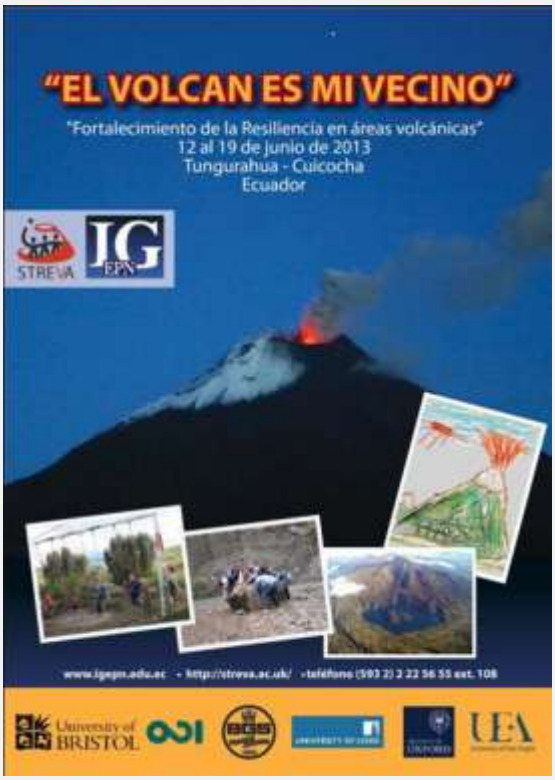
STREVA

BULLETIN

Issue 3 June 2013

Second Forensic Workshop: Tungurahua, Ecuador

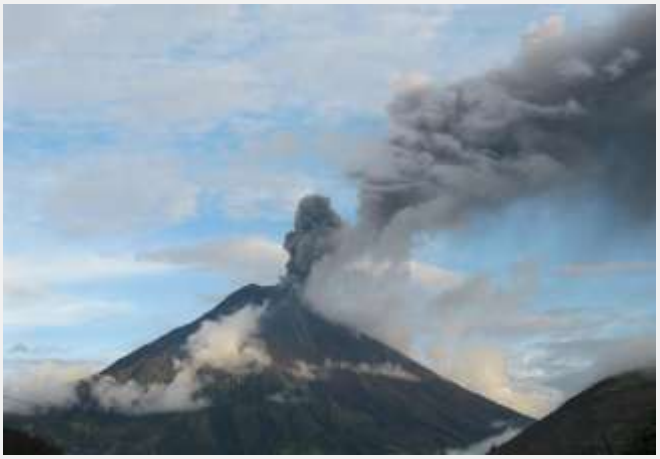
STREVA's second forensic workshop will take place from 12th – 19th June in Tungurahua and Cotocachi, Ecuador. The theme of the workshop is "The Volcano is my Neighbour" and is designed to explore experiences of different community groups who are dealing with a long-lived volcanic crisis.



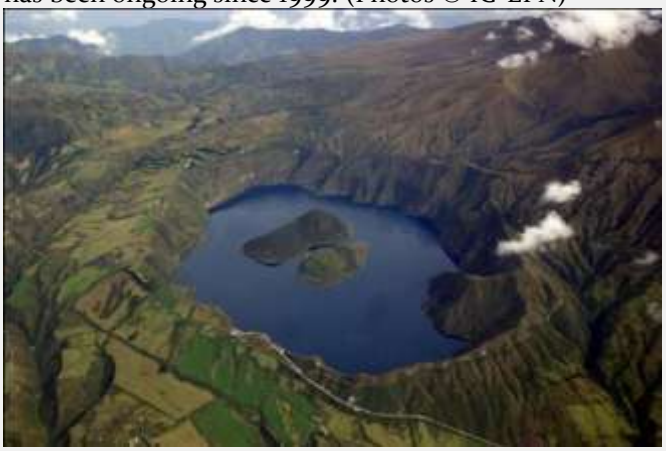
Twelve STREVA researchers will join forces with project partner IG-EPN and other collaborators to meet with monitoring scientists, mayors, decision makers, risk and emergency managers, vigias, and, of course, the local population. The team will visit various communities that regularly deal with volcanic hazards, and discuss how they perceive the risk posed by the volcano, how they cope and adapt to dynamic volcanic activity, their understanding of different styles of activity, what plans and emergency responses are in place (plus people's perception of these responses) and consider responses to a variety of eruption scenarios.

The STREVA team will also have the opportunity to visit an exhibition of paintings created by children in the local communities in the foothills of Tungurahua (see next feature).

The ultimate goal of this forensic workshop is to gather an evidence base to help us understand:
a) the eruptive history, monitoring practices, hazard assessment and response at Tungurahua;
b) to identify communication networks and local perception/interpretation of the volcanic hazards and risk;
c) to investigate the decision making processes and emergency response of local authorities to volcanic crises, and,
d) to explore the experiences of communities that live alongside the volcano in an effort to construct a narrative of changing vulnerability, resilience and adaptation to volcanic risk.



Tungurahua (above) is a steep-sided stratovolcano that towers more than 3 km above its northern base and is one of Ecuador's most active volcanoes. Volcanic activity has been ongoing since 1999. (Photos © IG-EPN)



Cuicocha (above) is located at the southern foot of the Cotacachi stratovolcano. The 3km wide, steep-walled caldera was created during a major explosive eruption about 3100 years ago and contains 4 intra-caldera lava domes that form two islands in the 148-m-deep lake.

STREVA-IGEPN Outreach Project: "El volcán es mi vecino"

One of STREVA's key goals is to help design effective volcanic risk reduction strategies. However, producing good quality science is, alone, not enough to help us achieve this. Effective, strategic communication and outreach activities are essential to inspire and inform; stimulating interest and encouraging better understanding.

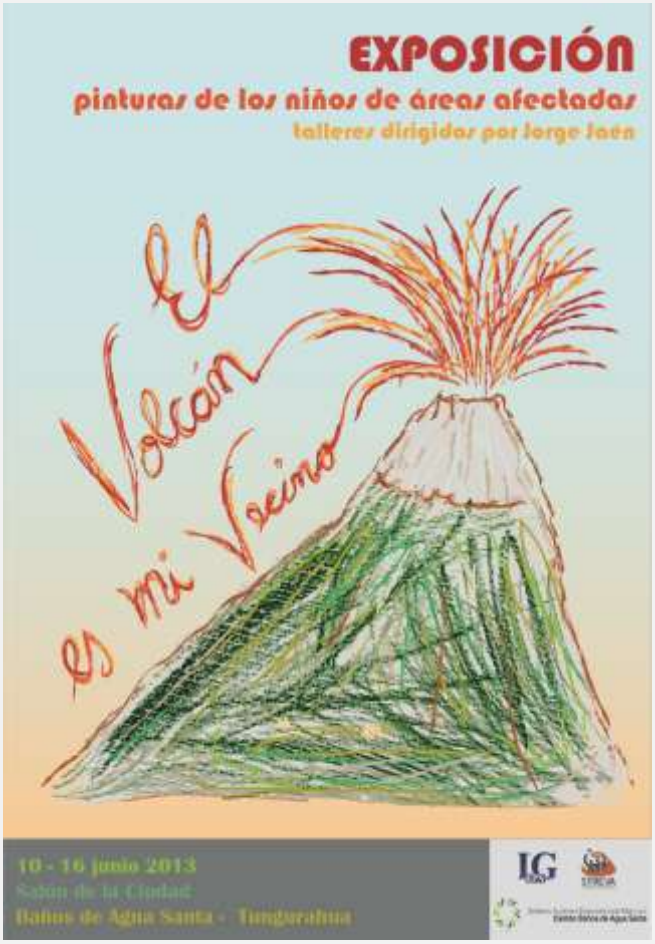
We therefore announce with great pride that the STREVA project was able to support a highly successful outreach venture at several villages near Tungurahua, Ecuador (one of STREVA's forensic settings).

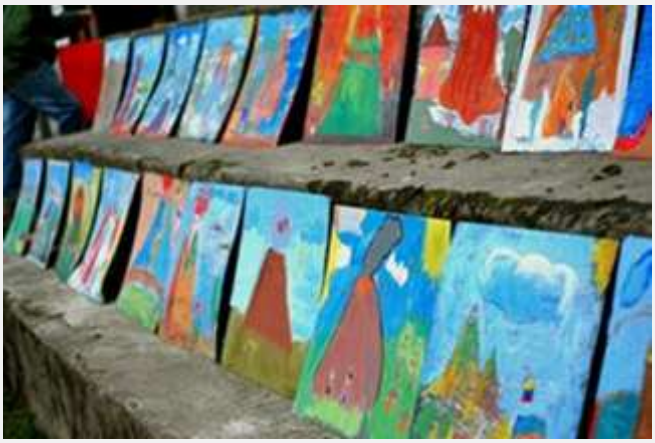
Organised by several of the team at Instituto Geofisicio and with support from volunteers from the Central University, six painting workshops were conducted in the towns of Pillate, Cusúa, Bilbao, Cotaló and Chacauco, plus another at IG-EPN. These towns are in the foothills of Tungurahua and have been affected, to varying degrees, by volcanic activity during the last 14 years of its eruption.

The workshops were led by Jorge Jaen and his family, who are held in high regard for designing these types of activities. One of Jorge's most important projects was, "The Border of my Dreams", a children's painting competition that developed on the northern border of Ecuador for children and adolescents in the area.

In much the same way, the STREVA-IGEPN workshop, entitled, "El volcán es mi vecino" ("The Volcano Is My Neighbour") was also designed for children to put paintbrush to paper and draw the volcano. Children as young as 1 took part; and a whopping 191 paintings were produced.

All of the artwork will be exhibited from the 10th to the 16th June at Salón de la Ciudad in Baños. Members of the STREVA team who will be attending the second forensic workshop in Ecuador will have the opportunity to see the exhibition first hand, but for those who can't be there, here is a sneak preview of some of the excellent paintings and the artists that created them.





All photos © IG-EPN

STREVA Event at University of Oxford

On the 30th April, an extended group of STREVAns came together at the University of Oxford to share lessons learned so far, discuss objectives for the next four years of the program and to explore issues relevant to our analysis of risk.

STREVA researchers from all work packages presented their results to date and outlined their research design and objectives for the rest of the project. Thank you for your excellent presentations!

Willy Aspinall (with help from Richie Robertson) also ran a paired comparison exercise based on an eruption scenario at Soufrière St Vincent. The aim of the exercise was to introduce the group to some of the issues in risk analysis, draw out differences of opinion within our interdisciplinary team, and give us a priority list for our work in St Vincent. The results (which are very interesting!) will be shared widely in due course. The plan is to leave these results in an open forum for comment by all involved, as to the saliency and relevance of this approach in characterising volcanic risk.

The group also held a panel discussion to examine some pertinent topics within volcanic risk. Thanks to panel members, Juergen Neuberg (Leeds), Peter Simmons (UEA) and Neil Adger (Exeter) for crafting a lively dialogue.

Further Plans for 2013

Work has begun on a series of papers that detail the output from the forensic process around the analysis of activity, impact and responses to the Soufrière Hills Volcano. More details to follow. STREVAns have been collaborating with Montserrat Volcano Observatory on a longer term project to systematically archive and collate information relevant to the monitoring and cataloguing of the volcanic activity and its impacts. More details to follow.

Work Package Leaders are meeting in Norwich on the 25th of June to consider the workplan and structure of STREVA following the Ecuador workshop. All views are welcomed prior to that meeting!

There is a meeting of all those involved in WP1 on 3rd and 4th of July in Oxford. Contact David Pyle [david.pyle@earth.ox.ac.uk] for more details.

Sometime later this year, likely in the autumn, we will be holding a larger-scale event in London to officially 'launch' STREVA. The project is not even a year old, but we already have a lot to show and tell, as well as puzzles to examine and debate. So in addition to presenting and discussing our results so far, we also hope to engage participants in lively debates and to get involved in some research!

New Knowledge Exchange Fellows

We are pleased to announce that two Knowledge Exchange fellows have joined the Increasing Resilience to Natural Hazards program. Congratulations to Victoria Sword-Daniels (University College London) and Susanne Sargeant (British Geological Survey)! The two researchers will play an important role in both STREVA and our sister project, Earthquakes without Frontiers, to ensure that our outputs achieve maximum impact!

Susanne

Victoria

JOIN the Team!

STREVA has two post-doc vacancies available:

(1) Vacancy for a 2 year Post-doctoral Research Assistant in the Statistical Analysis of Volcanic Data-streams, based in the Department of Earth Sciences, University of Oxford.

Closing date for applications: **21 June 2013.**
Starting date: negotiable, but the post is available immediately.

We are looking for a researcher to work on the statistical analysis of real-time volcanic data-streams within the NERC-ESRC project 'Strengthening Resilience in Volcanic Areas'. The PDRA will work with researchers in the UK and at volcano observatories overseas. The PDRA will investigate best practice for real-time processing, analysis and integration of data streams; and will apply new statistical tools and signal-processing techniques to archive volcano data to assess the potential for developing automated operational alert systems for monitoring.

There may be opportunities to engage in teaching including lectures and small-group teaching of undergraduates and graduate students and supervising Masters projects. Candidates should have at least a Bachelors degree and PhD in a relevant area (e.g., statistics, applied mathematics, volcanology). Applications will be accepted from candidates close to completing their doctoral thesis.

The post will be based in Earth Sciences, with collaborations with colleagues in Statistics (Oxford, and Imperial College, London) and within the broader UK

network on Probability, Uncertainty and Risk in the Environment.

You can find full details of the post, and how to apply at:

http://www.earth.ox.ac.uk/vacancies/106582

Informal enquiries to david.pyle@earth.ox.ac.uk or tamsin.mather@earth.ox.ac.uk

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(2) Opportunity to work on 'social vulnerability' as part of STREVA Project!

Senior Research Associate (STREVA Project)

Applications are invited for a Senior Research Associate to work on social vulnerability dimensions for the research consortium 'Strengthening Resilience in Volcanic Areas – STREVA', funded by NERC-ESRC.

The successful candidate will support the main empirical research phases of the work package. The post-doctoral position involves field research together with coordination of project activities and communication with project partners. The SRA will be expected to spend a total of 9 months in the field, working alongside national partners in Ecuador, Colombia and St Vincent on in-depth case study research on the social vulnerability of communities living around active volcanoes. See:

http://jobs.guardian.co.uk/job/4638274/senior-research-associate-streva-project-/?PipelinedPage=%2Fjob-detail%2F4638274%2F

Other news

Congratulations to STREVAns Jenni Barclay, Anna Hicks and Richie Robertson for securing a NERC Isotope Geosciences Laboratory (NIGFSC) grant to conduct some geochronological research on St Vincent. We have funding to date 30 samples (via $^{40}Ar/^{39}Ar$ dating) - an excellent way to support STREVA's efforts in this exciting trial setting.

We might be scientists, but we also know how to have fun! Members of the STREVA team have been working doubly hard to produce a new game about volcanoes. "Volcanoes Top Trumps", created in collaboration with Winning Moves Ltd, will be due for release as an app in 6 weeks. All proceeds will go to a fund for outreach projects related to volcanic risk. We hope a card-based version will also be funded and be out on the shelves shortly after the app.

Check out Jenni Barclay and Jon Stone at the cinema on the 19th June. As part of the British Museum's, "Pompeii Live" production, they successfully managed to generate an explosion on the front lawn of the British Museum....without creating a national incident.
http://www.britishmuseum.org/whats_on/exhibitions/pompeii_and_herculaneum/pompeii_live/schools_event.aspx and
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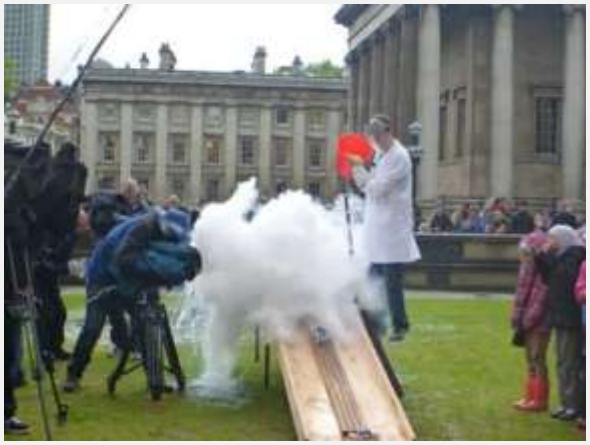

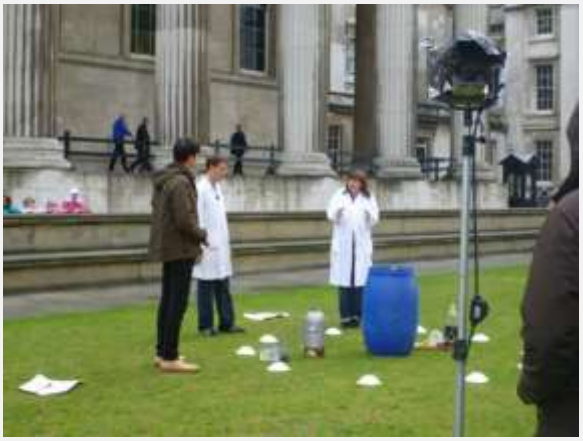

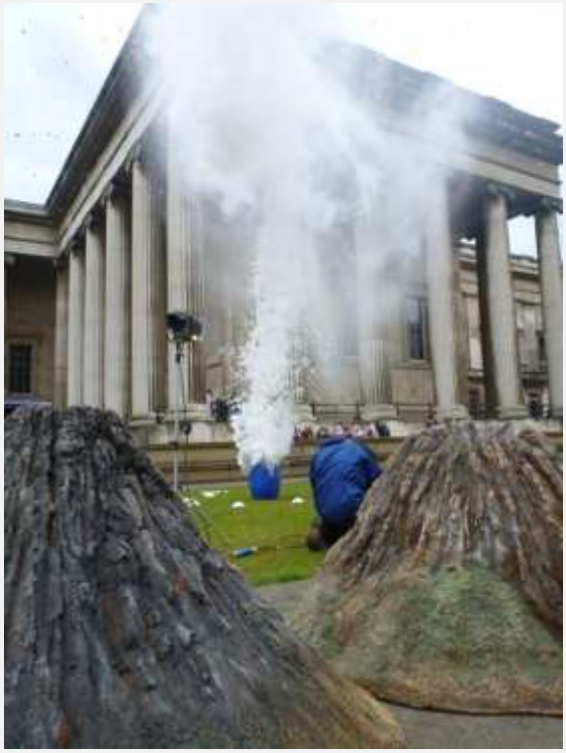

Photos © Anna Hicks

Other news (cont'd)

Welcome to Earth Sciences at the University of Plymouth who join STREVA as a Project Partner. This is the new home of Paul Cole, who helped to design and run the first workshop on Montserrat and has been helping with the analysis. He is also attending the workshop in Ecuador and is currently advertising a studentship at the University of Plymouth on 3D visualisation of volcanic hazards which will complement STREVA activities as they progress, to start in October 2013. More details are available from Paul (paul.cole@plymouth.ac.uk)

EARTH SCIENCES WITH PLYMOUTH UNIVERSITY

Congratulations to Emma Nicholson et al for the first 'STREVA' paper titled 'Cyclical patterns in volcanic degassing revealed by sulphur dioxide flux timeseries analysis', which will shortly be published in Earth and Planetary Science Letters. Emma spent a summer internship at MVO in 2011, working with Henry Odbert and Thomas Christopher on the long-term gas emissions from Soufrière Hills Volcano. She then completed the analysis of this dataset in Oxford for her final year dissertation. Gas emissions from Soufrière Hills Volcano show periodic behaviour on multiple timescales, with strong cycles evident on both multi-year and multi-week (~50 day) periods. These timescales match those seen in the SHV earthquake data, suggesting a common cause, and our working hypothesis is that these all link back to the physical conditions under which magma and gas move within the conduit.

Don't forget – you can always keep up to date with STREVA, and let us know what you are doing – by following @STREVAproject on Twitter, liking StrevaProject on Facebook, and bookmarking our website http://streva.ac.uk

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