



New Developments

The GVM mission statement has been amended to reflect our active and anticipated work areas. (see right)

New GVM Members

The Far East Division of the Russian Academy of Sciences (FED RAS) have formally requested membership of GVM. Additionally, expressions of interest have been received from: AIR Worldwide, University of Florence, Instituto Geofisico de la Escuela Politecnica Nacional (Ecuador) and Ingeominas (Colombia).

GVM Staff News



Farewell

Clare William's fixed term contract

with GVM ends on 17 October 2014 and Sian Crowweller will manage the web and newsletters in the future. GVM can be very appreciative of Clare's efforts and skill in creating a superb web site and also in helping support GVM throughout its first 3 years.

All enquiries to sian.crowweller@bristol.ac.uk

GVM Funding

We are very pleased to announce that the current funding for GVM has been extended until August 2015, following a meeting with NERC in August. Additionally, NERC has awarded £20k funding to the British Geological Survey to support the development of a business model for the sustainability of GVM into the future. This project will begin shortly and the options will be presented to the Board in due course for consideration.

GVM's new mission statement: "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 and regional scales, and support Volcano Observatories at a local scale. GVM will develop capabilities to anticipate future volcanism and its consequences."

GAR15 Thanks to the volcanology community



We are indebted to colleagues around the world in the volcanological community who have generated the contemporary

understanding of volcanoes on which this study draws.

In total, 80 individuals from 33 institutions have been involved in detailed preparation of the GAR15 report, helping draw together case histories, contribute research, and provide data input. We are very grateful to all contributors to this piece of work.

Photo credit: CNN, Ontake Eruption 2014

GVM PARTNERS

- ALVO (La Asociación Latinoamericana de Volcanología)
- BGS-NERC (British Geological Survey)
- CAPRA (Probabilistic Risk Assessment Program)
- CIMNE (International Center for Numerical Methods in Engineering)
- EOS (Earth Observatory of Singapore)
- EPOS (European Plate Observing System)
- Geophysical Institute University of Alaska
- Geological Survey of Japan
- GeoScience Australia
- GNS Science (New Zealand)
- GSA (Geological Society of Australia)
- IAVCEI (International Association of Volcanology and Chemistry of the Earth's Interior)
- Icelandic Met Office
- INGV, Italy (Istituto Nazionale di Geofisica e Vulcanologia)
- IPGP (Institut de Physique du Globe de Paris)
- IVHHN (International Volcanic Health Hazard Network)
- Munich RE
- NGI (Norwegian Geotechnical Institute)
- RMS (Risk Management Solutions)
- Russian Academy of Sciences
- Seismic Research

LaMEVE (Large Magnitude Explosive Volcanic Eruptions)



We anticipate releasing version 3 of LaMEVE at the end of 2014 or early 2015. The main data changes are to eruptions from Japan and have been applied after extensive consultation with our Japanese colleagues. There are some eruptions where, although it is clear that they originated from a volcano in the Japanese region, it is uncertain which specific volcano. Therefore, a new 'uncertain'

volcano has been created in the Japan region to which these eruptions will be allocated. Whilst these data should not be used for research where the specific source of eruptions are necessary, they are still useful when analysing patterns on a regional or global scale, hence why we have not completely removed them from the database.

There have also been changes to the preferred magnitude values of some eruptions. Due to some literature-reported magnitudes looking suspect, notably the ~7ka eruption of Kikai, we calculated the magnitude if we had a reported volume (using Pyle's equation; see Croweller et al., 2012) and entered this as our preferred magnitude if it was different to that reported in the literature. This has only been applied to eruptions from Japan at present but we anticipate applying it to the rest of the database in due course.

The database will be updated with any recent eruptions, data from recent publications and also extended back to 2.588Ma (currently 1.8Ma), should any literature exist on eruptions in this time span.

From a data management standpoint, the inclusion of a new field - Activity ID - will enable eruption data from the Smithsonian Institution's Global Volcanism Program to be updated in LaMEVE automatically, thus maintaining data consistency between the two databases.

Finally, we will be adding a Comments field to enable explanatory information to be added which is specific to a particular eruption.

Sian Croweller, UOB

- Centre (UWI)
- SI (Smithsonian Institution)
- SUNY at UB (University of Buffalo)
- UOB (University of Bristol)
- University of Edinburgh
- University of Florence
- University of Iceland
- Universidad Nacional Autónoma de México (UNAM)
- USF (University of South 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.

ALVO News

Global Volcanism Program



IAVCEI have offered €10,000 to develop the ALVO monitoring capacity database (VOMODA) to populate the database with global information. The first stage of this work involves two researchers from UNAM who are currently working on the English translation of the database.

GVP is working to synchronize its VOTW (Volcanoes of the World) database with LaMEVE. New developments will include uploading Pleistocene volcanoes so that all the LaMEVE links will access basic volcano information. The VOTW database is also being expanded to include deformation information. GVP (Global Volcanism Program) is currently setting up an external web service for the first time.

The DECADE (A Database for Volcanic/Non-volcanic CO² Emissions in the Mediterranean Area) emissions database built by IEDA (Integrated Earth Data Applications) will be the first to connect.

Liz Cottrell, GVP



A WVOdat workshop was held at CoV8 in Indonesia by Christina Widiwijayanti. Meanwhile, the painstaking task of data entry is continuing at the Earth Observatory of Singapore.

WVOdat is now publically accessible: www.wovodat.org

WVOdat is the World Organisation of Volcano Observatories' database of worldwide volcanic unrest. This will provide a systematic centralised archive of historical monitoring data, in formats that make them freely accessible to users during volcanic crises, for research and comparative studies of analogue systems.

Prior to the recent Cities on Volcanoes 8 conference, in Yogyakarta, Indonesia, WVOdat held a free one-day workshop open to all interested parties. This workshop was designed to introduce WVOdat, to provide an overview of the database content and structure and an indication of the progress made in the population of the dataset.

A tutorial was given with a practice session designed to facilitate and encourage WVOdat's use. Further presentations and discussions were held about monitoring databases in Japan and the Philippines and the application of WVOdat data during volcanic crises. Users can now register on www.wovodat.org, and observatory staff and researchers are encouraged to submit data to develop this into a comprehensive global resource.

Sarah Brown, UOB

GAR15 Progress and Update

In 2013, GVM and IAVCEI were commissioned to jointly produce the first volcano contribution to the next Global Assessment Report on disaster risk reduction (GAR15). This work was led by the GAR15 task force of GVM on behalf of the global volcanology community and was submitted on the 30th May 2014 to the UN. The GAR is a biennial review and analysis of natural hazards, published by the United Nations Office for Disaster Risk Reduction (UN ISDR), and implements the Hyogo Framework for Action policy. This strategic top-down approach by the UN ISDR required an integrated community effort to provide ready-to-use risk data and support the UN aim for probabilistic hazard models and impact evaluation in terms of economic and livelihood losses as well as fatalities.

The GAR15 contribution was produced as an international collaboration using: 1) databases including the Smithsonian's Global Volcanism Program, VOGRIIPA and ALVO to discern hazard, frequency, magnitude, impact and monitoring data; 2) indices to assess the physical threat posed by individual volcanoes through assessing potential volcanic eruption impacts, uncertainty, population and infrastructure exposure, and monitoring infrastructure; 3) global, regional and local analysis of volcanoes and volcanic hazards; and 4) case studies to illustrate key issues, good practice or methodologies in hazard and risk assessment.

The task force produced a series of linked background papers that are currently in review by the UN ISDR team. There is unlikely to be a specific chapter in the GAR15 dedicated to volcanoes. More likely, the information from our background chapters will be distributed throughout several GAR15 chapters, in order to illustrate points or discuss particular areas. However, these background papers will be made available via the UN ISDR portal 'Prevention Web'. The GVM/IAVCEI contributed reports include:

1. **Summary Report on 'Global Volcanic Hazard and Risk'** – a summary of the key points about volcanic hazard and risk for the DRR community, decision-makers

and stakeholders.

2. **Technical Report on 'Global Volcanic Hazard and Risk'** – to provide further evidence and literature reviews as well as more detailed discussion of the methodologies used to deliver report
3. **Volcanic Ash Hazard** – report on the first global model of ash fall hazard and impacts
4. **Country Profiles** – presentation at regional and country level of all the information gathered to inform the background papers and summarising the volcanic hazard, uncertainty, population exposure and threat for each country.

We would like to thank all the contributors that have enabled this work to date. We look forward to finalising our community contribution to GAR15 and the launch of the report at the UN World Conference on Disaster Risk Reduction in March 2015 in Japan.

Charlotte Vye-Brown, BGS

GAR15 – National information



As a consequence of the GAR15 there is now volcano information available at a national-level as a series of country profiles for every country in the world. This work reconstitutes the Smithsonian Institute information with additional information provided by in-country partners and new metrics such as a volcanic hazards index that has been developed by the GVM Indices Task Force. We would like to thank all the contributors to this work, notably the WOVO members, and we look forward to developing this resource further in the future.

Photo Credit: cov8 website

G-EVER Recent Activities

A preliminary version of the G-EVER Asia-Pacific Region Earthquake and Volcanic Hazard Information System was made available in July 2014 (<http://ccop-geoinfo.org/G-EVER/>). The site aims to provide past and recent earthquake and volcanic eruption information and hazard assessment tools. Also, a user-friendly Titan 2D online simulation will soon be available on the G-EVER Volcanic Hazard Assessment Assist (<http://volcano.g-ever1.org/>).

Shinji Takarada, AIST, Japan

Volcano Deformation Task Force

The Volcano Deformation Task Force is continuing to compile global observations of surface deformation. The database currently includes information for 214 volcanoes: http://www.geo.cornell.edu/eas/PeoplePlaces/Faculty/matt/volcano_table.html. Updates submitted by the community are always welcome. We are also working with the CEOS DRM Volcano Pilot project -- a stepping-stone towards satellite volcano monitoring on a global basis. The pilot will consist of two components: a regional study of volcanic activity in Latin America, and focused studies of a few individual volcanic systems. First results will be presented at AGU in 2014 by F. Delgado et al. Presentations will be made at the European Space Agency FRINGE meeting in Frascati, Italy in March 2015 and the International Symposium on Remote Sensing of Environment in Berlin, Germany in May 2015 and updates will be provided in future GVM newsletters.

Matt Pritchard, Cornell

Cities on Volcanoes 8, Indonesia, Conference Report

Date : September 9-13, 2014

Venue :Grha Sabha Pramana, Universitas Gadjah Mada, Yogyakarta, Indonesia

Theme : Living in Harmony with Volcano : Bridging the will of nature to society
GVM related presentations at CoV8:

- Assessing ash fall hazard and risk globally, by Susanna Jenkins and others.
- Delivering the UN global model for volcanic hazard and risk, by Charlotte Vye-Brown and others.
- Use of indicators and indices to assess global volcanic hazard and risk for the Global Assessment Report 2015, by Sarah K. Brown and others.
- WOVODat as a worldwide resource to better anticipate eruptions, by Christina Widiwijayanti and others.
- Analysis of the Large Magnitude Explosive Volcanic Eruptions (LaMEVE) database, by Sarah Brown and others.



Photo Credit and report: Sarah Brown UOB

Volcano Activity

Japanese volcano Mount Ontake's unexpected eruption with tragic consequences demonstrates the importance of the work GVM is doing in better understanding volcanic activity.

"Toshitsugu Fujii, a volcanologist at the Japanese Meteorological agency, admitted accurate forecasting was very difficult.

Steam explosions such as those on Ontake often occurred without warning, he said.

"People may say we failed to predict this [because there were earthquakes in September] but this is something that could not be helped, in a sense. That's the reality of the limit of our knowledge," he said. "

Quote credit: The Guardian 29 Sept 2014
Photo credit: CNN

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