

AtMoDat: Improving reusability of atmospheric model data by adapting metadata standards and by providing specific data quality information

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In meteorology and climate research, (meta)data quality and data curation standards are primarily established and applied in large, internationally coordinated model intercomparison studies (MIPs, e.g. Coupled Model Intercomparison Project - CMIP). Unlike remote sensing data, information on quality and processing level of atmospheric model data published in online data repositories is rarely provided. This limits the reusability (R of FAIR) of atmospheric model data in public repositories – although the number of archived, findable, and accessible datasets is steadily increasing.

As host of the “World Data Center for Climate” (LTA - WDCC), the German Climate Computing Center (DKRZ) is interested not only in preserving model data but also in increasing the usability of the data for interested users. In this spirit, DKRZ leads the project AtMoDat, which aims on improving the reusability of atmospheric model data and is funded by the German Federal Ministry of Education and Research (BMBF).

One major focus in AtMoDat is to improve metadata standards for atmospheric research communities. The resulting standards will be conformal to the CF conventions and consider established standards (e.g., CMIP6 standard). At the same time, the hurdle to comply with the new standard should be kept low. Practice partners from two emerging communities (e.g., urban climate modelling (UCM), University of Hamburg; small model intercomparison projects (MIPs), University of Leipzig) ensure that the new standards are open for future scientific knowledge developments.

As additional measure to improve the reusability of atmospheric model data, the DataCite DOI concept is planned to be extended towards a domain specific “Atmospheric Model Data DOI” concept (AMD-DOI), which should include quality information of the data and provide extended metadata. The project partner Technische Informationsbibliothek (TIB), Leibniz Information Centre for Science and Technology contributes its experience in this field as a DOI service provider.

First results of the project will be presented in the session.