







UKCP Newsletter Probabilistic Projections



Observations now available on User Interface

The Met Office publishes the State of the UK Climate report annually each year, providing climate stories and an up-to-date assessment of UK climate for the <u>previous year</u>. Underpinning the report is the HadUK-Grid dataset which is a collection of gridded climate variables derived from a network of UK land surface observations. <u>Find out more</u>.

As part of the Defra-funded UKCP Climate Service, we have made these available on the UKCP User Interface at the original 1 km resolution as well as spatial resolutions to support the UK Climate Projections (i.e. 5 km, 12 km, 25 km, 60 km, national, administrative and river basin regions). All variables are available to download as data (in csv or netCDF format), with map or timeseries plots available for temperature or rainfall. Register at the <u>UK Climate Projections User Interface</u> to download them. Note that the data are also available from the <u>CEDA Archive</u> for those who are familiar with processing large climate datasets.

This will allow users to get the most up-to-date information about recent climate. Using this observational data from the past will facilitate better understand of the current climate hazard, before considering how this is projected to evolve in our changing climate.

Update to UKCP Probabilistic Projections

Since their launch in 2018, the UKCP projections have been subject to a program of updates. During the past year, four improvements have been developed:

One fixes a software indexing error that affected the original projections of daily maximum and minimum temperature (Tmax and Tmin), leading to more consistent relationships between future changes in Tmax, Tmin and daily-average temperature.

The second improves the representation of extreme precipitation changes in the realizations and probability distributions.

The third and fourth developments improve the representation of natural climate variability in the realizations, and remove minor biases in the centring of projected climate anomalies relative to the historical baseline of 1981-2000.

During the checking and quality control process a downscaling software indexing error has recently been discovered. This converts results from global climate model simulations to smaller-scale UK projections for 25km grid squares and aggregated regions. A new set of probabilistic projections is under development, fixing this bug and hence providing an improved representation of the localised effects of mountains, coastlines and physical processes. This will form a fifth improvement to the updated probabilistic projections, with the aim that this will be provided to users during the summer.

The combined impacts of the first four improvements are generally small, compared with the broad uncertainty ranges found in the distributions. The impact of the downscaling fix is currently under assessment.

The suite of projections allow users to examine a range of data. It is always recommended that users interrogate the breadth of outputs to fully understand climate impacts. Relying on a single product within UKCP does not allow users to sample the full range, including uncertainties, within the projections.

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Inaugural meeting of UKCP Development and Knowledge Sharing Network

The first meeting of the UKCP Development and Knowledge Sharing Network was held on 13 January 2022. The network of 60 members has been set up to inform activities that the Defra-funded UKCP Climate Service project will be carrying out to 2024.

The meeting was held to introduce the UKCP Climate Service, agree the Terms of Reference as well as discuss the ideas that the network members have for fostering relationships, exchanging knowledge as well as for additional tools and guidance that they would like to see in the coming years. In February and March, members submitted ideas and prioritised them to help inform a workplan. Further details of the network, the UKCP Climate Service and how you may get involved will be provided in very shortly.

E-learning course launched

On 13 January 2021 we launched our e-learning course to introduce you to the latest UK Climate Projections. At the end of the course, you'll be able to better define your information needs, navigate and select the most appropriate products for your application as well as learn how to use the UKCP User Interface.

Please contact us here on the Met Office website and we'll get you started, please put "UKCP e-learning registration" as the subject. Note that this can take up to 2 working days. The course will take around 1-2 days, depending in how much detail you explore the supporting material. You can also dip in and out of the eight modules which covers material on getting started with climate change information, understanding uncertainty in UKCP through to putting theory into practice with a number of exercises.

The online training course has been developed as part of Defra's UKCP Climate Service with contributions from Mott Macdonald, Environment Agency as well as Defra.

Climate Newsletter

The Met Office Climate Newsletter is a twice-monthly email update to inform decision makers, scientists and the public about the very latest climate news and debates. It is designed to bring together the latest research, news and developments on the environment and climate change; sharing knowledge around the latest scientific thinking in the area. Sign up here.

UK Climate Projections

UKCP Project News

If you have any queries relating to this email, please contact us: ukcpproject@metoffice.gov.uk

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