

# Report: DYAMOND Data Intercomparison 2022

Project: 1153

Project title: DYAMOND Data Intercomparison

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Report period: 2022-01-01 to 2022-10-31

The DYAMOND project was requested as a dedicated project with modest compute resources for the server-side post-processing of data, especially output of the European project nextGEMS simulations and in support of the international DYAMOND initiative. This practice has proven very valuable for a few years already. It allowed us to give users access to these resources without risking them accidentally burning the substantial resources of other projects and to create a platform to facilitate the exchange between users.

Currently 246 users of 54 institutions worldwide are using the data, 121 users more than at the end of 2021. With the DYAMOND simulations (DYAMOND-Summer and DYAMOND-Winter) and the first two cycles of nextGEMS simulations completed, and the use of the data in the nextGEMS Hackathons, the user group is expected to still grow in the next year, a trend visible in current usage of the resources. A significant increase in the usage of DYAMOND is observed after the nextGEMS Cycle 2 Hackathon (28 Jun - 2 Jul 2022, Vienna).

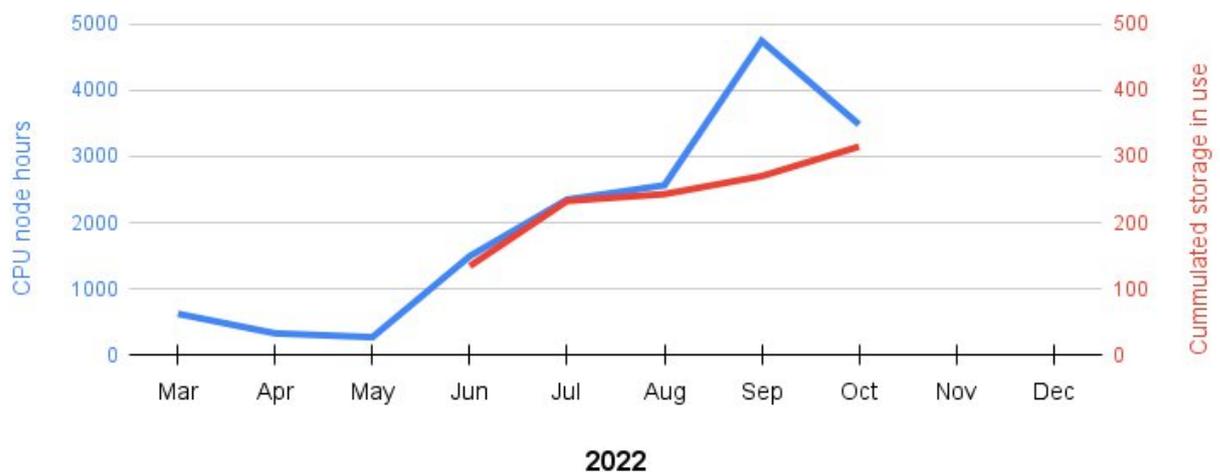


Figure 1. Levante storage and CPU node hours usage by DYAMOND project (bb1153) users in 2022.

In addition to the numbers above, the usefulness of the DYAMOND project in providing the resources for research is shown in an increased number of publications referencing the data of the nextGEMS simulations, including the DYAMOND simulations, and acknowledging DKRZ in the storage and/or computing support, e.g. Hohenegger et al. 2022, which presents the new ICON-Sapphire model configuration, which employs grid spacing of 10 km and finer to represent the flow of energy and matter within the Earth System.

## Literature:

A special issue in JMSJ was published in relation to the DYAMOND data set and more than 30 publications are published up to now. A (incomplete) list of publications is here:

<https://www.esiwace.eu/services/dyamond-initiative/dyamond-related-publications>

