Global Volcano Model

An international platform for information on volcanic hazard and risk

Start-up funded by the NERC ‘International Opportunities Fund’
November 2011 – 2014 (with possible extension)

Funds will support meetings, workshops, secondments, data gathering and analysis, research
The community will do complementary science and provide in-kind support
Mission of the Global Volcano Model

GVM is a growing international network that aims to create a sustainable, accessible information platform on volcanic hazard and risk. GVM will provide systematic evidence, data and analysis of volcanic hazards and risk on global, regional and local scales, and will develop the capability to anticipate future volcanism and its consequences.
Why Global Volcano Model?

- High profile volcanic events (e.g. Eyjafjallajokull, Montserrat, Merapi)
- High profile disasters and extreme events (e.g. Fukushima, Thai floods)
- Global demand for risk information and risk assessment from:
  - Disaster Risk Reduction and development
  - Governments & International agencies (World Bank, OECD, World Economic Forum)
  - Insurance and corporate sectors
  - Military and security sectors
  - Citizens, civic society (e.g. local government)
- Role of volcanism in climate and environmental change
- Improved international co-ordination and collaboration in volcanology
- Harmonisation of methods (e.g. VOBP, volcano indices, modelling etc)
- Improved information & data access for forecasting, mitigation and emergency management

GVM aims to be “a sustainable international platform for volcanic hazards and risk”.
  Open to all
  Open access
INTERNATIONAL VOLCANOLOGY ACTIVITIES

Global Volcano Program (GVP)             Smithsonian Institution: Director Liz Cottrell
IAVCEI                                      Commissions and task forces
WOVO                                      World Organisation of Volcano Observatories
WOVOdat                                    Earth Observatory of Singapore: Chris Newhall
VOGRIPA                                    Volcano Risk : Steve Sparks (Bristol)
VOBP                                       Volcano Observatory Best Practice workshops
V HUB                                      (NSF project) Buffalo, University of Southern Florida, Michigan: Greg Valentine
IVHHN                                       International Volcanic Health Hazard Network
                                        Durham University: Claire Horwell
EVOSS                                      EU: Fabrizio Ferrucci, Steve Tait (IPGP)
GF DRR (World Bank) volcanic risk          Bristol and Norwegian Geotechnical Institute
UN Global Assessment of Risk

REGIONAL & NATIONAL ACTIVITIES

G-EVER                                    Asia-Pacific: Shinji Takarada
ALVO                                      Associacion Latinoamericana de Volcanologia: Hugo del Gado
CASSAVA                                    IPGP, France: J-C Komorowski
DEVORA /NHRPP                              GNS New Zealand: Gill Jolly
Quaternary database                       Japan: GSJ Shun Nakano
NVEWS                                     Volcano Threat: USGS John Ewert
A sustainable international network

- Data gathering and collation, uncertainty, standards, harmonisation of methods
- Data analysis, hazards focus
- Database design, access, updates
- Development of hazard and risk assessment tools
- Mapping and modelling of volcanic hazard, vulnerability and risk
- Support the co-ordination of international, regional and national programmes and information sources on volcanism and volcanic hazards
Example of GVM task

VOGRIPA Natural Hazards database aims

• Generate a global database for each major volcanic hazard, and analyse to assess global risk from specific hazards
• Develop simple measures of vulnerability to produce a global vulnerability index
• Integrate hazards and vulnerability to assess risk
• Develop new methodologies for volcanic risk assessment and crisis management
GVM task
GAR15

- International team leading at a regional scale
  Bristol University, NGI, BGS, EOS, GNS New Zealand, SI, USGS, G-EVER (Japan), ALVO (Central and Latin America)...

- Work from indices task force feeding in

- Interaction with WOVO and volcano observatories

- Base funding secured
Welcome to the Global Volcano Model Network (GVM) Website

This project aims to develop a major international effort to create a Global Volcano Model (GVM) that provides systematic evidence, data and analysis of volcanic hazards and risk. The GVM project addresses hazards and risks on global, regional and local scales, and develops the capability to anticipate future volcanism and its consequences.

The GVM project will develop an integrated global database system on volcanic hazards, vulnerability and exposure, make this globally accessible and crucially involve the international volcanological community and users in a partnership to design, develop, analyse and maintain the database system. The GVM project will aim to establish new international metadata standards that will reduce ambiguity in the use of global volcanic datasets. Vulnerability and exposure data will be integrated into the GVM and new methods of assessment and analysis will be investigated and tested.

The project also intends to establish methodologies for analysis of the evidence and data to inform risk assessment, to develop complementary volcanic hazards models, and create relevant hazards and risk assessment tools.

The research will provide the scientific basis for mitigation strategies, responses to ash in the atmosphere for the aviation industry, land-use planning, evacuation plans and management of volcanic emergencies.

www.globalvolcanomodel.org