EVOSS

European Volcano Observatory Space Services

KEEPING AN EYE ON THE WORLD'S VOLCANOES

Major volcanic eruptions have a place in history. In approximately 1600 BC the eruption of Thera – present Santorini – put an end to the Minoan civilization; Mount Vesuvius destroyed Pompei in 79 AD; 30,000 people perished in the 1902 eruption of Mount Pelée, Martinique.

EVOSS is a GMES service for the monitoring of major volcanic hazards throughout the EU – including its overseas territories – and the Caribbean and Africa.

Here, more than 50 volcanoes have erupted in the last four centuries, and over one-hundred in historical time. However, the ground-based monitoring infrastructure varies from state-of-the-art volcano observatories to very limited or non-existent capacity.

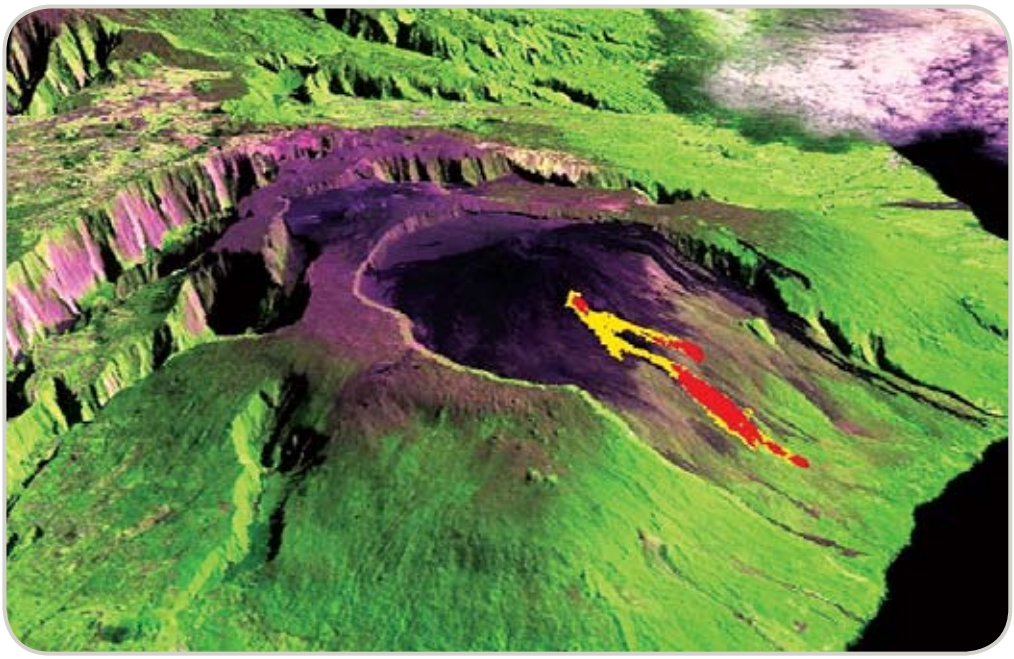
The goal of EVOSS is to implement space-borne support to volcano observation, in order to enhance the speed and quality of responses to major volcanic crises and offer backup monitoring capacity.

EVOSS is centered on the development of advanced data processing techniques that monitor ash, gas, ground deformation and temperature, and to provide substantial help in scenario building and emergency decision making.

The project is designed to to act from situations of sustained volcanic unrest, to situations when volcanoes erupt and space-borne observation may take over from ground based observatories that may need to be evacuated.

EVOSS end-users are scientific organisations responsible for advising political authorities during volcanic crises – typically volcano observatories where they exist. Information transfer from the EVOSS team to the users will take place by ICT, whilst knowledge transfer will take place by training and dedicated workshops.

Steven **TAIT**
IS PROJECT COORDINATOR



Instantaneous geometric and thermal properties of a lava flow at Piton de la Fournaise (Réunion Island), constrained by Infrared, space-borne observation © EVOSS

EVOSS uses satellites to support observatories that monitor volcanoes territory in Europe, Africa and the Caribbean.

Questions & Answers

What do you want to achieve with this project?

The goal of EVOSS is to exploit space-based observations as a complement to ground-based volcano-monitoring capacity and an aid to emergency decision making. We aim at demonstrating the efficiency of this approach, especially in countries with limited scientific infrastructure.

Why is this project important for Europe?

Europe - including overseas territories - and neighbouring Africa host dangerous volcanoes. Costs prohibit modern observatories for all, and eruptions can destroy terrestrial networks. Space-based monitoring can reinforce capacity when needed and act at supra-national scales.

How does your work benefit European citizens?

EU territory stretches from continental Europe to the Atlantic, Indian, southern Pacific Oceans and the Caribbean. Major volcanic crises can evolve from local to international scale: EU citizens' safety will benefit from near-realtime support to volcano emergency management worldwide.

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LIST OF PARTNERS

- Belgisch Instituut voor Ruimte-Aëronomie, Belgium
- Booz & Company, Italy
- Natural Environment Research Council – British Geological Survey, United Kingdom
- Carlo Gavazzi Space, Italy
- Deutsches Zentrum für Luft- und Raumfahrt, Germany
- Koninklijk Nederlands Meteorologisch Instituut, Netherlands
- IES Consulting, Italy
- Science [&] Technology, Netherlands
- Tele-Rilevamento Europa s.r.l., Italy
- Terrasphere, Netherlands
- Université Libre de Bruxelles, Belgium
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PROJECT INFORMATION

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GMES Downstream Services