



Welcome to the second GVM newsletter. GVM has made a solid start with its first workshop reported here. Some exciting priorities and tasks have been set this newsletter updates you on what these are and highlights how more people and institutions can get involved.

**JOIN GVM**

The GVM Board has approved a process for institutions to get involved in GVM. There are many benefits to joining GVM to become part of this growing international effort in volcanology. Criteria for joining are simple. If your own institution and research group is not yet a partner then please give encouragement to join. The benefits, criteria to join and procedures to join can be found on the web site under "GVM Get Involved" on the front page.

**IAVCEI**

GVM welcomes Hugo Delgado to the Board of GVM. He is the official delegate of IAVCEI and his membership of the Board signals the support from IAVCEI and the commitment of GVM to work closely with IAVCEI as the key international organisation for volcanologists. Hugo also brings links with the Latin American volcanological community. This newsletter is an opportunity of thanking the Officers and Executive Committee of IAVCEI for their support for GVM.

**GVM is a growing international network project with Partners and Sponsors throughout the globe 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.**

**G A R 1 5**

GVM has been formally tasked with carrying out a study on global volcanic hazard and risk for the Global Risk Assessment Report 2015 (GAR15) by the UN ISDR. GAR is a biennial report from the UN ISDR that synthesises information on disasters from natural hazards. Volcanic hazards have not been included in previous GAR, so this is a significant enterprise for GVM. Several GVM partners are combining their resources and expertise for

the study, which needs to be completed by August 2014. A GAR15 Task Force has been set up which currently includes Liz Cottrell (Smithsonian), Chris Newhall (EOS), Shinji Takarada (GSJ and G-EVER), Charlotte Vye (BGS), Farrokh Nadim (NGI), Paolo Papale (INGV) and Steve Sparks (Bristol). The GAR15 Task Force will work closely with the Indices Task Force to generate a global picture of volcanic hazard, vulnerability,

exposure and risk, as scientific capacity for monitoring and early warning. A fuller report of the Task Forces activities will be provided in the next newsletter. Any individual or institution that would like to know more about the GAR15 study and indeed who might be able to contribute is welcome to contact Charlotte Vye or Steve Sparks who will be co-ordinating the study.

**GVM PARTNERS**

- BGS-NERC (British Geological Survey)
- CEV (Commission on Explosive Volcanism)
- EOS (Earth Observatory of Singapore)
- EPOS (European Plate Observing System)
- Geophysical Institute University of Alaska
- GNS (New Zealand)
- IAVCEI (International Association of Volcanology and Chemistry of the Earth's Interior)
- INGV, Italy (Istituto Nazionale di Geofisica e Vulcanologia)
- IVHHN (International Volcanic Health Hazard Network)
- Munich RE
- NGI (Norwegian Geological Institute)
- RMS (Risk Management Solutions)
- SI (Smithsonian Institution)
- SUNY at UB (University of Buffalo)
- UOB (University of Bristol)
- USF (University of Southern Florida)
- USGS (United States Geological Survey)
- USGS: VDAP
- VHUB
- Willis
- WOVO (World Organization of Volcano Observatories)



**GVM requires long-term funding to become sustainable. Organisations and funding agencies interested in the objective of reducing volcanic risk around the world are encouraged to consider sponsorship.**

## GVM WORKSHOP EDINBURGH



The first meeting of both the GVM Management Group and Steering Group and other members of the GVM network took place at the British Geological Survey in Edinburgh 30 April – 1 May 2012. The meeting was attended by 35 people in total representing 19 public and private institutions worldwide. The meeting lasted for just two days and so was rather intense but also very productive.

The first day consisted of a series of short presentations on some key existing international activities and how they can help to develop the Global Volcano Model concept. Ongoing and strongly synergistic activities include the Global Volcanism Program (Smithsonian Institution), and the collaborative web platform VHub (State University of New York at Buffalo). We heard about specific databases under construction including volcano observatory monitoring data (particularly precursory data) in WOVodat (Earth Observatory of Singapore) and a database of large magnitude eruptions being developed in VOGRIPA (Volcanic Global Risk Identification and Analysis Project) by the University of Bristol, British Geological Survey and partners. There was representation from international networks including the International

Volcanic Health Hazard Network and World Organisation of Volcano Observatories. We had updates on national initiatives to address volcanic hazard and risk issues from New Zealand and Japan and a summary of the new Asia-Pacific region G-EVER (Global Earthquake and Volcanic Eruption Risk) group accord which supports GVM. In addition there was an outline of the Global Earthquake Model and very valuable perspectives on GVM potential from the Reinsurance sector (Willis, Munich Re and Risk Management Solutions).

There was then an opportunity to try haggis and other Scottish delicacies at Howie's in Edinburgh's old town!

The second day consisted of whole group discussions and some break-out sessions to consider the GVM strategy and vision, potential stakeholders, organisation, funding and governance. The existing management structure of GVM was approved by all. It was agreed that a GVM strategy would be drafted in August 2012 after preliminary investigations and actions related to funding. It was agreed that the GVM network is open to all with open access to data encouraged. The priority areas of scientific focus were

decided upon, discussed and decisions made on how these are to be progressed either within existing initiatives or via newly defined Task Forces. The Task Forces are to develop: 1) The use of indices in making volcanic risk/threat assessments, 2) Standardisation/harmonisation of data collection methods, databases, ontologies, 3) Effective comparison of hazards models, 4) Vulnerability and exposure, 5) Short term forecasting, early warning and decision-making tools, 6) Stochastic modelling. VOGRIPA will continue to coordinate development of volcanic hazards databases. IAVCEI has a number of working groups and commissions that GVM will support and contribute to. GVM will also aim to produce the next UN Global Assessment of Risk report for volcanoes due for publication in 2015.

There is no doubt that GVM is a very ambitious endeavour but the meeting demonstrated that international collaboration and coordination to achieve common goals is already underway and there is a strong will amongst existing partners to make GVM work.



White Island Eruption



Tongariro Eruption



Popocatepetl Eruption\*  
2012

(\*Photo credit Guanabee)



Pavia, Italy

## GVM IN PAVIA

On 31 May 2012, a small group representing GVM visited the Global Earthquake Model Secretariat in Pavia for introductory discussions on potential shared areas of interest, possible co-working, any lessons learnt and future activities. It was a very productive meeting and included presentations on both initiatives with full discussions on a range of topics from governance, funding, data and science to products and stakeholders.

The GEM presentation given by Nicole Keller demonstrated that the aims and intentions of both initiatives are very similar although it was also acknowledged that there are some significant differences arising partly from the fact that GVM is building on a number of well-established international initiatives in volcanology. There are clear possibilities for co-

working, especially on aspects of social vulnerability and disaster resilience where GVM could contribute to valuable projects already underway in GEM, rather than start new projects. For example, GEM is developing a 'Social Vulnerability Index and database' and a 'Disaster Resilience Index and database'. There's also potential for GVM to build on the GEM 'Global Exposure Database' which includes population and building stock. The 'Global Earthquake Consequences Database' is a GIS relational database that compiles information on the impacts of past events and an equivalent for volcanoes would be valuable and a straightforward way to present spatial data (ground-based).

The fundamental role of ontology was discussed and it was agreed that this

is a high priority foundation to other activities. There were also discussions about data management and the OpenQuake facility that calculates earthquake hazard and risk.

One significant aim of the visit and the meeting was to learn more about the roles and activities of members of the GEM Secretariat, with a view to establishing a dedicated Secretariat for GVM.

It was agreed that continued synergy and regular communications between the two initiatives would continue and that this would be beneficial to both.

*GEM attendees:* Rui Pinho, Marco Pagani, Helen Crowley, Chris Burton, Paul Henshaw, Nicole Keller.

*GVM attendees:* Steve Sparks, Sue Loughlin, Sian Crowweller, Jonathan Lowndes

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