



## **Analysis of C20 Climate Trends in the UK**

**M. Perry and J. Prior**

Met Office, Exeter, UK

matthew.perry@metoffice.gov.uk

A range of monthly 5km gridded climate datasets for the UK have been generated by the Met Office. For most variables, these start in 1961 but they extend back to 1929 for sunshine and to 1914 for temperature and precipitation. These datasets have been used to analyse trends in the UK climate to 2006.

Variables such as air temperature, precipitation, sunshine and mean sea level pressure will be examined, including relationships between them. Trends in derived indices such as days of air frost, growing season length, heating and cooling degree days, consecutive dry days and days of rain  $\geq 1$  mm will also be presented.

The methods used include kernel filter smoothing, linear trend models, Mann-Kendall significance test, and comparison of the mean for two periods (e.g. 1961-1990 and 1991-2006). Spatial patterns in the results will be differentiated using time-series graphs divided by region, and by presenting colour-shaded maps of trends calculated at each 5km x 5km grid point over the UK. Results will also be divided by season to investigate seasonality.

These data presentations will be used to demonstrate some of the most significant changes that have taken place over the last century, for example an increase in winter precipitation over western Scotland, a marked decrease in heating degree days across southern England and a marked increase in growing season length in Scotland.