Dynamics of volcanoes and their impact on the environment and society

Fact Sheet

Project Information

**VOLDIES**

Grant agreement ID: 228064

**Status**

Closed project

**Start date** 1 January 2009  
**End date** 31 August 2014

**Funded under**

FP7-IDEAS-ERC

**Overall budget** € 2 488 956,81

**EU contribution** € 2 488 956,80

**Hosted by**

UNIVERSITY OF BRISTOL

United Kingdom

Objective

Active volcanoes threaten 500 million people and vulnerability is increasing due to population growth, globalisation and increasing environmental stresses. The project will investigate key topics that will provide the understanding to increase societal risk and reduce vulnerability of communities. The project will: investigate how volcanoes work focussing on the nature and dynamics of magma chambers; construct a global database on volcanic hazards and risk; and develop new approaches to assessment of volcanic risk. The magma chamber is the fundamental control on the behaviour of most volcanoes, and so an advance in understanding of their physical nature and behaviour affects almost every other aspect of volcano behaviour and phenomena. Integrated models of the formation and behaviour of magma chambers will be take account of heat transfer, crustal deformation, magma properties, and internal chamber processes. Volcano behaviour will be investigated in terms of magma flows from chambers to the Earth’s surface. The models will be informed by and tested
against geophysical, geochemical and observational data at selected volcanoes and igneous intrusions characterised by superb datasets. An integrated model of magma chambers will improve interpretations of geophysical data and understanding of hazardous volcanic phenomena, such as debris avalanches, pyroclastic flows and lahars. The project will create a global database on volcanic eruptions, their hazards and key risk factors (such as population density), which will be analysed to provide robust data for hazard and risk assessment at global, regional and local scales. New methods of probabilistic risk assessment will be developed, which combine hard and soft data, take account of uncertainties and integrate information on vulnerability and hazard. The research will include a study of risk perception as a key factor in vulnerability by comparing communities in different volcanic settings and across cultures.

Field of science

/natural sciences/earth and related environmental sciences/geology/volcanology

Programme(s)

Topic(s)

Call for proposal

ERC-2008-AdG

Funding Scheme

ERC-AG - ERC Advanced Grant

Host institution

UNIVERSITY OF BRISTOL

Address
Beacon House Queens Road
BS8 1QU Bristol
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Activity type
Higher or Secondary Education Establishments

EU contribution
€ 2 338 512,80

Website
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**Beneficiaries (2)**

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United Kingdom  
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