# Design for the LGM run

You will find on this page information about the experiment design for the PMIP4 Last Glacial Maximum experiment.

Please make sure to read the Associated publications 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:

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|---|---|
| Masa Kageyama | Scientific questions |
| Jean-Yves Peterschmitt | Technical questions or missing data |

## Associated publication

Kageyama et al, in prep

## Specifications

| | **PMIP4-CMIP6 specifications** |
|---|---|
| PMIP4-CMIP6 name | **lgm** |
| Astronomical parameters | **eccentricity** = 0.018994<br>**obliquity** = 22.949°<br>**perihelion-180°** = 114.42°<br>**Date of vernal equinox** : March 21 at noon |
| Trace gases | **$CO_2$** = 190 ppm<br>**$CH_4$** = 375 ppb<br>**$N_2O$** = 200 ppb<br>**CFC** = 0<br>**$O_3$** = same as in CMIP6 piControl |
| Solar activity | Same as in CMIP6 piControl |
| Ice sheets | Modified<br>Access to data |
| Topography and coastlines | Modified<br>Access to data |
| 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<br>cf. documenting papers: Kageyama et al, in prep and Kageyama et al, subm.<br>Access to data |

| | **PMIP4-CMIP6 specifications** |
|---|---|
| Vegetation | Depending on model complexity and model configuration used for DECK and historical experiments:<br>Interactive vegetation **or** Interactive carbon cycle (LAI) **or** Prescribed to present-day values or mid-Holocene values computed from off-line vegetation model<br>The methodology to represent vegetation should be the same as for the CMIP6 piControl simulation<br>cf. documenting papers: Kageyama et al, in prep and Kageyama et al, subm. |

# Generating the boundary conditions

The scripts used for generating the LGM boundary conditions for the IPSL model, following the steps detailed in the *Kageyama et al* paper, can be dowloaded from