Design for the mid-Holocene run

You will find on this page information about the experiment design for the PMIP4 mid-Holocene 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:

Pascale Braconnot	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	**midHolocene**
Astronomical parameters	**eccentricity** = 0.018682 **obliquity** = 24.105° **perihelion-180°** = 0.87° **Date of vernal equinox** : March 21 at noon
Trace gases	CO_2 = 264.4 ppm CH_4 = 597 ppb N_2O = 262 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
Topography and coastlines	Same as in CMIP6 piControl
Volcanic activity	Same as in CMIP6 piControl

	PMIP4-CMIP6 specifications
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 mid-Holocene 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 **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

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