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for Environment
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NEW AND EXCITING SCIENCE

UKCP Local (2.2km) describes how climate change will impact the types and extremes of weather for your local area. Local (2.2km) is the newest addition to the UKCP suite of climate models, at a resolution on par with weather forecast models. Local (2.2km) provides better representation of hourly rainfall and extremes as well as the influence of mountains, coastlines and cities at a higher resolution.

WHAT'S NEW?



2. Local (2.2km) provides a better representation of flash flooding as for the first time it can simulate hourly rainfall extremes.

driving the development of showers and thunderstorms.

SUMMER STORMS 9 AUGUST 2001



peak hourly rainfall rate: 34mm/hr

Northolt 🔴



3. Local (2.2km) gives an improved representation of local soil moisture, which may impact the severity of high temperature events in local areas, in the coming decades.

HOTTEST MODELLED SUMMER DAY

Why the difference?

Cloud differences between Regional (12km) and Local (2.2km) and/or drier soils in Local (2.2km) could be a contributing factor

Example of hottest hourly temperature that occurs in the baseline period (1981-2000) in any ensemble member**.



** In this case the plot shows temperature data regridded to the 12km scale, for both models.

4. Local (2.2km) better represents small scale features due to the smaller model grid box than at a coarser

(12km and 60km) resolution.

Probabalistic projections provide the broadest ranges of uncertainty in future changes for key UK climate variables and global average temperature. These results are complemented by the other products in the UKCP suite that provide sets of plausible projectionsshowing how climate might evolve within the range of uncertainty.



5. UKCP Local (2.2km) provides more spatially detailed projections including the influence of mountains, coastline and cities at a higher resolution.

Specification of urban areas will be more precise in local (2.2km) with better representation of the urban heat island effect. NB: Users should look wider than a 2.2km grid box, and consider projections from surrounding grid boxes.

London area covered by Regional 12km grid box



London area covered by Local 2.2km grid box



6. The representation of mountains and coastlines will be more accurate in Local (2.2km). Mountain peaks as well as islands, peninsulas and inlets that are about 2km in scale will be captured.

Surface height cross-section across scotland at about 57° N, in Global (60km), Regional (12km) and Local (2.2km) models.



2.2 km 12 km 60 km





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