



**PAL
MOD**

GERMAN
CLIMATE
MODELING
INITIATIVE

Newsletter February 2022

Dear PalMod members,

very belated: I wish everyone a healthy and happy year 2022!

Because we were busy writing the PalMod Phase III preproposal I submitted no Newsletter in January. Now, the good news is, the application has been sent to the Projektträger DLR last week and we are now waiting for the reviews.

For all who are interested: please contact your WG PIs to get the download link for the PalMod Phase II reporting and Phase III application.

At the last section of this month Newsletter you will find a list of all (peer-reviewed) PalMod publications and PalMod in-kind publications. If you miss a paper, please let me know.

Moreover, we are planning the next General Assembly to take place in May this year in person. The date is set, the location will be most likely a seaside resort at the Baltic Sea and I hope most of you can join. For more information, please check the updates on the PalMod homepage regularly (www.palmod.de).

SAVE THE DATES:

The final **General Assembly** of PalMod Phase II will be held between **16. & 18. May 2022**

- Some WG Annual Assemblies will take place back-to-back with the GA
- Details on the location and the agenda will follow in March.

The **International Open Science Conference (IOSC)** of PalMod will be held between **6. & 8. September 2022**

- Details on the location and agenda will follow in March.

PalMod REPORTS

The reporting period is starting soon!

For all who opt for a “kostenneutrale Verlängerung” of the PalMod positions, please note, that the Projektträger DLR will decide on every prolongation individually - based on the project report. !! So please submit in time!!

Update on Milestones and Deliverables (Status 07.02.2022)

A) Due between 30.06.21 – 30.11.2021

C	D	H	I	K	L	
WP	WG	Due To	DAYS	Y	Responsible	Task
WG3	WP3.3 D1	30.09.21	🔴	-130	Marum, AWI-B	Transient simulations including water isotopes for abrupt climate change events during MIS3
WG3	WP3.3 D2	30.09.21	🔴	-130	Marum, AWI-B	Transient simulations including water isotopes for Termination I
WG3	WP3.3 M1	30.06.21	🔴	-222	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
WG2	WP2.1 M1	30.06.21	🔴	-222	AWI	Adjust REcoM model for simulating prognostic atmospheric CO2 concentrations, including fluxes from weathering, and volcanism.
WG2	WP2.1 M2	30.06.21	🔴	-222	AWI	Include iron sources from marine shelves, rivers, hydrothermal activity and sea ice in REcoM
						The development of vegetation and terrestrial carbon on exposed shelves and the leading factors for this development are figured out
WG2	WP2.2 M1	30.06.21	🔴	-222	MPI	Quantification of carbon cycle feedbacks operating through shelf processes during glacial inception and deglaciation with CLIMBER-X
WG2	WP2.2 M3	30.06.21	🔴	-222	PIK	Analysis of methane sink in transient simulations, publication draft
WG2	WP2.3 M5	30.11.21	🔴	-69	MPI-C	Publication on transient deglaciation experiments with methane sinks submitted
WG2	WP2.3 D1	30.09.21	🔴	-130	MPI-M	Publication on transient deglaciation experiments with methane sinks submitted
WG2	WP2.3 D3	30.11.21	🔴	-69	MPI-C	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
WG2	WP2.1 M5	30.06.21	🔴	-222	MARUM	Analysis of climate and carbon cycle feedbacks
WG1	WP1.3 M4	30.09.21	🔴	-130	PIK	Providing early diagnostics in the ice sheet-climate system based on full glacial cycle CLIMBER-X simulations
WG1	WP1.3 D1	30.09.21	🔴	-130	PIK	

B) Due between 31.12.2021 – 31.01.2022

WP	WG	Due To	DAYS	Y	Responsible	Task
WG3	WP3.1 M8	30.12.21	●	-39	Marum	Calculation of volume-weighted $\delta^{13}C(DIC)$, $\delta^{18}O(seawater)$ and temperature records for the mean ocean and specific ocean basins
WG3	WP3.1 D7	30.12.21	●	-39	Marum	Error-assessed time series of mean ocean and basin-specific carbon and oxygen isotopes over the last 130,000 years
WG3	WP3.2 M5	30.12.21	●	-39	AWI	Fully harmonized modern and fossil global pollen data set compiled and biomization and climate reconstruction applied
WG3	WP3.3 M4	30.12.21	●	-39	AWI	Global synthesis of the spectrum of water isotope variability for the last 40kyr finished
WG3	WP3.3 D5	30.12.21	●	-39	AWI-P	Publication describing the results for the Holocene, Deglaciation and LGM
WG2	WP2.2 M5	30.12.21	●	-39	UNI HH	Mapping of the geochemical and lithological characteristics of the continental shelves
WG2	WP2.2 M4	30.12.21	●	-39	PIK	Spin-up and initialization procedures for permafrost and peat carbon pools and marine sediment state
WG2	WP2.3 M3	30.12.21	●	-39	MPI-M	Transient experiment glacial inception performed, publication draft
WG1	WP1.2 M1	30.12.21	●	-39	AWI, Marum, MPI	Analysis of the stability in steady-state simulations
WG1	WP1.2 M3	30.12.21	●	-39	AWI, Marum, MPI	Data from first asynchronously coupled MIS3 simulations available to the PalMod community
WG1	WP1.4 D1	30.12.21	●	-39	GFZ, MPI	Refine reference viscosity structure for solid earth component in global ESM runs in collaboration with WPs 1.1 - 1.3
CC	CC2 D14	30.12.21	●	-39	GEOMAR	Statistical reconstruction of volcanic forcing for the last 130,000 years
CC	CC1 M5	30.12.21	●	-39	CAU	Realization of modified, advection-adapted parareal method for FESOM, documentation of convergence and efficiency results
CC	CC2 M10	31.01.22	●	-7	U Bonn	Bayesian framework set up and examples of probabilistic evaluations of temperature and precipitation in time slice simulations against pollen synthesis / macro fossils available
CC	CC2 D8	31.01.22	●	-7	Uni Bonn	Plugin for Bayesian framework of spatial evaluation (time slices) documented and ready for integration in toolbox
CC	WS CC2 -2	30.12.21	●	-39	DKRZ, HZG, UHD	Workshop on data standardization, data archiving, and implementation of model-data comparison tools in cooperation with WGs 1-3
CC	CC1 M10	30.12.21	●	-39	MPI	Dynamic lake model successfully integrated into the MPI-ESM1 PalMod setup and coupled to the atmosphere
CC	WS CC1 - 2	30.12.21	●	-39	DKRZ	Second workshop on software development and management. Dissemination of the esm-tools and further improvements for the used ESMs; answering the question, how developments by PalMod members will get back into the main branches
CC	CC1 M7	30.12.21	●	-39	CAU	Micro-macro parareal version running for ocean component, documentation of convergence and efficiency results

You find the documentations of all completed Milestones and Deliverables:

<https://www.palmod.de/group/palmod/milestones-deliverables>

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

Update on DKRZ business

As a consortium PalMod asked for the following DKRZ resources in August 2021:

	Computing time [node hours]	Storage WORK [GiB]
Application (Nov. 21 – Dec. 22)	3.129.263	4.637.940
Granted (Jan. 22 – Dec. 22)	1.251.706 (Cut: 60%)	2.672.000 (Cut: 40%)

As usually, all resources (and cuts) will be broken down to the individual subprojects depending on the applications and we can shift them between the subproject on request.

Because the new DKRZ system Levante is not ready to use yet, the PalMod 2021 shares for MISTRAL will be prolonged in 2022 as long as necessary to enable production.

Still, we expect Levante not to be accessible for the users before mid of February 2022.

Overview on PalMod related papers (status End Jan. 2022)

PalMod funded Paper	Published or accepted	192
	Submitted	11
In-Kind	Published or accepted	114
	Submitted	6

PalMod publication and PalMod in-kind publications

Acevedo, W., Fallah, B., Reich, S. and Cubasch, U. (2017) *Assimilation of pseudo-tree-ring-width observations into an atmospheric general circulation model*. *Climate of the Past*, 13 (5). pp. 545-557. DOI 10.5194/cp-13-545-2017.

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Albrecht, T., Winkelmann, R. and Levermann, A. (2020b) *Glacial-cycle simulations of the Antarctic Ice Sheet with the Parallel Ice Sheet Model (PISM) – Part 2: Parameter ensemble analysis*. *The Cryosphere*, 14 (2). pp. 633-656. DOI 10.5194/tc-14-633-2020.

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Bagge, M., Klemann, V., Steinberger, B., Latinović, M., Thomas, M. (2021c): Predicted relative sea-level and sea-level data for validation. GFZ Data Services.
<https://doi.org/10.5880/GFZ.1.3.2020.005>

Bahadory, T. and Tarasov, L. (2018) *Coupling the Glacial Systems Model (GSM) to LOVECLIM: description, sensitivities, and validation*. Geoscientific Model Development Discussions. pp. 1-29. DOI 10.5194/gmd-2017-277.

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