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ENES Data Space: an EOSC Beyond thematic node for the climate community

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Several scientific disciplines, including climate science, have experienced significant changes in recent years due to the increase in data volumes and the emergence of data science and Machine Learning (ML) approaches. In this scenario, ensuring fast data access and analytics has become crucial. The data space concept has emerged to address some of the key challenges and support scientific communities towards a more sustainable and FAIR use of data.

The ENES Data Space (EDS) represents a domain-specific example of this concept for the climate community developed under the umbrella of the European Open Science Cloud (EOSC) initiative.

More specifically, the EDS was launched in early 2022 in the context of the EGI-ACE project and it is being further advanced in the frame of the EOSC-Beyond project contributing to enhance and validate the EOSC Core functionalities with the ambition of becoming one of the nodes in the EOSC Federation.

More in detail, the ENES Data Space pilot node aims to offer core services and capabilities relevant to the climate community. This includes data (input datasets and research products), resources (storage and compute), infrastructural components for deployment and orchestration of services, and software solutions supporting researchers and institution departments in realistic scenarios. In this way, scientists can run AI/ML-based applications and perform big data processing, interactive analytics and visualisation of climate data, without having to download datasets, install software and prepare the environment. The environment will also provide provenance capabilities, thus allowing scientists from different domains to publish and/or manage provenance documents, so that they can share and explore data lineage information related to their scientific workflows.

Topic

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