

# 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:

<a href="#">Pascale Braconnot</a>	Scientific questions
<a href="#">Jean-Yves Peterschmitt</a>	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](https://doi.org/10.5194/gmd-10-3979-2017), 2017.

## Specifications

	PMIP4-CMIP6 specifications
PMIP4-CMIP6 name	<b>midHolocene</b>
Astronomical parameters	<b>eccentricity</b> = 0.018682 <b>obliquity</b> = 24.105° <b>perihelion-180°</b> = 0.87° <b>Date of vernal equinox</b> : March 21 at noon
Trace gases	<b>CO<sub>2</sub></b> = 264.4 ppm <b>CH<sub>4</sub></b> = 597 ppb <b>N<sub>2</sub>O</b> = 262 ppb <b>CFC</b> = 0 <b>O<sub>3</sub></b> = same as in CMIP6 piControl
Solar activity	Same as in CMIP6 piControl (TSI = 1360.747 W.m <sup>-2</sup> )
Ice sheets	Same as in CMIP6 piControl
Topography and coastlines	Same as in CMIP6 piControl
Volcanic activity	Same as in CMIP6 piControl

	<b>PMIP4-CMIP6 specifications</b>
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. <a href="#">Access to data</a>
Vegetation	Depending on model complexity and model configuration used for DECK and historical experiments: Interactive vegetation <b>or</b> Interactive carbon cycle (LAI) <b>or</b> 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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