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The Paleoclimate Modeling Intercomparison Project phase 4 (PMIP4) contribution to CMIP6 – Overview and over-arching analyses plan

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The goal of the Paleoclimate Modelling Intercomparison Project (PMIP) is to understand the response of the climate system to different climate forcings and feedbacks. Through comparison with observations of the environmental impact of these climate changes, or with climate reconstructions based on physical, chemical or biological records, PMIP also addresses the issue of how well state-of-the-art numerical models simulate climate change. PMIP therefore benefits from the fact that paleoclimate states can be radically different from those of the recent past documented by the instrumental record, and thus provide an out-of-sample test of the models used for future climate projections and a way to assess whether they have the correct sensitivity to forcings and feedbacks. Five different periods have been designed to contribute to the objectives of the sixth phase of the Coupled Model Intercomparison Project (CMIP6). This poster will describe the motivation for the choice of these periods and the design of the numerical experiments, with a focus on their novel features compared to the experiments performed in previous phases of PMIP and CMIP as well as the benefits of common analyses of the models across multiple climate states. The 4ICESM will give us a great opportunity to discuss possible analyses of the PMIP simulations with the climate modelling community.