



GEO Supersites Data Exploitation Platform

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Abstract text:

In the framework of the GEO Geohazard Supersite initiative, an international partnership of organizations and scientists involved in the monitoring and assessment of geohazards has been established. The mission is to advance the scientific understanding of geohazards by improving geohazard monitoring through the combination of in-situ and space-based data, and by facilitating the access to data relevant for geohazard research. The stakeholders are: (1) governmental organizations or research institutions responsible for the ground-based monitoring of earthquake and volcanic areas, (2) space agencies and satellite operators providing satellite data, (3) the global geohazard scientific community.

The 10.000's of ESA's SAR products are accessible, since beginning 2008, using ESA's "Virtual Archive", a Cloud Computing assets, allowing the global community an utmost downloading performance of these high volume data sets for mass-market costs. In the GEO collaborative context, the management of ESA's "Virtual Archive" and the ordering of these large data sets is being performed by UNAVCO, who is also coordinating the data demand for the several hundreds of co-PIs.

ESA is envisaging to provide scientists and developers access to a highly elastic operational e-infrastructure, providing interdisciplinary data on a large scale as well as tools ensuring innovation and a permanent evolution of the products. Consequently, this science environment will help in defining and testing new applications and technologies fostering innovation and new science findings.

In Europe, the collaboration between EPOS, "European Plate Observatory System" lead by INGV, and ESA with support of DLR, ASI, and CNES are the main institutional stakeholders for the GEO Supersites contributing also to a unifying e-infrastructure. The overarching objective of the Geohazard Supersites is: "To implement a sustainable Global Earthquake Observation System and a Global Volcano Observation System as part of the Global Earth Observation System of Systems (GEOSS)."

This presentation will outline the overall concept, objectives, and examples of the e-infrastructure, which is currently being set up for the GEO Supersite initiative helping to advance science.