Volcano Observations

Overview

In 2010, small volcanic eruptions at Eyjafjallajökull, Iceland, disrupted air travel worldwide, at an estimated cost of €1300 million. Understanding the circumstances that made this eruption so costly involves not only researchers across diverse disciplines, but also civil authorities, aviation authorities, industry, and public all around Europe. Volcano observation is a key source of data and information for this. EPOS will provide long-term sustainable access to data and products which already exist at European Volcano Observatories (VO) and Volcano Research Institutions (VRI). We will leverage infrastructure operated by VOs and VRIs and their long-term data sets and implement a set of interoperable services providing seamless access to these data.

EPOS will use data sets from covering all types of volcanological processes. This includes volcanological Supersite projects like FUTUREVOLC covering volcanoes in Iceland, MEDSUV (Mediterranean Supersite Volcanoes) for volcanoes in the Mediterranean, as well as data from volcanoes in Greece, France and the Açores. Together, these observatories cover all types of volcanological processes.

Objectives

Provide long-term sustained access to data and products at European VOs and VRIs by implementing the following services:

- Distribution of volcanic seismic and gnss data and products
- Distribution of volcanologic and environmental data
- Distribution of volcanic products and reports
- Distribution of satellite-based high-level products
- Access to Volcanic Hazard products
- Access to tools for Modelling and computational volcanology
- Provide trans-national access to facilities and resources for basic science and during volcanic crises and unrests.

Our services ready for 2019

Virtual Access to data/products/services

Through existing organizations such as ORFEUS (Observatories and Research Facilities for European Seismology) and supersite projects like MEDSUV and FUTUREVOLC. Seismic, geodetic, geochemical (e.g. gas emission),
volcanological (e.g. rock/ash), environmental (e.g. meteorological in co-located geochemical/geophysical stations) data and metadata (Level 0, 1).

Multidisciplinary volcanic and hazard products such as geo-volcanological maps, chemical/physical data on rocks, ashes, and fluids, eruptive parameters, thermal characteristics of lavas, eruption rates, examples of hazard maps) (Level 2, 3).

Virtual Access to computational platform/s

Repository of open source software tools for modelling volcanic processes such as magma intrusions, lava/pyroclastic flows movement.

Trans National Access to facilities of volcano observatories for scientists; temporary deployments of mobile pool of multi-disciplinary instruments; and rock samples collections