



**PAL
MOD**

GERMAN
CLIMATE
MODELING
INITIATIVE

Newsletter 04 / 2021

Dear PalMod members,

Beginning of March (02. & 03.03.2021) the scheduled Mid Term Retreat of the Project took place and Frau Nabbeffeld and Herr Mathes from Projektträger DLR were able to participate. They informed the project partners, that they will carry out an evaluation of the project beginning of 2022 and together with this, they are expecting the application of Phase III of the PalMod project. Therefore, please remember that the Projektträger DLR is expecting the regular Zwischenberichte from most of the partners by the end of April 2021.

• PalMod Seminar Series

Fri, 07.05.2021, 15h:

Rachel Rhodes (Uni Cambridge / BAS, UK), Thomas Kleinen (MPI-M, D):

"A data and model perspective on methane from the Last Glacial period to the present"

Connection details:

<https://geomar.webex.com/geomar/j.php?MTID=m779fec1691654c742d6a1a957dcf6112>

Friday, May 7, 2021 15:00h | (UTC+02:00) Berlin

Meeting number: 183 213 5388

Password: UXpN7TNc4C7

Recordings of talks from the past joint CVAS-Seminar (WS 20/21) can be found on [YOUTUBE](#).

• PalMod Event

Save the date

virtual ***PalMod General Assembly***, on 27. / 28. May 2021

Agenda and connection details will follow.

• New PalMod related Publications

Renoult, M., Annan, J. D., Hargreaves, J. C., Sagoo, N., Flynn, C., Kapsch, M.-L., Li, Q., Lohmann, G., Mikolajewicz, U., Ohgaito, R., Shi, X., Zhang, Q., and Mauritsen, T.: A Bayesian framework for emergent constraints: case studies of climate sensitivity with PMIP, Clim. Past, 16, 1715–1735, <https://doi.org/10.5194/cp-16-1715-2020>, 2020.

Bahadory, T., Tarasov L., and Andres, H., 2021: Last glacial inception trajectories for the Northern Hemisphere from coupled ice and climate modelling. Clim. Past, 17, 1–22, 2021 <https://doi.org/10.5194/cp-17-397-2021>

Kageyama, M., Harrison, S. P., Kapsch, M.-L., Löfverström, M., Lora, J. M., Mikolajewicz, U., Sherriff-Tadano, S., Vadsaria, T., Abe-Ouchi, A., Bouttes, N., Chandan, D., LeGrande, A. N., Lhardy, F., Lohmann, G., Morozova, P. A., Ohgaito, R., Peltier, W. R., Quiquet, A., Roche, D. M., Shi, X., Schmittner, A., Tierney, J. E., and Volodin, E.: The PMIP4-CMIP6 Last Glacial Maximum experiments: preliminary results and comparison with the PMIP3-CMIP5 simulations, Clim. Past Discuss., <https://doi.org/10.5194/cp-2019-169>, in review, 2020. Special Issue: Paleoclimate Modelling Intercomparison Project phase 4 (PMIP4) (CP/GMD inter-journal SI)(accepted for CP, 2021)

Bothe, O. and Zorita, E.: Technical note: Considerations on using uncertain proxies in the analogue method for spatiotemporal reconstructions of millennial-scale climate, Clim. Past, 17, 721–751, <https://doi.org/10.5194/cp-17-721-2021>, 2021

• Update on Milestones and Deliverables

Updated traffic lights, 06.04.2021

| WP | WG | Due To | DAYS | Y | Responsible | Task |
|-----|----------|----------|------|------|--------------|---|
| WG3 | WP3.2 M1 | 30.09.20 | ● | -188 | GFZ | Synchronization of lacustrine and marine data-bases |
| WG2 | WP2.1 M3 | 30.09.20 | ● | -188 | MPI | Successful implementation adjustments and extensions that are necessary in HAMOCC for the transient simulations in interactive carbon cycle mode |
| WG3 | WP3.3 D1 | 30.03.21 | ● | -7 | Marum, AWI-B | Transient simulations including water isotopes for abrupt climate change events during MIS3 |
| WG3 | WP3.3 D2 | 30.03.21 | ● | -7 | Marum, AWI-B | Transient simulations including water isotopes for Termination I |
| WG3 | WP3.3 M1 | 30.03.21 | ● | -7 | Marum, AWI-B | Transient simulations including water isotopes for an abrupt climate change event during MIS3 and Termination I set up and ready to run |
| WG3 | WP3.1 M1 | 30.03.21 | ● | -7 | Marum | Synthesis of marine proxy time series with stratigraphy based on benthic $\delta^{18}O$ and radiocarbon |
| WG3 | WP3.1 M7 | 30.03.21 | ● | -7 | Marum | Successful implementation of the interface to DIVA interpolation method |
| WG3 | WP3.1 D1 | 30.03.21 | ● | -7 | Marum | Synthesis of marine paleoclimate time series spanning 130,000 years |
| WG3 | WP3.2 M2 | 30.03.21 | ● | -7 | GFZ | Synthesis of lake, marine, ice core and speleothem records spanning Greenland Stadials 21-24 |
| WG3 | WP3.3 M3 | 30.12.20 | ● | -97 | AWI | Spectral estimation methods established and tested |
| WG3 | WP3.3 D4 | 30.12.20 | ● | -97 | AWI-P | Documentation of the spectral estimation method accounting for proxy biases |
| WG2 | WP2.1 M1 | 30.12.20 | ● | -97 | AWI | Adjust RECoM model for simulating prognostic atmospheric CO ₂ concentrations, including fluxes from weathering, and volcanism. |
| WG2 | WP2.1 M2 | 30.03.21 | ● | -7 | AWI | Include iron sources from marine shelves, rivers, hydrothermal activity and sea ice in RECoM |
| WG2 | WP2.1 M5 | 30.12.20 | ● | -97 | MARUM | Transient simulations including marine carbon isotopes for an abrupt climate change event during MIS3 and Termination I set up in CESM and ready to run |
| WG1 | WP1.4 M1 | 30.03.21 | ● | -7 | GFZ | Set-up of reference 3d earth structure in VILMA for use in main GCMs for coupling to ice-sheet dynamics and for sea-level reconstructions |
| WG1 | WP1.4 M2 | 30.03.21 | ● | -7 | GFZ, PIK | Coupling of VILMA and PISM-PICO |

- if you met a milestones or deliverable let me know, so I can remove it from the list
- if it foreseeable, that you have to shift a milestones or deliverables, contact me (kfieg@geomar.de).

Following Milestones and Deliverables are available from the internal PalMod Pages (<https://www.palmod.de/group/palmod/milestones-deliverables>):

Documentation of Workshops

[CC1 Workshop 1 Documentation on WS on software development and management](#)

[CC2 Workshop 1 Documentation of the DMP Workshop](#)

Deliverables / Milestones

1. CC

1.1 CC1

[CC1 D1 Setup of a common software development platform for PalMod](#)

[CC1 M1 First proof of concept for achievable model integration rate of fully coupled ESMs in PalMod setting](#)

[CC1 M4 - Modified, advection-adapted parareal method implemented for 2-D rotating shallow water equations, documentation of convergence and efficiency results](#)

[CC1 M12 Successful implementation of PICO as “pop-up” model to account for merging and vanishing ice shelves](#)

1.1 CC2

[CC2 D1 - initial Data Management Plan](#)

[CC2 D2 Definition of PalMod CMOR table \(*as *.xlsx list*\)](#)

[CC2 D4 Towards a common PalMod paleo-data metadata table](#)

[CC2 M1 Setup of ESGF Server](#)

[CC2 M4 Tests of initial set of ensemble metrics](#)

[CC2 M13 Design of a toolbox interface](#)

[CC2 M16 Proxy eruption data compiled and homogenized, eruption frequency variations estimated](#)

[CC2 M17 Statistical eruption frequency generator built and tested](#)

2. WG1

[WP 1.3 M1 Investigation the effect of asynchronous coupling](#)

[WP 1.4 Merged M 4&5 Implementation of spatial refinement in FOCI](#)

3. WG2

[WP 2.3 M4 Improved lightning NOx parameterization in EMAC and MPI-ESM](#)

4. WG3

[WP 3.1 D3 Age modelling strategies beyond the radiocarbon domain](#)

[WP 3.1 M6 Successful implementation of Dynamic Time Warping \(DTW\) into PaleoDataView](#)

[WP 3.2 D1 sea records of Greenland Stadials 21-24](#)

[WP 3.2 M5 PART1: Fully harmonized modern and fossil global pollen data set compiled and biomization and climate reconstruction applied](#)

- **More useful news and links**



The protocol of the last Steering Group Meeting, 19.03.2021 can be found:

<https://www.palmod.de/group/palmod/protocols>

The slides of the introductory talk of the Mid Term Retreat 02. & 03.03. 2021 from M. Latif can be found on the internal PalMod pages:

<https://www.palmod.de/group/palmod/midterm-retreat>

For general details on the PalMod II project see <https://palmod.de>