

A federative e-infrastructure for Earth Science data discovery, access, and on-demand processing

GENESI-DEC will create a multi-dimensional, multi-temporal, and multi-layer information facility of huge value in addressing global challenges such as biodiversity, climate change, pollution and economic development.

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Expected Impact & Achievements

Digital Earth is a visionary concept for the virtual representation of the Earth that is spatially referenced, interconnected with the world's digital data repositories, and encompassing all its systems and forms, including Earth Sciences, Natural Resources Management, Environmental Monitoring system and human society dimensions. GENESI-DEC (Ground European Network for Earth Science Interoperations – Digital Earth Community) will establish open data and services access, allowing Digital Earth Communities to seamlessly access, produce and share data, information, products and knowledge. The project evolves and enlarges the platform developed by the predecessor GENESI-DR project by federating to and interoperating with existing infrastructures.

Data Challenge Focus:

GENESI-DEC, following the predecessor GENESI-DR project, will provide discovery of and access to scattered and heterogeneous data including satellite data, aircraft data, in-situ data, and model results. Data are owned by different data providers and subject to different policies, which are fully respected thanks to the framework for federated security put in place by the project.

Target Community:

GENESI-DEC aims to address Digital Earth Communities: a first set of these have already been selected at the beginning of the project, while additional ones will be identified and addressed during the project life.

GENESI-DEC will initially focus on the Seafloor and Ocean Observation Community, the Global Atmosphere Observation Community using Aircraft, and the Global Change Earth Observation Community.

Innovative Aspects:

Seamless semantically enhanced discovery, access to and integration of heterogeneous data, information, processing services, products and knowledge addressing the needs of the multidisciplinary Digital Earth Communities.