Project: ECHAM5 MPI-M Atmosphere Model Version 5 initial and boundary condition data

Project acronym for link in /pool/data: ECHAM5

Principal investigator (long-term responsible contact): Ulrike Niemeier

Applicant (if not the same as above): Reinhard Budich

Allocation period: 5/2022 - 4/2027

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Volume	0.1 TB
Expected Volume Change	-
License allows usage on DKRZ resources	yes

Project overview

This project comprises the input and model state data required for common ECHAM5 setups and intercomparison projects, created and compiled by different ECHAM5 developers and users.

Data generated by MPI-M is provided under the CC-BY-NC-SA 4.0 license (https://creativecommons.org/licenses/by-nc-sa/4.0/). Their usage is restricted accordingly. Other data sets may come with different licenses, detailed in the files' metadata.

There is no specific citation available for this data set. Individual subsets come under their own citation, detailed in the files' metadata.

Details of the ECHAM5 model are described in

Roeckner, E., Bäuml, G., Bonaventura, L., Brokopf, R., Esch, M., Giorgetta, M., et al. (2003). The atmospheric general circulation model ECHAM 5. PART I: Model description. Report / Max-Planck-Institut für Meteorologie, 349. http://hdl.handle.net/11858/00-001M-0000-0012-0144-5

Data content

ECHAM5 data is provided as climatology or time-series, either globally/zonally uniform or as spatial distribution data, in different horizontal and vertical or spectral-band resolutions. It also contains instructions and scripts for generating or processing ECHAM5 compatible data.

Boundary data for time-dependent quantities (historical and scenario) is available for at least 1850 - 2100. Several subsets (e.g. solar irradiation) comprise additional periods.

Data is provided in NetCDF format, except for the scripts and some text files (e.g. Land Cover Types, Measuring Station Lists). Contents (variable selection) and format (gridding) of the data files is specific to ECHAM5 requirements.

Range of planned scientific data usage

Access to this data is essential for all users of ECHAM5 in the versions provided by MPI-M. Though ECHAM5 applications may at some point be ported to ICON, for the upcoming years many institutions associated with DKRZ will depend on it (see https://mpimet.mpg.de/en/science/models/mpi-esm/echam)

Model use requires consent to our software license agreement (https://mpimet.mpg.de/fileadmin/projekte/ICON-ESM/mpi-m_sla_201202.pdf)

Data Storage Usage Plan

The current data volume is 0.05 TB. There is additional 0.03 TB of preparation scripts and base input data scheduled for addition that has so far been used and provided in dedicated project storage, but is of common interest.