This project contributes to the working group “Synthesis and Analysis of Proxy Data (WG3)” of the BMBF joint project “From the Last Interglacial to the Anthropocene: Modelling a Complete Glacial Cycle (PalMod)”. The overarching aims of WG3 are the generation of a synthesis of proxy records covering the last glacial cycle (WP-3.1 und WP-3.2), the quantification of paleodata uncertainties (WP-3.1 und WP-3.2), and the regionalization of model output to facilitate comparison with locally representative proxy records (WP-3.3).

As part of work package **WP-3.1 TP03 and 04 (HZG, Uni Bonn)** “Paleodata synthesis tools and concepts” the Uni Bonn and HZG develop and test new statistical methods to reconstruct spatio-temporal fields from proxy data. Among the outcomes are techniques to combine simulation output and proxy data and methods to compare simulation output and proxy data. To achieve our goals, we want to perform an ensemble of simulations with ECHAM6-T63L47 for five time slices covering the last deglaciation.

Within work package **WP-3.3 TP03 (KIT)** “Data-model interface and data analysis” KIT employs an isotope-enabled version of the limited-area model COSMO-CLM to provide a forward operator facilitating a joint analysis of proxies and simulation results. In 2017, we intend to perform regional simulations for the Arctic region and Europe for time slices of 150 years during the Last Glacial Maximum (LGM) and the Holocene at resolutions of 0.44° (about 140 x 150 grid points).

In workpackage **WP-3.3 TP02 (FUB)** a paleoclimatic data-model comparison is the central goal. It needs to be quantitative and “intelligent”, in the sense that it allows to identify and evaluate the processes that caused past climate changes. To achieve this, we want to develop and test methods that facilitate data-model comparison and data analysis and thereby enable an assessment of the Earth system models (ESMs) used in WG1 and the homogenized paleoclimatic data synthesis generated in WP3.1/WP3.2 of the Palmod project.