Report: DYAMOND DATA

Project: 1153 Project title: DYAMOND Data Intercomparison Principal Investigators: Daniel Klocke (DWD), Tomoki Miyakawa (Uni. Tokyo), Florian Ziemen (DKRZ), Julia Duras (DKRZ) Allocation Period: 2020-01-01 to 2020-12-31

The original plan for this project was to store the data from different DYAMOND models to allow for intercomparison. Especially for the output of the DYAMOND-winter simulations, we planned to provide resources for server-side post processing. As the project was cut down to 10% of the disk space requested, we had to abandon the plan of storing the DYAMOND output in this project. Instead, we now use it to store the processed data generated by the users, especially those who do not have resources via MPI-M or similar big project owners.

The delivery of the DYAMOND-winter data by our collaborators was delayed, as COVID-19 hampered operations severely, and several top tier supercomputers were dedicated to emergency computing. Currently two centres (MPIM and ECMWF) completed their simulations, several other simulations are expected before the end of the year.

However, having a dedicated project with very modest compute resources for the server-side post-processing still proved valuable. It allowed us to give users access to these resources without risking them accidentally burning the substantial resources of other projects. Again, we assume that the use was especially low as no new DYAMOND data was delivered by the other teams of the intercomparison, and the MPI-M users performed their analysis of the new DYAMOND data on MPI-M resources available to them without need for special projects.

Several papers resulting from the DYAMOND intercomparison are currently in the peer review process in scientific journals, and other studies are in the preparation phase of publications. One highlight is an analysis of tropical cyclones in the DYAMOND ensemble by Judt et al. (minor revisions pending). After relatively low overall interest in spring and summer, interest in the DYAMOND data is picking up again, and we get requests regarding this data set every week. We expect this to substantially increase once the new data is available for comparison. We are currently preparing a data analysis competition for the DYAMOND models in the context of WCRP/GEWEX/GASS. This will most likely strongly increase data access by a diverse community. For this contest, the server-side processing offered in this project will be of particular importance.