Geophysical Research Abstracts, Vol. 8, 10950, 2006
SRef-ID: 1607-7962/gra/EGU06-A-10950


# Climate simulations as a testbed of climate reconstruction methods

**E. Zorita**

Institute for Coastal Research, GKSS Research Centre, Geesthacht, Germany (zorita@gkss.de/ Tel: +49 4152 87-1856 Fax: +49 4152 87-1888)

Although climate simulations of the past centuries are still burdened by considerable uncertainties stemming from external forcing and model deficiencies, they can be considered as a plausible and useful realization of the past climate evolution, where the skill of proxy-based empirical reconstruction methods may be tested. If the reconstruction method makes use of proxy indicators, surrogate proxy-indicators may be constructed by adding stochastic noise to the simulated grid-point temperature or precipitation. Other reconstruction methods, such as boreholes, make use of physical variables that are measured directly, but that are not simulated by a climate model. In those cases, surrogate temperature profiles can be created from simulated surface fluxes. In both cases, the output of the reconstruction method in the surrogate world of the climate simulation may be compared to the simulated target variables, allowing for an estimation of the bias and uncertainty bounds at centennial timescales. In this contribution several of the recent empirical reconstruction methods are tested, analyzing the influence of several factors on the skill of the method: among others, white or red noise in the pseudo-proxies, spatial coverage, and calibration method.