



Improving the scientific research for the Geohazard Supersites through a Virtual Research Environment: the H2020 EVER-EST Project

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The EU's H2020 EVER-EST Project is dedicated to the realization of a Virtual Research Environment (VRE) for Earth Science researchers, during 2015-2018. EVER-EST implements innovative and state-of-the-art technologies in the area of Earth Science data catalogues, data access/processing and long-term data preservation together with models, techniques and tools for the computational methods, such as scientific workflows. The VRE is designed with the aim of providing the Earth Science user community with an innovative framework, enhancing their ability to interoperate and share knowledge and experience. Therefore, the VRE is user-centric and focuses the e-infrastructure capabilities in order to satisfy the needs of different Virtual Research Communities. Four use cases have been chosen to validate the e-infrastructure and the GEO Geohazard Supersites is one of them. EVER-EST will help the exploitation of the full potential of the GEO Geohazard Supersite and Natural Laboratories (GSNL) initiative demonstrating the use case in the Permanent Supersites of Mt Etna, Campi Flegrei-Vesuvius, and Icelandic volcanoes. Besides providing tools for active volcanoes monitoring and studies, we intend to demonstrate how a more organized and collaborative research environment, such as a VRE, can improve the quality of the scientific research on the Geohazard Supersites, addressing at the same time the problem of the slow uptake of scientific research findings in Disaster Risk Management. Presently, the full exploitation of the in situ and satellite data made available for each Supersite is delayed by the difficult access (especially for researchers in developing countries) to intensive processing and modelling capabilities. EVER-EST will provide these means and also a friendly virtual environment for the easy transfer of scientific knowledge as soon as it is acquired, promoting collaboration among researchers located in distant regions of the world. A further benefit will be to increase the societal impact of the scientific advancements obtained in the Supersites, allowing a more uniform interface towards the different user communities, who will use part of the services provided by EVER-EST during research result uptake.