

Externally forced simulations for the climate of the late-Holocene (2-3ka BP - present), and future climate, shall be undertaken, using either the ECHO-G or ECHAM5/MPI-OM AOGCMs. Existing simulations of the mid-Holocene (7-4.5 ka BP) may also be extended. Consistency tests between these palaeoclimate simulations with climate reconstructions derived from proxy data shall be undertaken, using statistical downscaling and regional model simulations for particular periods. This work aims to reduce uncertainties in climate reconstructions and to validate climate models. As part of the ongoing work into the DATUN (Data assimilation through upscaling and nudging) methodology, atmospheric circulation reconstructions derived from long instrumental records and palaeoclimate proxy data will be assimilated into the ECHO-G coupled atmosphere-ocean GCM. The aim of this work is to bring together proxy or instrumental data and numerical model simulations to gain an improved estimate of past climate variability.