



**PAL
MOD**

GERMAN
CLIMATE
MODELING
INITIATIVE

Newsletter 9 / 2020

You find further details on PalMod II at <https://www.palmod.de>

Dear PalMod II members,

Please welcome the new PalMod II colleagues

- Shirin Ermis, IUP Uni Heidelberg, CC2, sermis@iup.uni-heidelberg.de
- Manuel Chevalier, Uni Bonn, CC2, mchevali@uni-bonn.de
- Swati Gehlot, DKRZ, Hamburg, CC2. gehlot@dkrz.de
- Mathias Zeller, GEOMAR, WP1.4, mzeller@geomar.de

PalMod Seminar Series:

Di, 22.09.2020, 16h: Kira Rehfeld (Uni Heidelberg) & Thomas Lappler (AWI)

Contact details:

PalMod Seminar Series

Nehmen Sie an meinem Meeting per Computer, Tablet oder Smartphone teil.

<https://global.gotomeeting.com/join/212480205>

Sie konnen sich auch ber ein Telefon einwahlen.

Deutschland: [+49 891 2140 2090](tel:+4989121402090)

Zugangscodes: 212-480-205

<https://global.gotomeeting.com/install/212480205>

Upcoming talks (connection details and title will follow timely)

- **October:** Ute Merkel (MARUM)
- **November:** Ulrike Herzschuh (AWI) & Anne Dallmeyer (MPI-M)

Link to past talks:

- On the external webpage <https://www.palmod.de/de/>

Useful news and links

The protocol of the last Steering Group Meeting, 19.06.2020 can be found:

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

Here you find the monthly updated traffic-light list (01.09. 2020) of Milestones and Deliverables:

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

Please make sure, that you keep an eye on the upcoming Milestone and Deliverables and if you cannot meet them, please keep me informed (kfieg@geomar.de), so I can talk to the Projektträger DLR.

Recent PalMod II - related Publications

Lohmann, G., M. Butzin, N. Eissner, X. Shi, C. Stepanek, 2020: Abrupt climate and weather changes across timescales. *Paleoceanography and Paleoclimatology* (in press), DOI:10.1029/2019PA003782, [Special Section AGU Grand Challenges in the Earth and Space Sciences](#). ([link to PANGAEA](#)) ([link to AWI-ESM](#))

Ackermann, L., C. Danek, P. Gierz, and G. Lohmann, 2019: AMOC recovery in a multi-centennial scenario using a coupled atmosphere-ocean-ice sheet model. *Geophysical Research Letters*, in press, DOI:10.1029/2019GL086810

Kapsch, M.-L., Mikolajewicz, U., Ziemen, F. A., Rodehacke, C. B., and Schannwell, C.: Analysis of the Surface Mass Balance for Deglacial Climate Simulations, *The Cryosphere Discuss.*, <https://doi.org/10.5194/tc-2020-173>, in review, 2020.
<https://doi.org/10.5194/tc-2020-173>

Reimer, P. et al.: The INTCAL20 Northern Hemisphere Radiocarbon Age Calibration Curve (0–55 CAL kBP), *Radiocarbon*, 2020, <https://doi.org/10.1017/RDC.2020.41>

Heaton, T., Köhler, P., Butzin, M., et al.: MARINE20— The Marine Radiocarbon Age Calibration Curve (0–55,000 CAL BP), *Radiocarbon*, 2020, <https://doi.org/10.1017/RDC.2020.68>

News from PalMod Data Products

1. CC2 members discussed and compiled the concept how to support the PalMod community in handling and managing the project data and results most efficiently. Here you also find the link to **PaIMOD DATA ACCESS CONCEPT** attached.
2. Recently a talk about the **FAIR DATA** concept was held by Karsten Peters (peters@dkrz.de, CC2).

Please find the slides and the Concept Paper on the internal pages:

https://www.palmod.de/group/palmod/documents/-/document_library_display/voXwaknoNsPa/view/1413849?_110_INSTANCE_voXwaknoNsPa_redirect=https%3A%2F%2Fwww.palmod.de%2Fgroup%2Fpalmod%2Fdocuments%3Fp_p_id%3D110_INSTANCE_voXwaknoNsPa%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-1%26p_p_col_count%3D1

3. A **list of all varved sea** archives attached - spanning Greenland Stadials (GS / GI) 21-24. The data are stored locally at GFZ, but can be made available and send around on request. The import of the data to VARDA database is in preparation. For details please contact: arne.ramisch@gfz-potsdam.de.

							Proxies		
Lake	Lat	Lon	Sediment Composite Profile	Age BP min	Age BP max	Data available?	Physical	Geochemical	Biological
Malawi	11,54863	34,53763	MAL05-1B	10475	1219118	yes	Mineralogy	-	Ostracods, charcoal, fish bones
Ohrid	41,03707	20,71808	ICDP5045-1	29,4	636685,5	yes	Grain size	Carbon (TIC, TOC), Nitrogen (TN)	Biogenic silica
Ohrid	41,03707	20,71808	Co1202	-57	136005	yes	-	Elements (XRF)	-
Monticchio	40,9313	15,60498	MON-2014	76468	111387	yes	Varve thickness	Elements (XRF)	-
Monticchio	40,9313	15,60498	MON 7	0	132900	yes	-	Elements (XRF)	Pollen
Van	38,60399	42,87634	AR	10193	110225	yes	-	d18O (bulk carbonate)	Pollen, charcoal
Suigetsu	35,58333	135,8833				no			
Dead Sea	31,53522	35,49092	5070-1	70000	117000	yes	Mineralogy, Grain Size	Carbon (TIC, TOC), Elements(XRF)	-

PalMod data access: a concept

Meeting at DKRZ, 2 July 2020; Participants: Kerstin Fieg, Swati Gehlot, Karsten Peters

What's in for PalMod?

What is it that makes large consortial and interdisciplinary projects like PalMod successful?

The answer to this question may be manifold, but pinpointing efficient data exchange between project partners and increasingly also with external partners is probably a good pick. In fact, establishing a framework enabling efficient, timely, and low barrier data exchange is one of the main objectives of CC.2-anchored PalMod Data Management.

This whitepaper presents the data sharing and access framework developed by CC.2, which will have a direct impact on the PalMod DKRZ resource application to be submitted in October 2020.

Guided by data management experts of CC.2, it is essential that the provided framework is constructively supported and implemented by all project partners. This will contribute to a sustainable success of PalMod - and eventual funding of a third project phase.

Status quo

One of the main outcomes of the CC.2-organised Data Management Workshop in February 2020 was the identification of a lack of communication between the WPs regarding project-internal data needs and data availability. Further, as mentioned in the PalMod Data Management Plan (DMP, PalMod Deliverable D CC.2-1), means of project-internal shared access to existing and future PalMod datasets are missing. Therefore, the current shortcomings in the PalMod data workflow hinder project progress and need to be alleviated.

Furthermore, there currently exists no project-wide strategy for the long-term preservation and accessibility of project outcomes which are not covered by either the already existing data publishing efforts of some PalMod SPs or the project goals of CC.2. Ensuring long-term preservation and open access to project outcomes is required to fulfil funder requirements and also facilitates data reuse beyond the PalMod consortium.

Vision

In order to fulfil the project objectives and address the issues raised above, it is envisioned that the PalMod consortium provides

- established consortium-wide communication channels for dataset availability
- workflows and infrastructural capacities for centralized data sharing within the project consortium
- workflows and infrastructural capacities ensuring long-term FAIR data access beyond the scope of the PalMod community and in accordance with funder requirements

This document lays out the concept aimed at meeting the above requirements. The final concept will feed into the DKRZ resource application due in October 2020 and complement the PalMod DMP.

Realisation

Centralized Documentation

- availability of **published** datasets shall be documented on the PalMod internal webpage (has to be constantly updated, the current status (July 2020) is deficient)
 - <https://www.palmod.de/group/palmod/data>
 - maintained by: Hela Mehrtens
- content based on quarterly PalMod newsletter
 - Kerstin sends around Excel-spreadsheets asking for **new datasets**, (maybe unevaluated and unpublished)

Centralized collection point of unpublished data

Organizational aspects

Maintained shared access to PalMod datasets (unpublished, but required for project progress) can be achieved as follows:

- set up dedicated PalMod data project at DKRZ within the PalMod consortium for the request for resources starting in January 2021
 - space on /work allocated depending on project needs
 - all project members would have to be included into the project b0993 to enable access to the data
 - relatively large DOKU quota for long-term preservation of non-standardised PalMod results to ensure compliance with funder requirements and foster reuse by researchers beyond the PalMod community

- /work shall be accessible by PalMod partners only (project-internal data sharing)
- the data project shall include datasets produced and needed by the PalMod consortium (milestones, deliverables, etc) for fulfilment of project goals
 - datasets contained in the data project shall be moved from other PalMod project accounts on Mistral to the data project to avoid duplicates and save disk space
 - PalMod Project data produced and located outside DKRZ (e.g. AWI, PIK, ...) should also be centrally available at /work - thus moving or copying is thinkable.
 - data products hosted at external sites shall be transferred to DKRZ with help of in-house experience (exact process to be determined)
- directory structure shall be organised on WP/WG basis
- each dataset shall be accompanied by a short description detailing the most pertinent metadata (similar to the PalMod newsletter, infos from here may be copied)
- transfer of PalMod data to the data project automatically implies acceptance that data can be used by the consortium members
 - README document outlining guidelines for proper data use is to be compiled and included in the data projects root directory

Technical aspects

The proposed concept requires additional resources to be assigned to the PalMod consortial project at DKRZ. To reduce pressure on the overall DKRZ filesystem, PalMod II is equipped with funds to purchase project-specific hardware.

Specifically, ~500TB of disk space will be bought as part of the new HLRE4 system in Q3/2021. These resources will be used for **publication** of selected and standardized PalMod datasets in the ESGF and therefore do not have to be considered in DKRZ resource requests.

Furthermore, several PBs worth of tape capacity are to be purchased for the purpose of long-term archiving of PalMod II data and can be used to **meet the LTA DOKU requirements**. The data to be archived will be selected by the project. Standardisation of the data is desired but not mandatory.

Workflows will be set up to ensure low hurdle and efficient automated transfer and access of data stored on disk and tape.

Implementation timeline

- circulate within CC.2 by 9 July 2020
- later: circulate within groups SG or TPHeads
- Incorporate into the next PalMod DKRZ resource request
 - start of writing: August 2020

- important to show that we have thought about how to handle the data sharing issues raised by the WLA in the context of the last resource allocation request
 - some parts of the concept will have to wait until HLRE4 is in place.
- incorporate into the PalMod Data Management Plan