Design for the last Interglacial (at 127 ky BP) run

You will find on this page information about the experiment design for the PMIP4 last Interglacial (at 127 ky BP) experiment.

Please make sure to read the Associated publication before setting up your experiments or using the output data, and read any *how-to* sections associated with specific boundary conditions.

Get in touch with the following people if you have questions:

Bette Otto-Bliesner	Scientific questions
Jean-Yves Peterschmitt	Technical questions or missing data

Associated publication

The PMIP4 contribution to CMIP6 – Part 2: Two interglacials, scientific objective and experimental design for Holocene and Last Interglacial simulations, Otto-Bliesner, B. L., Braconnot, P., Harrison, S. P., Lunt, D. J., Abe-Ouchi, A., Albani, S., Bartlein, P. J., Capron, E., Carlson, A. E., Dutton, A., Fischer, H., Goelzer, H., Govin, A., Haywood, A., Joos, F., LeGrande, A. N., Lipscomb, W. H., Lohmann, G., Mahowald, N., Nehrbass-Ahles, C., Pausata, F. S. R., Peterschmitt, J.-Y., Phipps, S. J., Renssen, H., and Zhang, Q., Geosci. Model Dev., 10, 3979-4003, doi:10.5194/gmd-10-3979-2017, 2017.

Supplement (Otto-Bliesner et al, GMD, 2017)

Specifications

	PMIP4-CMIP6 specifications
PMIP4-CMIP6 name	**lig127k**
Astronomical parameters	**eccentricity** = 0.039378 **obliquity** = 24.04° **perihelion-180°** = 275.41° **Date of vernal equinox** : March 21 at noon
Trace gases	**CO_2** = 275 ppm **CH_4** = 685 ppb **N_2O** = 255 ppb **CFC** = 0 **O_3** = same as in CMIP6 piControl
Solar activity	Same as in CMIP6 piControl (TSI = 1360.747 W.m-2)
Ice sheets	Same as in CMIP6 piControl

	PMIP4-CMIP6 specifications
Topography and coastlines	Same as in CMIP6 piControl
Volcanic activity	Same as in CMIP6 piControl
Aerosols	Modified sources, atmospheric concentrations or radiative forcing, depending on model complexity and model configuration used for DECK and historical experiments cf. documenting papers: Otto-Bliesner et al, in prep and Kageyama et al, subm. Access to data
Vegetation	Depending on model complexity and model configuration used for DECK and historical experiments: Interactive vegetation **or** Interactive carbon cycle (LAI) **or** Prescribed to present-day values or lig127k values computed from off-line vegetation model The methodology to represent vegetation should be the same as for the CMIP6 piControl simulation cf. documenting papers: Otto-Bliesner et al, in prep and Kageyama et al, subm.

Collaboration

- The PMIP4-CMIP6 **lig127k** simulation is being coordinated with ISMIP6. The output from the lig127k simulation will be used by ISMIP6 to force standalone ice sheet experiments (*lastInterglacialforcedism*). This will increase our understanding of the sensitivity of the ice sheets, complementing the suite of standalone ISMIP6 ice sheet experiments.
- The PMIP4-CMIP6 **midHolocene** and **lig127k** simulations are also expected to be relevant to analyses in SIMIP's assessment of the role of sea-ice changes in climate changes and AerChemMIP's assessment of the role of dust

Sensitivity experiments

Sensitivity to Prescribed Vegetation

Sensitivity to Prescribed Ice Sheets

Simulation to explore the effects of the H11 event