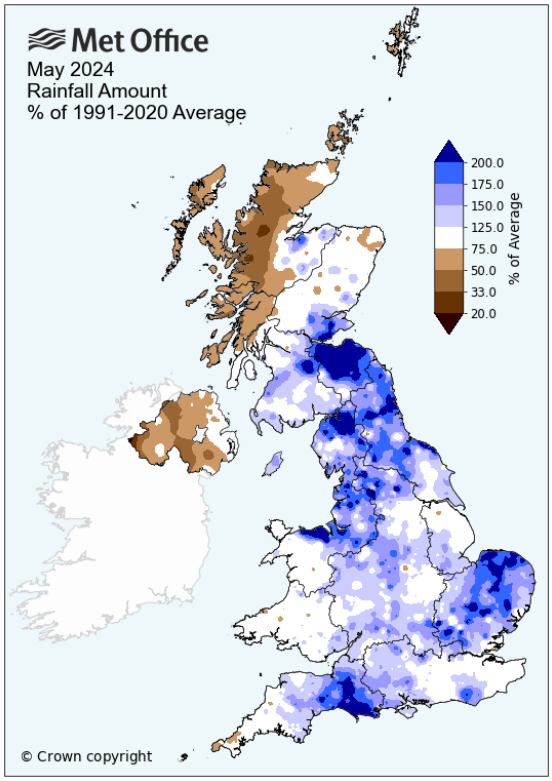
Monthly maps

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

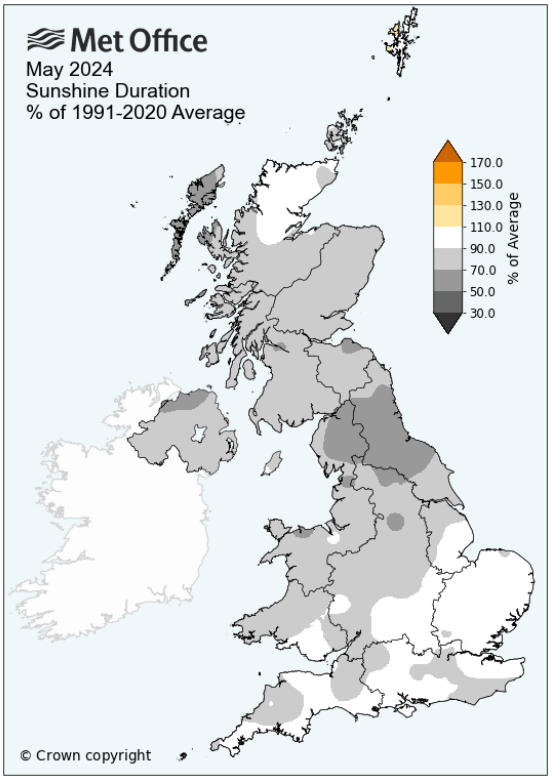


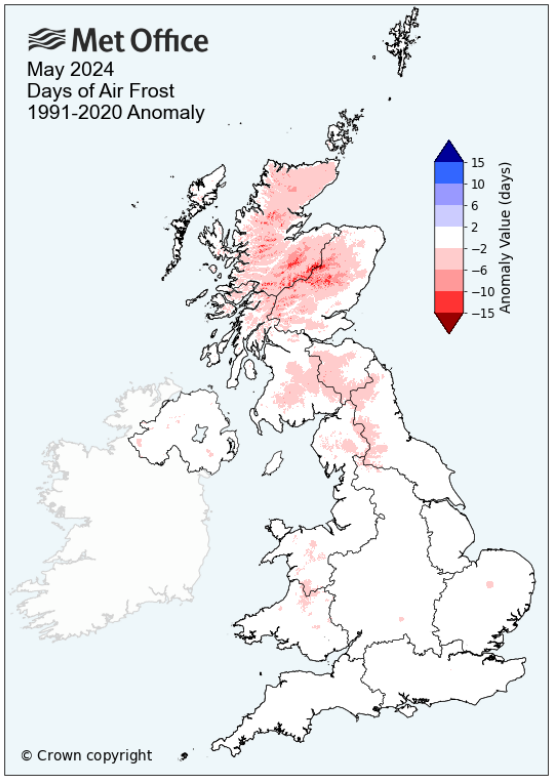


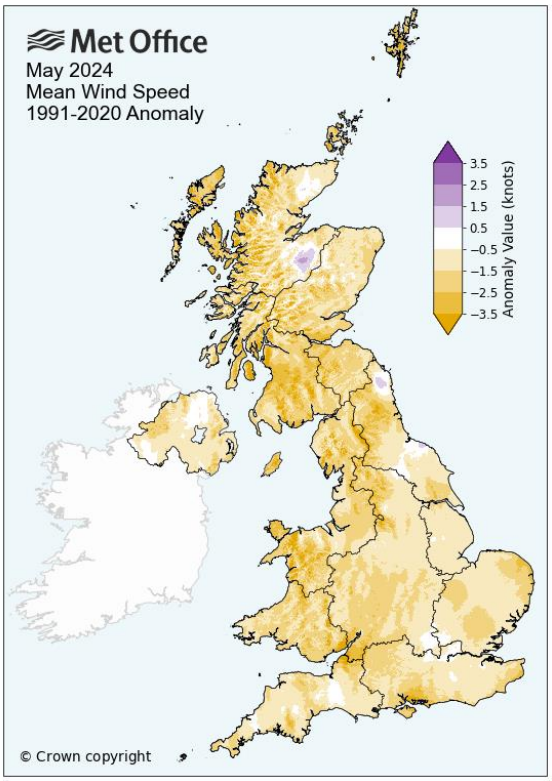


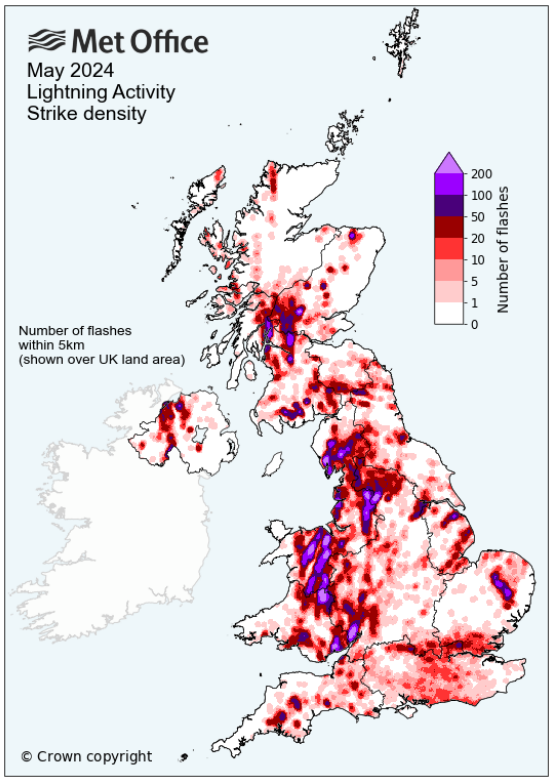


These maps show monthly sunshine, monthly air frost and monthly windspeed for May 2024 as anomalies relative to the May 1991-2020 long term average, plus a map showing lightning activity as the number of strikes within a 5km radius of any land location.









Monthly climate statistics - actuals and anomalies

These tables show the UK and national climate statistics for May 2024 for max, min and mean temperature, rainfall, sunshine and windspeed as actual values and anomalies relative to the May 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	17.2	2.1	2	140	141
England	17.8	1.6	6	136	141
Wales	16.8	1.6	11	131	141
Scotland	16.3	2.9	1	141	141
Northern Ireland	16.7	1.8	4	138	141
Central England	18.3	1.8	8	140	147

Mean minimum temperature

Region	Mintemp (°C)	1991-2020 Anomaly (°C)	Rank - warmest	Rank - coldest	Series length (yrs)
UK	9.0	2.7	1	141	141
England	9.3	2.4	1	141	141
Wales	8.7	2.1	1	141	141
Scotland	8.5	3.5	1	141	141
Northern Ireland	9.1	2.9	1	141	141
Central England	9.9	2.5	1	147	147

Mean temperature

Region	Meantemp (°C)	1991-2020 Anomaly (°C)	Rank - warmest	Rank - coldest	Series length (yrs)
UK	13.1	2.4	1	141	141
England	13.6	2.0	1	141	141
Wales	12.7	1.8	1	141	141
Scotland	12.3	3.2	1	141	141
Northern Ireland	12.9	2.4	1	141	141
Central England	14.1	2.1	2	365	366

Rainfall

Region	Rainfall (mm)	% of 1991-2020 Average	Rank - wettest	Rank - driest	Series length (yrs)
UK	82.5	116	48	142	189
England	83.9	147	22	168	189
Wales	95.4	110	61	129	189
Scotland	82.8	93	86	104	189
Northern Ireland	46.9	63	141	49	189
EWP (England and Wales)	91.3	146	39	221	259

Sunshine

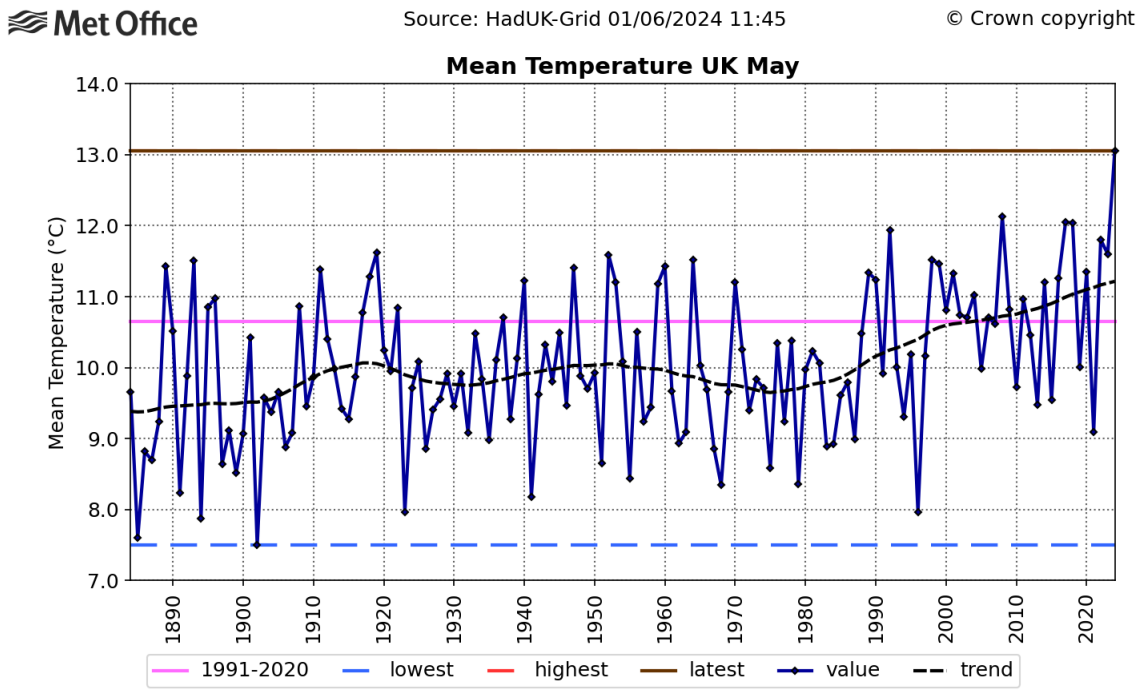
Region	Sunshine (hours)	% of 1991-2020 Average	Rank - sunniest	Rank - dullest	Series length (yrs)
UK	159.3	83	90	26	115
England	169.5	85	83	33	115
Wales	157.3	82	88	28	115
Scotland	145.8	80	89	27	115
Northern Ireland	140.3	77	100	16	115

Windspeed

Region	Windspeed (knots)	1991-2020 Anomaly (knots)	Rank - windiest	Rank - calmest	Series length (yrs)
UK	7.2	-1.6	54	3	56
England	6.6	-1.4	54	3	56
Wales	7.0	-2.0	52	5	56
Scotland	8.1	-1.8	53	4	56
Northern Ireland	7.2	-1.0	42	15	56

Monthly time-series

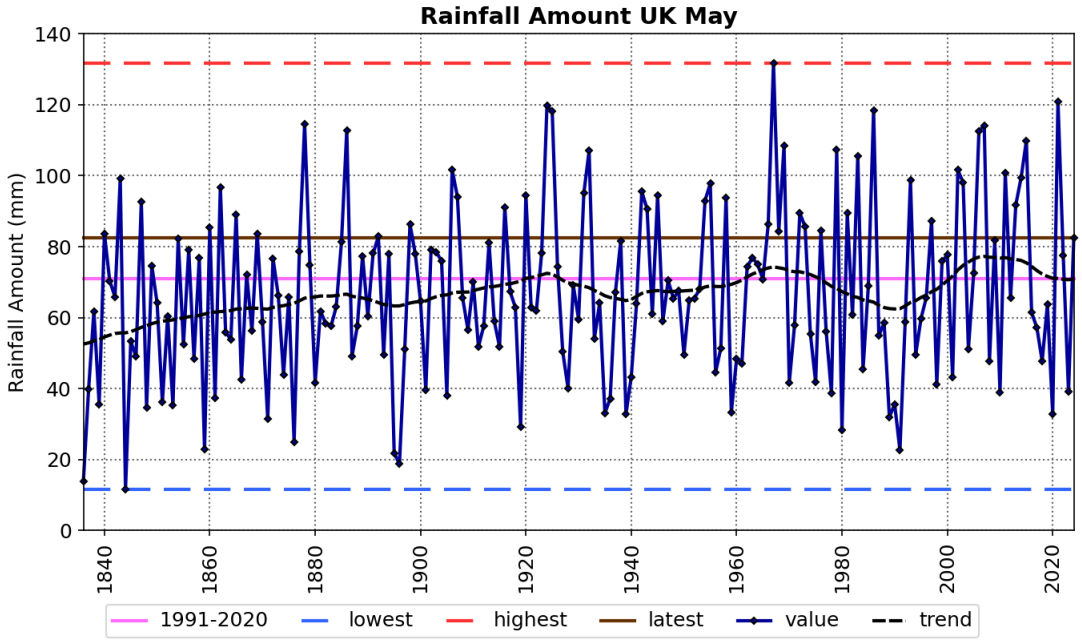
These charts show time-series for the UK for May for monthly mean temperature (from 1884), monthly rainfall (from 1836) and monthly sunshine (from 1919). The brown line shows the latest (2024) value. The hatched black line is a smoothing filter which shows the long-term trend. The tables below show statistics 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.



Period	1961-1990	1991-2020	2015-2024	2024
Meantemp (°C)	9.8	10.7	11.2	13.1

Met Office

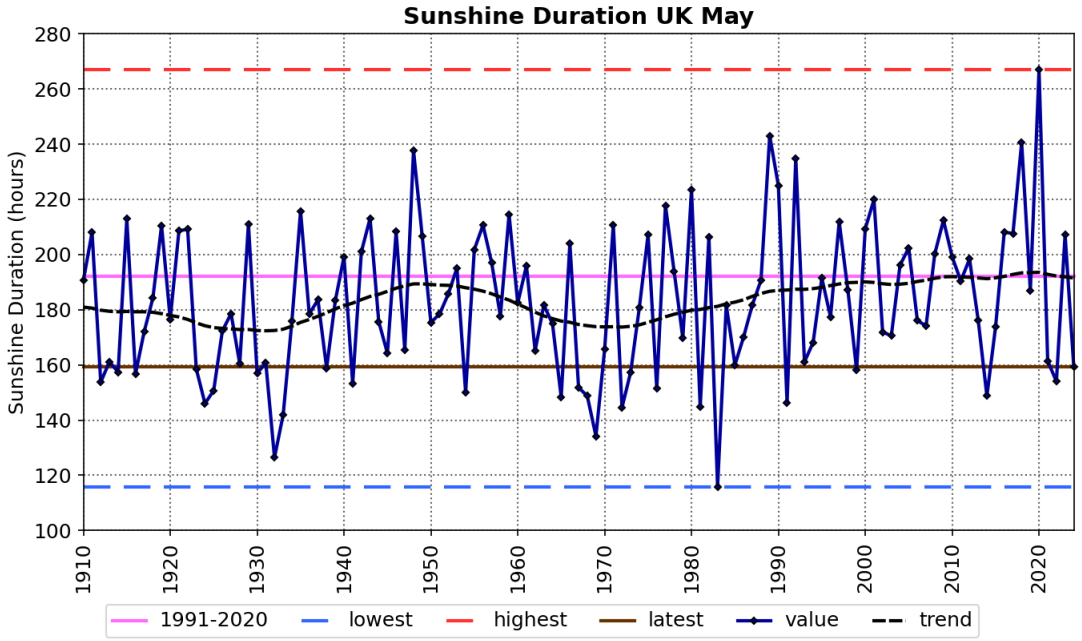
Source: HadUK-Grid 01/06/2024 11:45



Period	1961-1990	1991-2020	2015-2024	2024
Rainfall (mm)	70.4	71.0	69.3	82.5

Met Office

Source: HadUK-Grid 01/06/2024 11:45

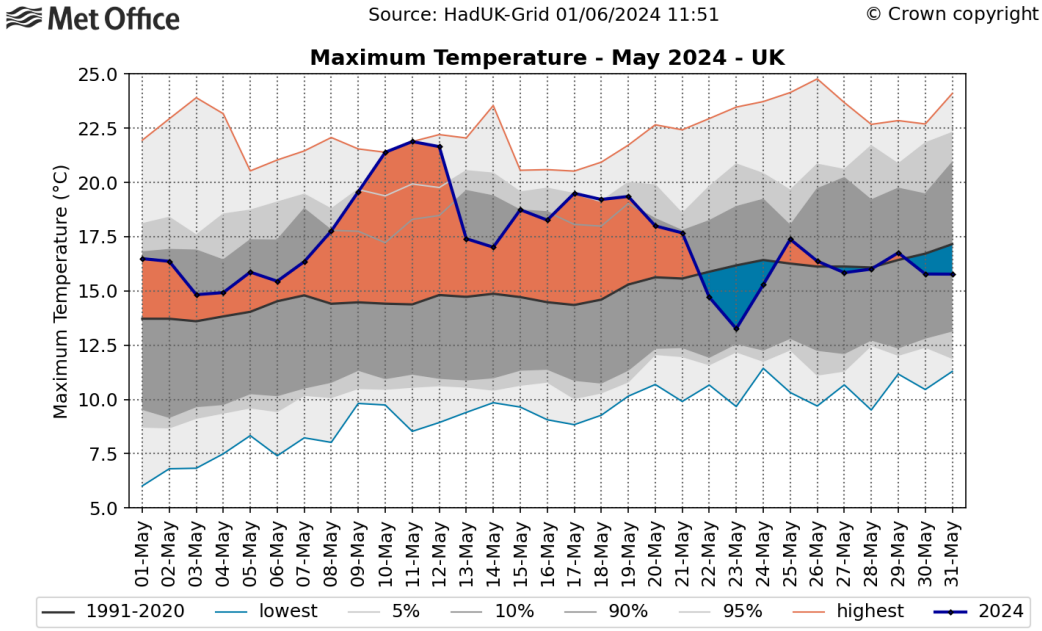


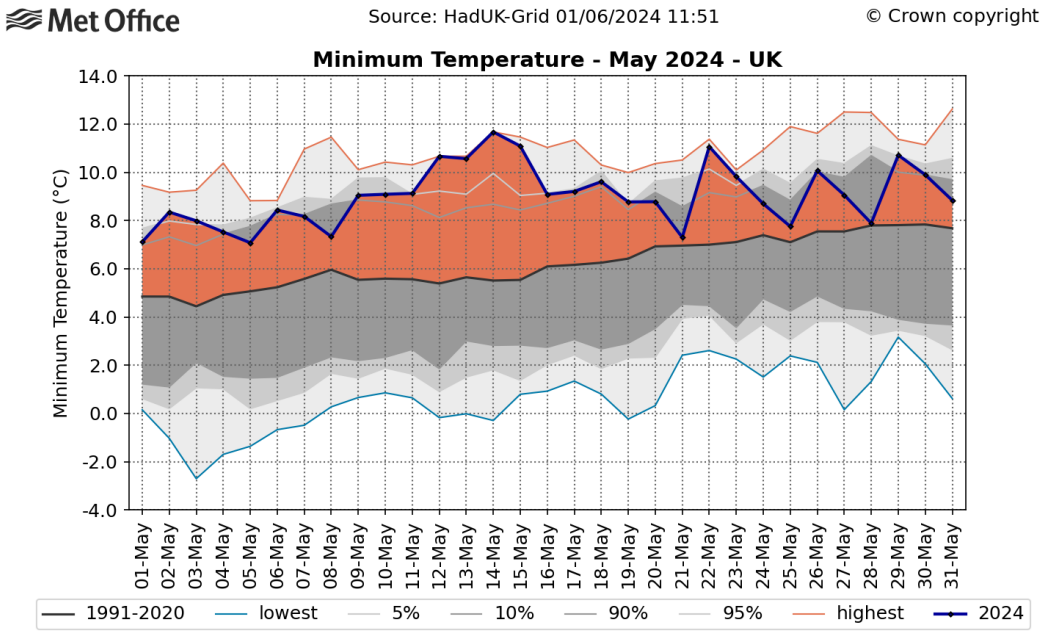
Period	1961-1990	1991-2020	2015-2024	2024
Sunshine (hours)	178.2	192.2	196.6	159.3

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 May 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

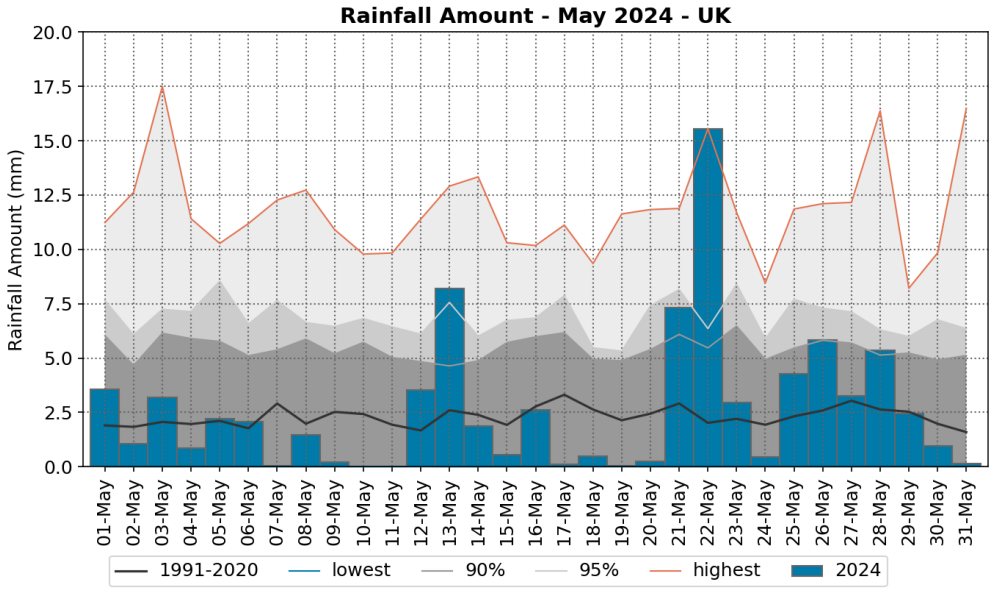




Daily rainfall and rainfall accumulation

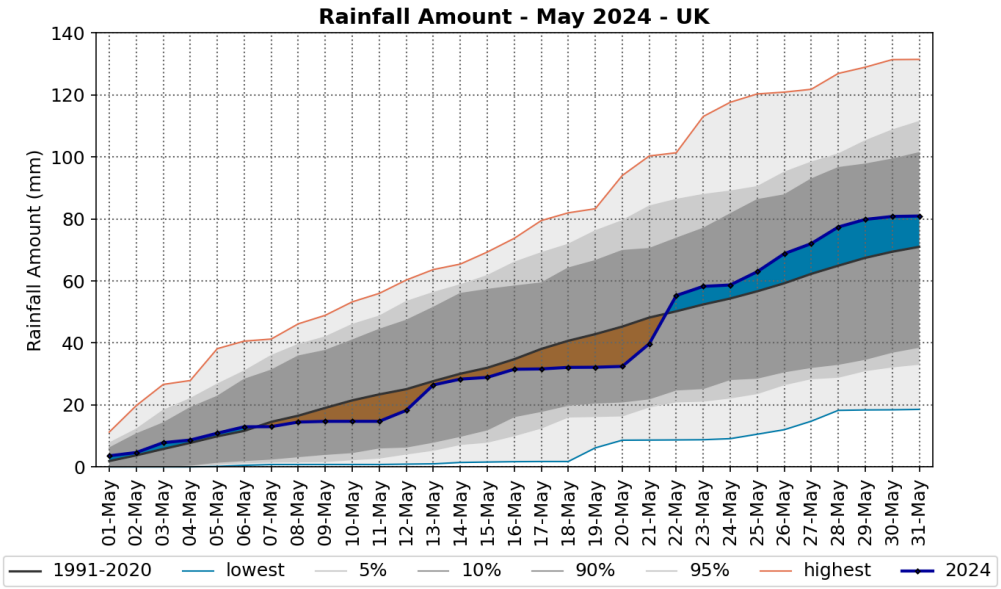
Met Office

Source: HadUK-Grid 01/06/2024 11:52



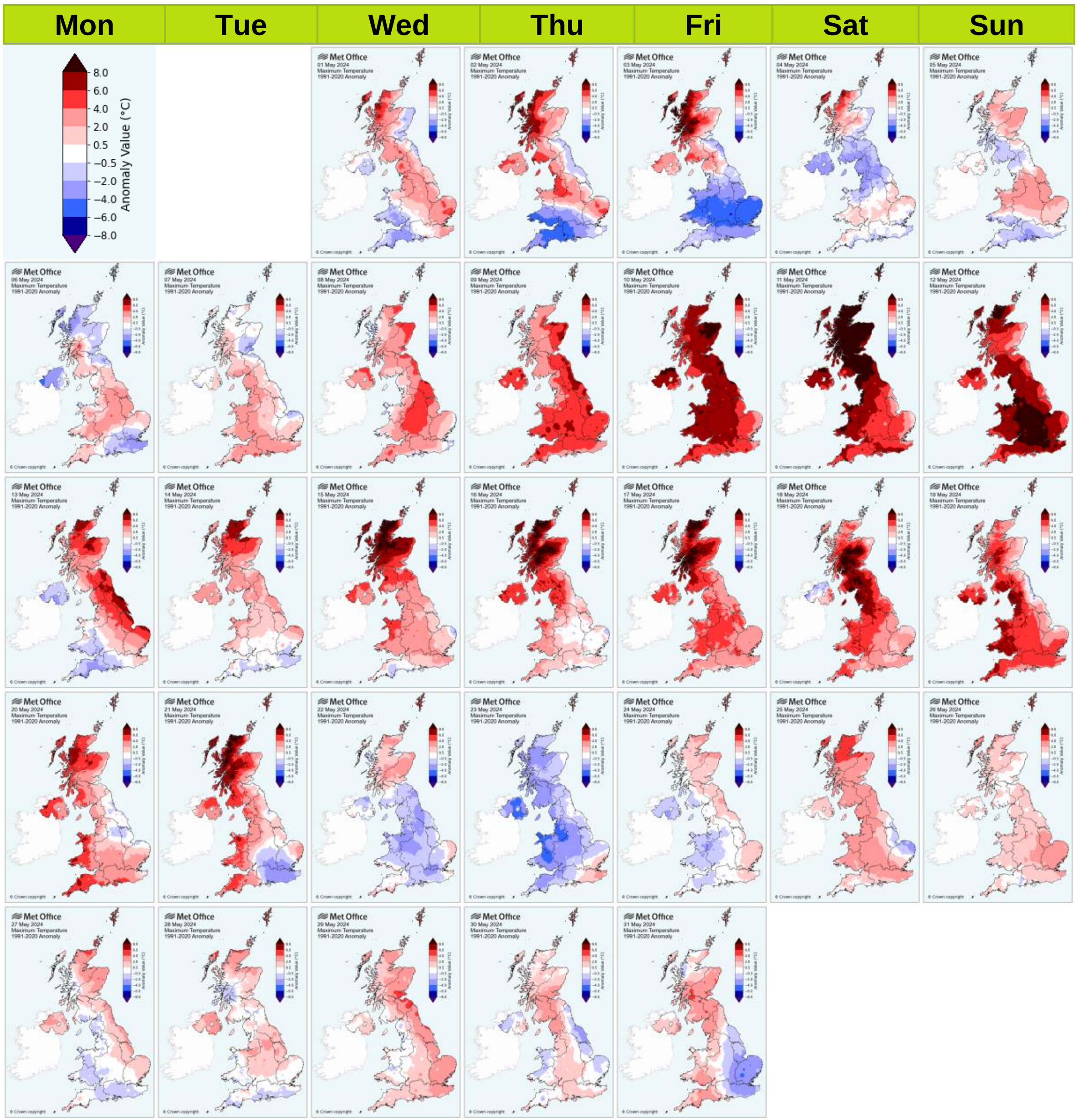
Met Office

Source: HadUK-Grid 01/06/2024 11:54



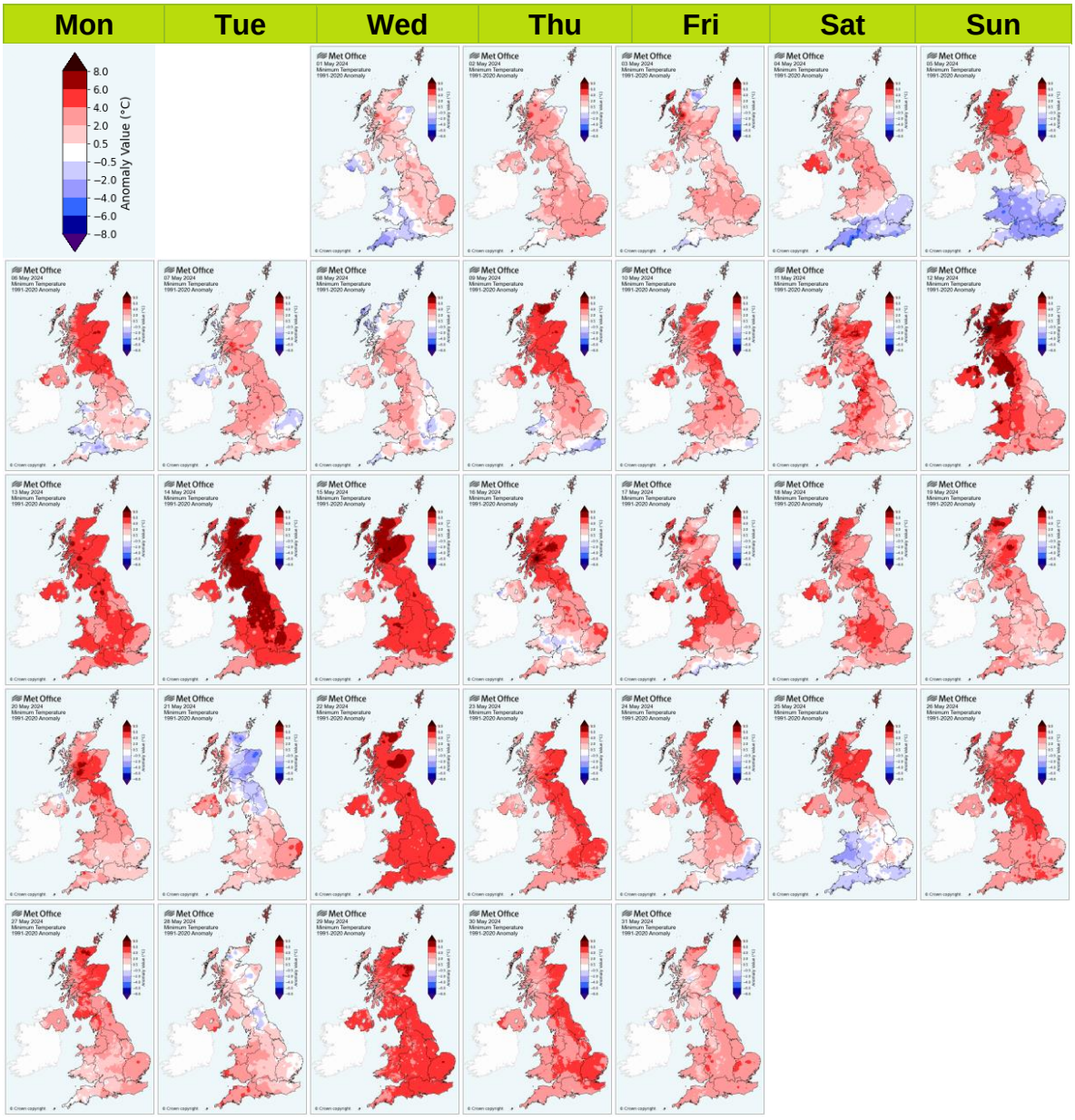
Daily maximum temperature maps - calendar view

These maps show daily maximum temperatures for each day of May 2024 as anomalies relative to the May 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.



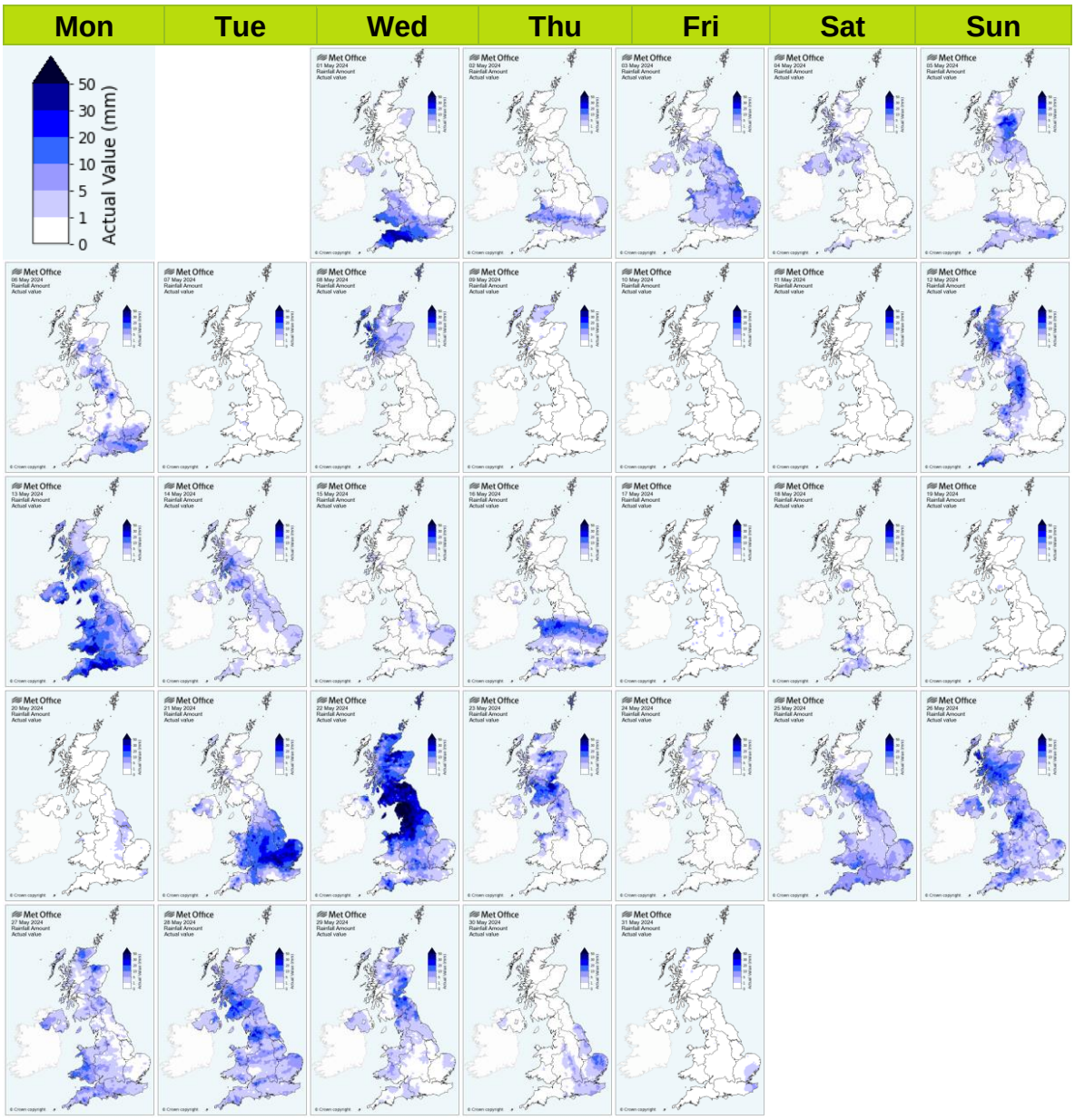
Daily minimum temperature maps - calendar view

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

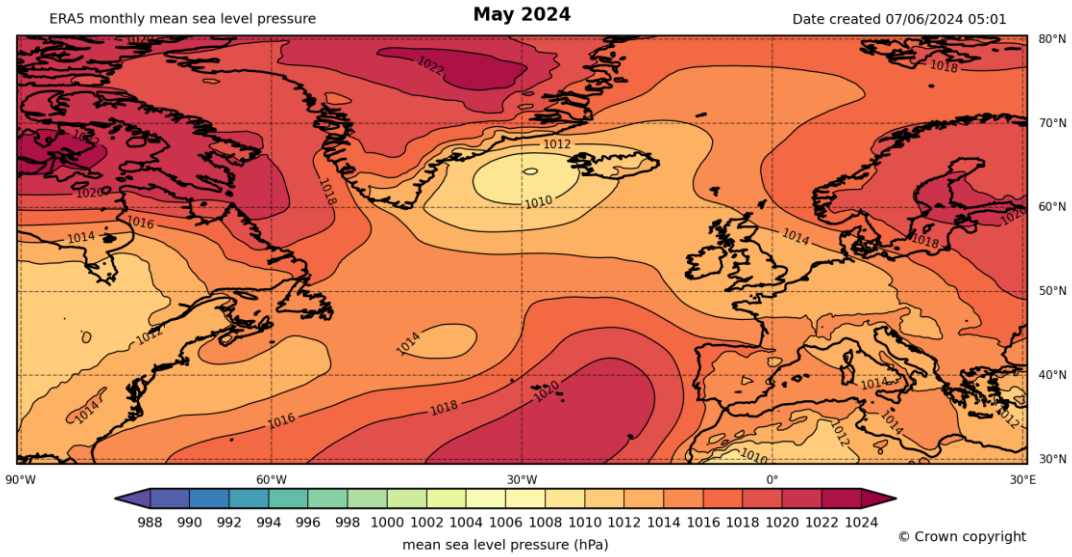


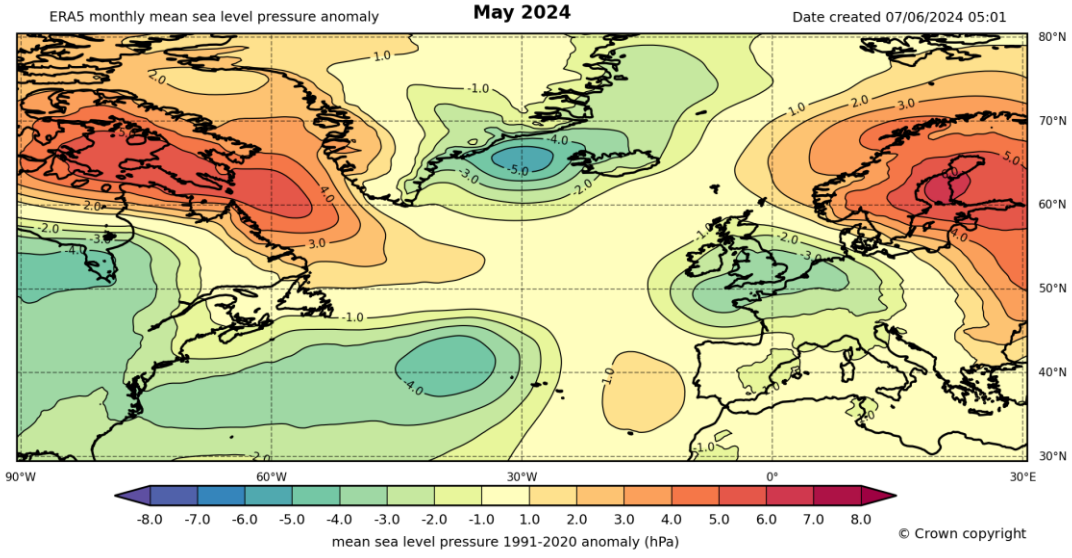
Monthly atmospheric circulation

Mean sea level pressure

These charts show the monthly mean sea level pressure for May 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 May 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 mean monthly sea-level pressure pattern for May shows above average pressure over Scandinavia and northern Canada and a low pressure anomaly to the west of Iceland. Across the UK, the mean pressure was below average, especially over southern England.

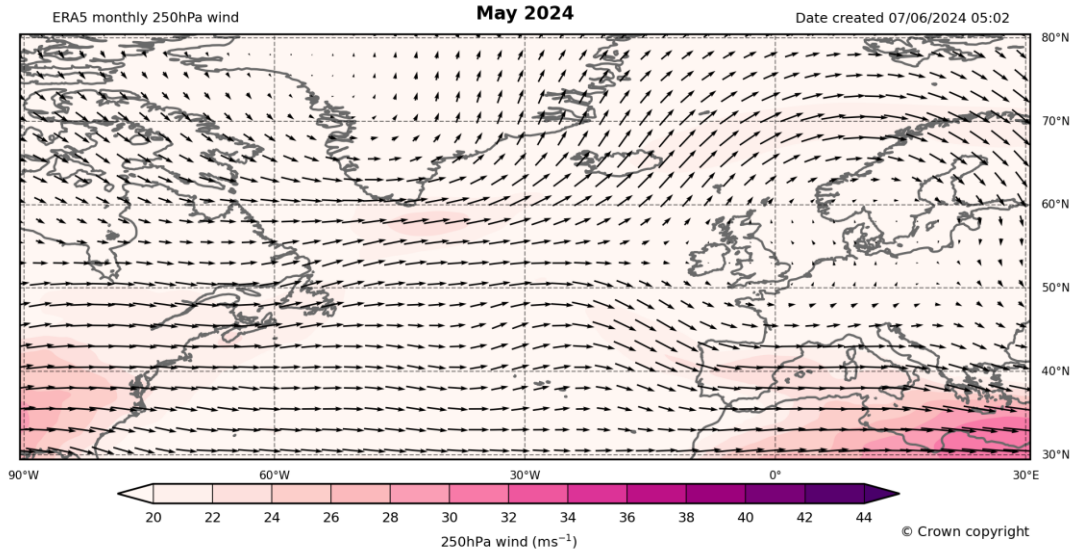


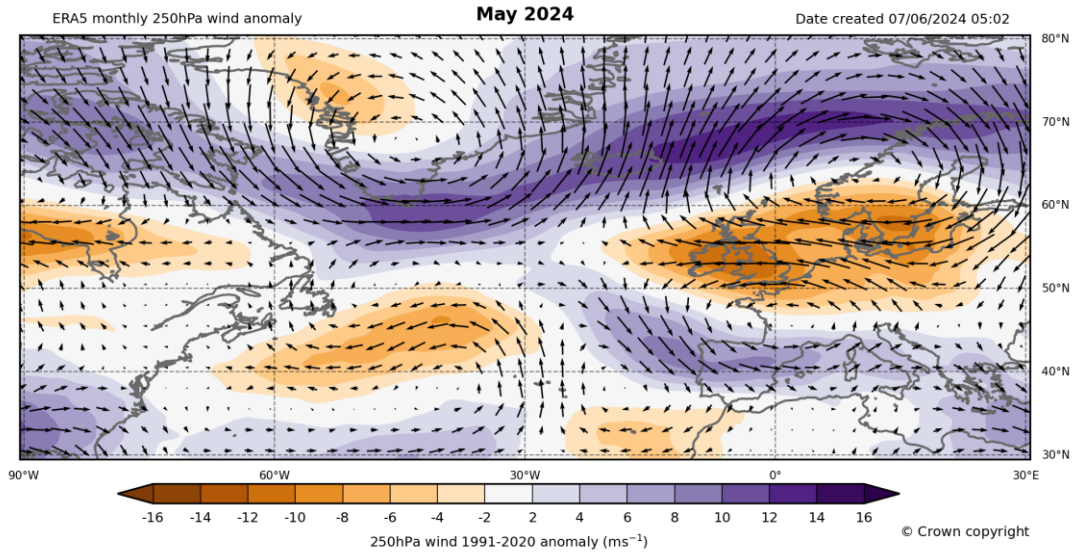


250hPa wind speed and direction

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

In May, the mean jetstream was weaker than usual over the UK and stronger than usual further to the north across Iceland. An anomalous easterly flow was seen over the UK.





Weather diary

- **Wet for northern UK and generally very mild**

  May began where April left off with the UK under the influence of low pressure. This was true from the 1st to the 6th, with unsettled conditions over the whole country and maximum temperatures struggling to reach double figures in places.

  From the 7th to 12th, the lows had moved away to the east and high pressure from the Atlantic established itself. The more settled and sunnier conditions allowed temperatures to climb into the high 20s Celcius over all regions, the southeast of England recording the highest maximums.

  However, it didn't hang around for long. By the 13th, a slow-moving low pressure system developed off the south coast and essentially meandered around until the 18th before dissipating, allowing another ridge of high pressure to affect the UK.

  The weather for the rest of the month was characterized by a mixture of flabby lows and ridges of high pressure, apart from the 22nd. A rather innocuous feature over the near continent on the 21st drifted slowly north and west, deepening as it crossed the North Sea and produced some significant rainfall from the Midlands northwards. North Wales, Cumbria, and south-eastern Scotland were the worst affected with 24-hour totals exceeding 50mm. Over 100mm were recorded over East Lothian, and over 120mm in parts of Cumbria.

  The remainder of the month saw a mix of lows with their associated fronts and the occasional transient ridge cross the UK from west to east, without producing any notable weather, although it did turn rather windy over the south coast on the 28th.

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 from data from these stations are used to provide long term context.

This summary was produced on 07/06/2024 10:19. 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