README concerning the dataset JSBACH available via DKRZ /pool/data resources

Date: 12 April 2022

T I T L E   O F   T H E   D A T A S E T

JSBACH initial and boundary data

P A T H   T O   T H E   D A T A S E T

/pool/data/JSBACH

O W N E R / P R O D U C E R   O F   T H E   D A T A S E T

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D A T A   U S A G E   L I C E N S E

The data are available for reuse by any DKRZ user. The data was generated by MPI-M and is provided under the CC-BY-4.0 license (https://creativecommons.org/licenses/by/4.0). Their usage is restricted accordingly.

C O N T E N T   O F   T H E   D A T A S E T

The JSBACH pool data currently comprises initial and boundary data for simulations with JSBACH in Gaussian grid resolutions T31, T63, T127 and T255 (directory 'input'). However it is planed to expand the project with JSBACH4 data on different ICON-grid resolutions. Annual land-use maps are provided for historical and selected future scenarios in T31, T63 and T127 resolution, R2B4 and higher ICON grid resolutions will be added in the near future. In T31 and T63 annual maps of land-use transitions and harvest data following the Land-use Harmonization protocol (http://luh.umd.edu/data.shtml) are additionally available.
Besides, the project provides commonly used global climate forcing data for JSBACH standalone simulations. This includes forcing data from model simulations as well as based on observations. Up to now the daily or three-hourly climate forcing data is only provided in T63 resolution, there is however a need for additional forcing data on ICON grids.
Apart from the above data needed at runtime, the project includes datasets that are needed to generate jsbach initial and boundary files (directory 'prepare').
Except for scripts and some readme files, all data is provided in NetCDF format.

D A T A   U S A G E   S C E N A R I O S

Access to this data is essential for all users of MPI-ESM, ECHAM6 (versions provided by MPI-M) and JSBACH3. Although these models will not be further developed, for the upcoming years many institutions associated with DKRZ will depend on the models.

JSBACH4 simulations within the ECHAM infrastructure rely on initial and boundary data from this pool data project. Besides, future ICON–ESM and ICON–A simulations with special interest in land surface processes, as well as JSBACH4 standalone simulation will need project data.
Model use requires consent to our software license agreement (https://mpimet.mpg.de/fileadmin/projekte/ICON–ESM/mpi–m_sla_201202.pdf).

M E T H O D S U S E D F O R D A T A C R E A T I O N

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Mauritsen, T. et al. (2019), Developments in the MPI-M Earth System Model version 1.2 (MPI-ESM1.2) and Its Response to Increasing CO2, J. Adv. Model. Earth Syst.,11, 998–1038, doi:10.1029/2018MS001400

Reick, C. H., Gayler, V., Goll, D., Hagemann, S., Heidkamp, M., Nabel, J. E. M. S., et al. (2021). JSBACH 3 – The land component of the MPI Earth System Model: documentation of version 3.2. Hamburg: MPI für Meteorologie. doi:10.17617/2.3279802. http://hdl.handle.net/21.11116/0000–0008–098B–2

I S S U E S

No

V O L U M E O F T H E D A T A S E T (A N D P O S S I B L E C H A N G E S T H E R E O F)

Current volume: 1 TB, expected to grow to 1.5 TB in the future.

T I M E H O R I Z O N O F T H E D A T A S E T O N / P O O L / D A T A

The /pool/data resources have been granted until 03/2026.