



## **The FUTUREVOLC Supersite's e-Infrastructure - A multidisciplinary data hub and data service for Icelandic Volcanoes**

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The FUTUREVOLC volcanological supersite will establish a data hub and dataservice, where researchers, hazard managers and other stake holders can freely obtain access to multidisciplinary data and products on activity, unrest and eruptions at Icelandic volcanoes. The supersite is firmly founded on close interaction between the main Icelandic volcanological research and monitoring institutions, in coordination with expertise from European researchers participating in FUTUREVOLC. The hub is located at the Icelandic Meteorological Office (IMO), an institution responsible for monitoring and archiving data on all natural hazards in Iceland and, which also has a mandate as the state volcano observatory. This association will ensure a long-term sustainable data service.

The data accessible at the hub include in-situ and space-based observations, products and models from all the relevant disciplines contributing to volcanological research and local as well as cross-border hazard management, i.e. Earth sciences, atmospheric science, hydrology, remote sensing and space science. Access to the data will be in compliance with the access policy of the GEO (Group on Earth Observations), providing registered users with easy and timely access to data and products of documented quality. This commitment has already led to the acceptance of FUTUREVOLC as a permanent geohazard supersite by CEOS (Committee on Earth Observation Satellites), which will ensure access to additional satellite data and products on Icelandic volcanoes.

To facilitate services to seismological data at the supersite hub, the IMO is reconstructing its existing data base and utilizing the SeisComp3 software to manage waveform and parameter data. The accompanying ArcLink component will be used to provide access to event data and waveforms. Access to GPS data will be provided by the GSAC web service which has been installed at the IMO through collaboration with UNAVCO. If appropriate, the format and data base structure of SeisComp will be used to store other time series data or point observations and either ArcLink or GSAC may be used to service the access to these data. However, the software development required for the overall construction of the FUTUREVOLC data hub and web service will be performed by two Icelandic software companies participating in the project.

Once established, the goal is for the FUTUREVOLC data service to become a volcanological data node in EPOS (the European Plate Observing System), providing access to data and services on Icelandic volcanoes. Collaboration between FUTUREVOLC and the e-Infrastructure working group of EPOS (WG7) has already been initiated and the supersite hub will implement a CERIF metadata base (Common European Research Information Format), which has been chosen by EPOS to facilitate discovery and joint analysis of different datasets. Future developments in Nordic collaboration in meteorology may also lead to possible association of High Performance Computing with the data node.