



On the accuracy of gridded daily rainfall amounts for the UK at a range of spatial resolutions

Timothy Legg and Ian Simpson

Met Office, National Climate Information Centre, Exeter, United Kingdom (tim.legg@metoffice.gov.uk)

This presentation compares gridded daily precipitation data from three sources: the Met Office National Climate Information Centre (NCIC, at 5km resolution), a European land-only gridded daily dataset covering the period from 1950 (E-OBS, at 25km resolution), and the Centre for Ecology & Hydrology – Gridded Estimates of Areal Rainfall (CEH-GEAR, at 1km resolution) dataset. Uncertainties (structural and sampling) in rainfall amounts from the grids are examined and compared, noting the different spatial resolutions and the different interpolation methods used.

Uncertainties in daily rainfall amounts at a point, estimated from NCIC grids, are typically found (by doing tests on a 'leave-one-out' basis) to be of the order of 15-20% of the actual rainfall amount. The existence of multiple high-resolution gridded precipitation datasets for the UK provides an opportunity to explore the structural uncertainty arising from methodological choices in the development of the dataset. The datasets outlined above employ three different interpolation methods and two different sampling strategies, and the results in this presentation will explore comparisons between them. A number of key areas are identified in which gridding methods would most benefit from improvements.