Newsletter 8 / 2020

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

Dear PalMod II participants,

welcome to the PalMod Newsletter!

As discussed at the General Assembly / Kick Off end of May the most important content of this first Newsletter is the collection of model data available to the project members.

You find the list below, more detailed information, contacts and more can be found

- on the internal webpage either under DATA (https://www.palmod.de/group/palmod/data)
- or as attachment to the Newsletter under NEWS (https://www.palmod.de/group/palmod/intern_news).

For the next release I would be happy to receive your contributions (kfieg@geomar.de) **on**

- New project members
- New data products
- PalMod related publications
- Texts and images with news, events and achievements worth sharing with the PalMod community
- Planned dissemination activities

1. PalMod Seminar series:

Outline for the upcoming talks (connection details and title will follow timely)

- 22. 09.2020, 16h: Kira Rehfeld & Thom
- October: Ute Merkel
- November: Ulrike Herzschuh & Anne Dallmeyer

Link to recorded talk of Mojib in German and English:

- On the exteral webpage https://www.palmod.de/de/

2. News and links

The protocol of the last Steering Group Meeting 19.06.2020 can be found: https://www.palmod.de/group/palmod/protocols

3. Recent PalMod II - related Publications

Alessandro Cotronei &**Thomas Slawig:** Single-precision arithmetic in ECHAM radiation reduces runtime and energy consumption https://gmd.copernicus.org/articles/13/2783/2020/

Palmer, M. D., Gregory, J. M., **Bagge, M.**, Calvert, D., **Hagedoorn, J. M.**, Howard, T., **Klemann, V.**, Lowe, J. A., Roberts, C. D., Slangen, A. B. A., Spada, G. (2020). Exploring the Drivers of Global and Local Sea-Level Change over the 21st Century and Beyond. Earth's Future, 8, e2019EF001413. https://doi.org/10.1029/2019EF001413

Kira Rehfeld, Raphaël Hébert, Juan M. Lora, Marcus Lofverstrom and Chris M. Brierley: Variability of surface climate in simulations of past and future. https://www.earth-syst-dynam.net/11/447/2020/

4. PalMod Data Products

PalMod1 products by Paleoclimate Dynamics @AWI

Product item (simulation or other data product)	contact for data queries	publication/remarks	individual components of the data product
Geology datasets in North America, Greenland and surrounding areas for use with ice sheet models	Evan.Gowan@awi.de	Gowan, E., Niu, L., Knorr, G., and Lohmann, G. (2019): Geology datasets in North America, Greenland and surrounding areas for use with ice sheet models, Earth System Science Data, 11, 375-391. doi:10.5194/essd-11-375-2019	data files for the sediment properties (distribution and grain size) and bedrock geology for the areas covered by North American ice sheets (including Greenland and Iceland)
LGM mean climate state and HS-1 with MPI-ESM, version 1.2.00p4	GongXun.Allen@awi.de	Gong, X., Lembke-Jene, L., Lohmann, G., Knorr, G., Tiedemann, R., Zou, J., and Shi, X. (2019): Enhanced North Pacific deep-ocean stratification by stronger intermediate water formation during Heinrich Stadial 1, Nature Communications, 10, 656. doi:10.1038/s41467-019-08606-2	quasi-equilibrium LGM climate state; HS-1 mimicked by 0.8 Sv FWP to the North Atlantic Ice-Rafted Debris belt region (40°N–55°N, 45°W–20°W)
PI climate state with AWI-ESM-1.1	Xiaoxu.Shi@awi.de	Shi, X, Lohmann, G., Sidorenko, D., and Yang, H. (2020) Early-Holocene simulations using different forcings and resolutions in AWI-ESM, the Holocene, https://doi.org/10.1177/0959683620908634	PI1 (pre-Industrial climate)
Early-Holocene climate state with AWI-ESM-1.1	Xiaoxu.Shi@awi.de	Shi, X, Lohmann, G., Sidorenko, D., and Yang, H. (2020) Early-Holocene simulations using different forcings and resolutions in AWI-ESM, the Holocene, https://doi.org/10.1177/0959683620908634	9k (early-Holocene climate based on the ICE6G reconstruction)
LGM climate state with AWI-ESM-1.1 based on GLAC1D	Xiaoxu.Shi@awi.de	not published	LGM_GLAC1D (LGM climate based on the GLAC1D reconstruction)
LGM climate state with AWI-ESM-1.1 based on ICE6G-21 ka	Xiaoxu.Shi@awi.de	not published	LGM1 (LGM climate based on the ICE6G reconstruction)
Mid-Holocene climate state with AWI-ESM-1.1	Xiaoxu.Shi@awi.de	not published	the same as PI
Last Interglacial (127 ka) climate state with AWI-ESM-1.1	Xiaoxu.Shi@awi.de	not published	the same as PI
LGM climate state with AWI-ESM-1.2 based on fully coupled simulation with PISM	Paul.Gierz@awi.de	not published	Initialization from PISM1.1 Index run from 21 ka BP Snapshot for PISM, initialization from Xiaoxu's LGM run with ICE6G from climate; coupling every 3 years (Note unrealistic ice growth due to bias in climate model)
Mid Holocene Simulation with AWI-ESM-1-2 based on fully coupled simulation with PISM	paul.gierz@awi.de	Gierz et al., 2020 GMD (in review)	
Last Interglacial Simulation with AWI-ESM-1-2 based on fully coupled simulation with PISM	paul.gierz@awi.de	Gierz et al., 2020 GMD (in review)	
PI climate state with MPI-ESM-wiso, version 1.2.01p1	Alexandre.Cauquoin@awi.de, cauquoin@iis.u-tokyo.ac.jp	Cauquoin, A., Werner, M., and Lohmann, G. (2019): Water isotopes – climate relationships for the mid-Holocene and preindustrial period simulated with an isotope-enabled version of MPI-ESM, Clim. Past, 15, 1913–1937, https://doi.org/10.5194/cp-15-1913-2019.	piControl_wiso_1.2.01p1 (pre-Industrial with water isotopes)
Mid-Holocene climate state with MPI-ESM-wiso, version 1.2.01p1	Alexandre.Cauquoin@awi.de, cauquoin@iis.u-tokyo.ac.jp	Cauquoin, A., Werner, M., and Lohmann, G. (2019): Water isotopes – climate relationships for the mid-Holocene and preindustrial period simulated with an isotope-enabled version of MPI-ESM, Clim. Past, 15, 1913–1937, https://doi.org/10.5194/cp-15-1913-2019.	HOL_6k_wiso_1.2.01p1 (mid Holocene with water isotopes)
Last Interglacial (127 ka) climate state with MPI-ESM-wiso, version 1.2.01p1	Alexandre.Cauquoin@awi.de, cauquoin@iis.u-tokyo.ac.jp	not published	LIG_127k_wiso_1.2.01p1 (LIG with water isotopes)
PI climate state with MPI-ESM-wiso, version 1.2.01p5	Alexandre.Cauquoin@awi.de, cauquoin@iis.u-tokyo.ac.jp	not published	piControl_wiso_1.2.01p5 (pre-Industrial with water isotopes)

LGM climate state with a weak AMOC initialized from a glacial ocean state, ECHAM5/JSBACH/MPIOM	Xu.Zhang@awi.de	Zhang, X., Lohmann, G., Knorr, G., and Xu, X. (2013): Different ocean states and transient characteristics in Last Glacial Maximum simulations and implications for deglaciation, Climate of the Past, 9, 2319-2333. doi:10.5194/cp-9-2319-2013	LGM-W (LGM with a weak AMOC, initialized from a glacial ocean state)
ice sheet transient run (ISTran45), ECHAM5/JSBACH/MPIOM	Xu.Zhang@awi.de	Zhang, X., Lohmann, G., Knorr, G., and Purcell, C. (2014): Abrupt glacial climate shifts controlled by ice sheet changes , Nature, 512 (7514), pp. 290-294. doi:10.1038/nature13592	ISTran45
CO2 transient run with 0.15 Sv NA hosing under LGM conditions, ECHAM5/JSBACH/MPIOM	Xu.Zhang@awi.de	Zhang, X., Knorr, G., Lohmann, G., and Barker, S. (2017): Abrupt North Atlantic circulation changes in response to gradual CO2 forcing in a glacial climate state, Nature Geoscience, 10, 518-523. doi:10.1038/ngeo2974	co2L015a
CO2 transient run with 0.15 Sv NA hosing under LGM conditions, ECHAM5/JSBACH/MPIOM	Xu.Zhang@awi.de	Zhang, X., Knorr, G., Lohmann, G., and Barker, S. (2017): Abrupt North Atlantic circulation changes in response to gradual CO2 forcing in a glacial climate state, Nature Geoscience, 10, 518-523. doi:10.1038/ngeo2974	co2L015b
CO2 transient run under 20% NHIS boundary conditions, ECHAM5/JSBACH/MPIOM	Xu.Zhang@awi.de	Zhang, X., Knorr, G., Lohmann, G., and Barker, S. (2017): Abrupt North Atlantic circulation changes in response to gradual CO2 forcing in a glacial climate state, Nature Geoscience, 10, 518-523. doi:10.1038/ngeo2974	NHIS02_c
CO2 transient run under 20% NHIS boundary conditions, ECHAM5/JSBACH/MPIOM	Xu.Zhang@awi.de	Zhang, X., Knorr, G., Lohmann, G., and Barker, S. (2017): Abrupt North Atlantic circulation changes in response to gradual CO2 forcing in a glacial climate state, Nature Geoscience, 10, 518-523. doi:10.1038/ngeo2974	NHIS02_d
transient simulation in the last deglaciation (based on GLAC1D)	Yuchen.Sun@awi.de	not published	TRN16ka
transient simulation co2 (based on 16ka boundary conditions from GLAC1D)	Yuchen.Sun@awi.de	not published	TRN16k3c
Historical simulations (1850-2005) with AWI-ESM-1.2 based on fully coupled simulation with PISM	lars.ackermann@awi.de	Ackermann et al. 2020 GRL (in review), dataset: https://doi.org/10.1594/PANGAEA.916162	CMIP6_HIST
RCP4.5 simulation (2006-2200) with AWI-ESM-1.1	lars.ackermann@awi.de	Ackermann et al. 2020 GRL (in review), dataset: https://doi.org/10.1594/PANGAEA.916162	RCP45_uncoupled
RCP4.5 simulation (2006-2200) with AWI-ESM-1.2 based on fully coupled simulation with PISM	lars.ackermann@awi.de	Ackermann et al. 2020 GRL (in review), dataset: https://doi.org/10.1594/PANGAEA.916162	RCP45
RCP8.5 simulation (2006-2200) with AWI-ESM-1.1	lars.ackermann@awi.de	Ackermann et al. 2020 GRL (in review), dataset: https://doi.org/10.1594/PANGAEA.916162	RCP85_uncoupled02
RCP8.5 simulation (2006-2200) with AWI-ESM-1.2 based on fully coupled simulation with PISM	lars.ackermann@awi.de	Ackermann et al. 2020 GRL (in review), dataset: https://doi.org/10.1594/PANGAEA.916162	RCP85
PalMod I by @MARUM			
Simulation, CESM, Paleo-time slices, global dataset, PI, -15ky, -21ky, -35ky	mprange@marum.de, umerkel@marum.de	Ref.: Bakker, P., I. Rogozhina, U. Merkel, and M. Prange, 2020: Hypersensitivity of glacial temperatures in Siberia. Climate of the Past, 16, 371-386, doi:10.5194/cp-16-371-2020.	PalMod I WP1.3, D2
Simulations ,CESM sensitivity experiments (GHG, ice sheets, vegetation), global, Pi, -15ky, - 21ky, -35 ky	mprange@marum.de umerkel@marum.de	Ref.: Bakker, P., I. Rogozhina, U. Merkel, and M. Prange, 2020: Hypersensitivity of glacial temperatures in Siberia. Climate of the Past, 16, 371-386, doi:10.5194/cp-16-371-2020.	PalMod I WP1.3, D2, 4
Simulations ,CESM (hosing experiments), global, Pi, -15ky, - 21ky, -35 ky	mprange@marum.de umerkel@marum.de	Ref.: Bakker, P., I. Rogozhina, U. Merkel, and M. Prange, 2020: Hypersensitivity of glacial temperatures in Siberia. Climate of the Past, 16, 371-386, doi:10.5194/cp-16-371-2020.	PalMod I WP1.3, D4
PalMod I by @MPI-M			
Simulation, MPI-ESM, global, transient, -25 ky to future	thomas.kleinen@mpimet.mpg.de		