Three projects funded by the European Union to examine climate change and extreme events

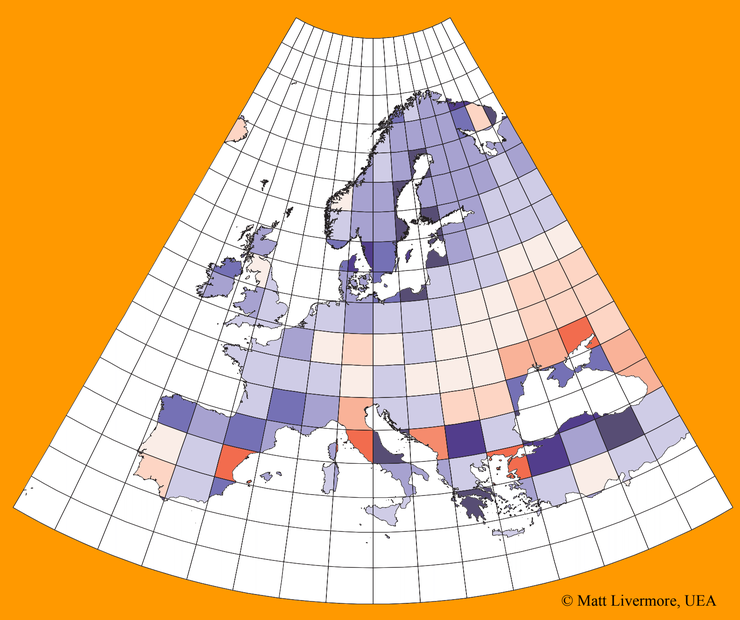
Flood Drought Coldspells Heatwaves Wind

Modelling the Impact of Climate Extremes

MICE uses information taken from regional and global climate models to explore future changes in extreme events across Europe in response to global warming. The objectives are:

1) to create indices of extremes from model data
2) to compare these with indices from observations
3) to calculate future changes in climate extremes
4) to assess the impacts of these future changes

The chart shows the differences between the 90th percentile of daily maximum temperature from the HadCM3 model and NCEP reanalysis data, based on observations. Red indicates +ve anomalies, blue -ve.



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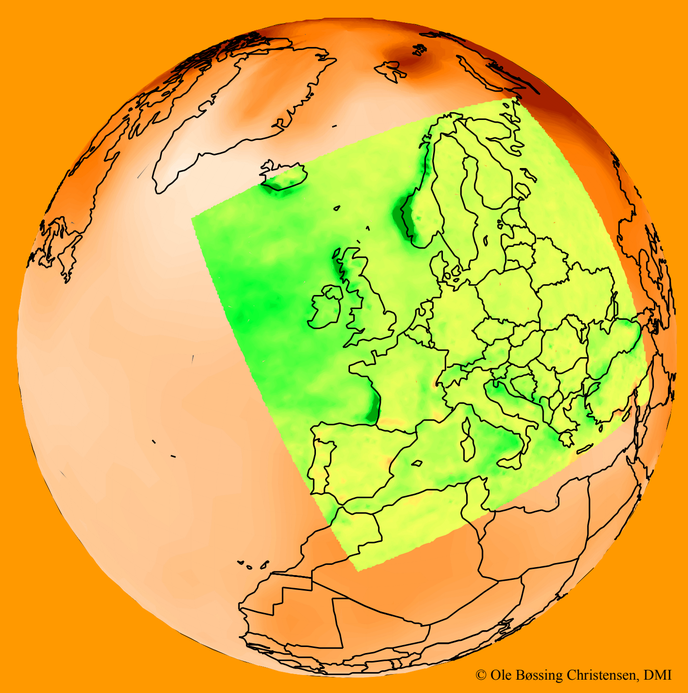
Co-ordinator: ***Jean Palutikof, Climatic Research Unit, UEA, Norwich, UK***

Prediction of Regional scenarios and Uncertainties for Defining Europea... N Climate change risks and Effects

PRUDENCE provides high resolution climate change scenarios over Europe for 2071-2100, using regional climate models. The scenarios will be used to explore changes in the frequency and magnitude of extreme weather events. PRUDENCE will also supply model data to STARDEX and MICE.

The map shows the annual change in European precipitation > 20 mm./day between 1961-1990 and 2071-2100. Green indicates a wetter future, yellow little change. The orange over the globe reveals the relative intensity of future warming (darker is more warming).



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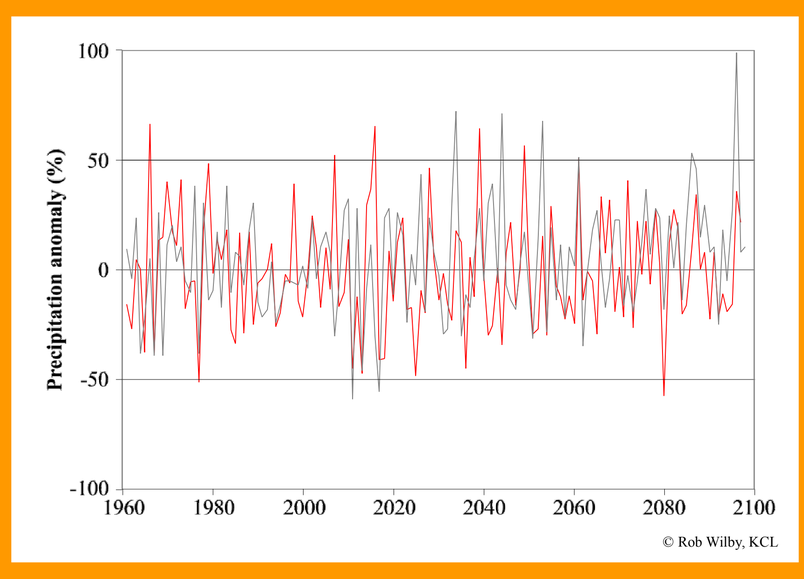
S... Tatistical And Regional dynamical Downscaling of E... Xtremes

STARDEX provides improved downscaling methodologies for the construction of scenarios of changes in the frequency and intensity of extreme events. Amongst the tools considered are: weather generators, regression, fuzzy rules, and neural networks. A dedicated tool for calculating a set of extreme statistics has been developed.

The figure shows anomalies of the wettest 20-day period each winter for the A2 scenario of HadCM3 East of England box (grey), compared with the SDSM statistical downscaled projection for Kew (red).



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