



**PAL
MOD**

GERMAN
CLIMATE
MODELING
INITIATIVE

Newsletter 03 / 2021

Dear PalMod members,

The PalMod Highlights of March will be the upcoming Annual Meeting of CC.
The slides from the 2021 Annual Meetings of WG1, WG2 and WG3 can be found on the internal pages:

<https://www.palmod.de/group/palmod/wg1-01/2021>

<https://www.palmod.de/group/palmod/wg2-02/2021>

<https://www.palmod.de/group/palmod/wg3-02/2021>

Overview on DKRZ computing time

DKRZ Project	Granted in 2021	To be used in Q1	Already used	Balance (4.3.2021)
0989 / WG1	982.306	245.577	272.696	-27.119
1030 / WG2	829.150	207.288	69.558	+ 137.730
1029 / WG3	151.200	37.800	23.747	+ 14.053
0993 / CC	181.300	45.325	14.834	+ 30.491

red = make sure, that the share will be used / **green** = OK

Please note:

- end of March ¼ of the granted computing time has to be used or will expire
- we will rearrange the shares to avoid expiry as much as possible

Upcoming Meetings

- **CC:** 17. & 18. Mar 2021
Everyone is invited to attend, information will follow.
- **Please save the date** for the **PalMod General Assembly**
that will (again) take place virtually on 27. / 28. May 2021.
Agenda and connection details will follow.

New PalMod related Publications and Data

Publication

Lohmann, G., A. Wagner, M. Prange, 2021: Resolution of the atmospheric model matters for the Northern Hemisphere Mid-Holocene climate. *Dynamics of Atmospheres and Oceans*, doi:10.1016/j.dynatmoce.2021.101206

Wang, S., X. Gong, F. Qiao, E. Gowan, J. Streffing, and G. Lohmann, 2021: The impact of non-breaking waves in upper-ocean temperature simulations of the Last Glacial Maximum. *Environ. Res. Lett.* 16, 034008 doi:10.1088/1748-9326/abe14e

Gowan, E.J., X. Zhang, S. Khosravi, A. Rovere, P. Stocchi, A. L. C. Hughes, R. Gyllencreutz, J. Mangerud, J. I. Svendsen, G. Lohmann, 2021: A new global ice sheet reconstruction for the past 80,000 years. *Nature comm.* 12, 1199 (2021). <https://doi.org/10.1038/s41467-021-21469-w>

T. Bahadory, L. Tarasov, and H. Andres, 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-17-1-2021>

Data

The following datasets were uploaded to the PalMod data pool at DKRZ (bk1192) as part of the WP3.2 M5:

/work/bk1192/WG3/WP3.2/ClimateReconstruction_fromPollen
2021-02-18_climate_reconstruction_asia.csv
2021-02-18_climate_reconstruction_eastern_north_america.csv
2021-02-18_climate_reconstruction_europe.csv
2021-02-18_climate_reconstruction_western_north_america.csv
2021-02-18_reconstruction_model_statistics_asia.csv
2021-02-18_reconstruction_model_statistics_eastern_north_america.csv
2021-02-18_reconstruction_model_statistics_europe.csv
2021-02-18_reconstruction_model_statistics_western_north_america.csv
2021-02-18_reconstruction_significance_statistics_asia.csv
2021-02-18_reconstruction_significance_statistics_eastern_north_america.csv
2021-02-18_reconstruction_significance_statistics_europe.csv
2021-02-18_reconstruction_significance_statistics_western_north_america.csv
2021-02-19_climate_reconstruction_dataset_README.docx
2021-02-19_column_description_reconstruction_dataset.xlsx

Update on Milestones and Deliverables

New M & D

CC2 M16 Proxy eruption data compiled and homogenized

CC2 D4 Towards a common PalMod paleo metadata table

CC2 M4 Tests of initial set of ensemble metrics

CC2 M13 Design of a toolbox interface

WP3.2 M5 Part 1 Fully harmonized modern and fossil global pollen data set compiled and biomization and climate reconstruction applied

Details on the M & D for download:

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

Updated traffic light, 02.03.2021

Following 7 M & D are overdue

WP	WG	Due To	DAYS	📅	02.03.21	Responsible	Task
WG1	WP1.3 M1	30.06.20	-245	overdue	PIK		Investigation of the effect of asynchronous coupling
WG3	WP3.2 M1	30.09.20	-153	overdue	GFZ		Synchronization of lacustrine and marine data-bases
WG2	WP2.1 M3	30.09.20	-153	overdue	MPI		Successful implementation adjustments and extensions that are necessary in HAMOCC for the transient simulations in interactive carbon cycle mode
WG3	WP3.3 M3	30.12.20	-62	overdue	AWI		Spectral estimation methods established and tested
WG3	WP3.3 D4	30.12.20	-62	overdue	AWI-P		Documentation of the spectral estimation method accounting for proxy biases
WG2	WP2.1 M1	30.12.20	-62	overdue	AWI		Adjust RECoM model for simulating prognostic atmospheric CO2 concentrations, including fluxes from weathering, and volcanism.
WG2	WP2.1 M5	30.12.20	-62	overdue	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

- 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).

The following 17 M & D are scheduled for end of March 2021

WP	WG	Due To	DAYS	📅	02.03.21	Responsible	Task
WG3	WP3.3 D1	30.03.21	28	less than one mo	Marum, AWI-B		Transient simulations including water isotopes for abrupt climate change events during MIS3
WG3	WP3.3 D2	30.03.21	28	less than one mo	Marum, AWI-B		Transient simulations including water isotopes for Termination I
WG3	WP3.3 M1	30.03.21	28	less than one mo	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	28	less than one mo	Marum		Synthesis of marine proxy time series with stratigraphy based on benthic $\delta^{18}O$ and radiocarbon
WG3	WP3.1 M7	30.03.21	28	less than one mo	Marum		Successful implementation of the interface to DIVA interpolation method
WG3	WP3.1 D1	30.03.21	28	less than one mo	Marum		Synthesis of marine paleoclimate time series spanning 130,000 years
WG3	WP3.2 M2	30.03.21	28	less than one mo	GFZ		Synthesis of lake, marine, ice core and speleothem records spanning Greenland Stadials 21-24
WG2	WP2.1 M2	30.03.21	28	less than one mo	AWI		Include iron sources from marine shelves, rivers, hydrothermal activity and sea ice in RECoM
WG2	WP2.3 M1	30.03.21	28	less than one mo	MPI-M		Transient deglaciation experiment with improved atmospheric sink component performed, publication draft
WG1	WP1.4 M1	30.03.21	28	less than one mo	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	28	less than one mo	GFZ, PIK		Coupling of VILMA and PISM-PICO
CC	CC2 M17	30.03.21	28	less than one mo	GEOMAR		Statistical eruption frequency generator built and tested
CC	CC2 D14	30.03.21	28	less than one mo	GEOMAR		Statistical reconstruction of volcanic forcing for the last 130,000 years
CC	CC1 M1	30.03.21	28	less than one mo	DKRZ		First proof of concept for achievable model integration rate of fully coupled ESMs in PalMod setting (aim for 400 SYPD in coarse resolution and 100 SYPD in low resolution) and adoption/fall-back option if not achievable
CC	CC1 M5	30.03.21	28	less than one mo	CAU		Realization of modified, advection-adapted parareal method for FESOM, documentation of convergence and efficiency results
CC	CC1 M12	30.03.21	28	less than one mo	PIK		Successful implementation of PICO as "pop-up" model to account for merging and vanishing ice shelves
CC	CC2 M5	30.03.21	28	less than one mo	HZG		Publication of initial standardized proxy data

The newly updated (01/2021) full list of Milestones and Deliverables:

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

More useful news and links

The protocol of the last Steering Group Meeting, 15.02.2021 can be found:

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

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