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Broadening access to supercomputers for CMIP6 and CORDEX multimodel comparisons

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We will present a new service designed to assist the users of model data in running their analyses in world-class supercomputers. The increase of data volumes and model complexities can be challenging for data users with limited access to high performance computers or low network bandwidth. To avoid heavy data transfers, strong memory requirements, and slow sequential processing, the data science community is rapidly moving from classical client-side to new server-side frameworks. Three simple steps enable server-side users to compute in parallel and near the data: (1) discover the data you are interested in, (2) perform your analyses and visualizations in the supercomputer, and (3) download the outcome. A server-side service is especially beneficial for exploiting the high-volume data collections produced in the framework of internationally coordinated model intercomparison projects like CMIP5/6 and CORDEX and disseminated via the Earth System Grid Federation (ESGF) infrastructure. To facilitate the adoption of server-side capabilities by the ESGF users, the infrastructure project of the European Network for Earth System Modelling (IS-ENES3) is now opening its high performance resources and data pools at the CMCC (Italy), JASMIN (UK), IPSL (France), and DKRZ (Germany) supercomputing centers. The data pools allow access to results from several models on the same site and the data and resources are locally maintained by the hosts. Besides, our server-side framework not only speeds the workload but also reduces the errors in file format conversions and standardizations and software dependencies and upgrade. The service is funded by the EU Commission and it is free of charge. Find more information here: <https://portal.enes.org/data/data-metadata-service/analysis-platforms>. Demos and tutorials have been created by a dedicated user support team. We will present several use cases showing how easy and flexible it is to use our analysis platforms for multimodel comparisons of CMIP5/6 and CORDEX data.