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# From Past to future: the Paleoclimate Modelling Intercomparison Project's contribution to CMIP6

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Since the 1990s, PMIP has developed with the following objectives: 1/to evaluate the ability of climate models used for climate prediction in simulating well-documented past climates outside the range of present and recent climate variability; 2/to understand the mechanisms of these climate changes, in particular the role of the different climate feedbacks. To achieve these goals, PMIP has actively fostered paleo-data syntheses, multi-model analyses, including analyses of relationships between model results from past and future simulations, and model-data comparisons. For CMIP6, PMIP will focus on five past periods:
- the Last Millennium (850 CE - present), to analyse natural climate variability on multidecadal or longer time-scales
- the mid-Holocene, 6000 years ago, to compare model runs with paleodata for a period of warmer climate in the Northern Hemisphere, with an enhanced hydrological cycle
- the Last Glacial Maximum, 21000 years ago, to evaluate the ability of climate models to represent a cold climate extreme and examine whether paleoinformation about this period can help and constrain climate sensitivity
- the Last InterGlacial ($\sim$127,000 year ago), which provides a benchmark for a period of high sea-level stand
- the mid-Pliocene warm period ($\sim$3.2 million years ago), which allows for the evaluation of the model's long-term response to a $CO_2$ level analogous to the modern one.
This poster will present the rationale of these "PMIP4-CMIP6" experiments. Participants are invited to come and discuss about the experimental set-up and the model output to be distributed via CMIP6.
For more information and discussion of the PMIP4-CMIP6 experimental design, please visit: https://wiki.lsce.ipsl.fr/pmip3/doku.php/pmip3:cmip6:design:index