COURSES WORKSHOPS AND OTHER SCIENTIFIC ACTIVITIES

January 19-21, 2006

1- USING LAHARZ: GIS BASED SOFTWARE TO MAP AREAS OF POTENTIAL INUNDATION FROM LAHARS

Organizers: Steve Schilling, Richard Iverson, Pablo Samaniego, John Ewert, Patricia Mothes. U.S. Geological Survey, Office of Foreign Disaster Assistance, Instituto Geofísico
Dates: January 19-21, 2006 (3 days)
Place: CEC – Escuela Politécnica Nacional. Edificio de Ingeniería Civil. Piso 5.

Description:
Lahars are large debris flows that originate on volcano flanks and can surge tens or even hundreds of kilometres downstream from a volcano. LAHARZ is menu-driven software that runs within a Geographic Information System (GIS). LAHARZ incorporates equations derived from scaling and statistical analyses that predict inundated valley cross-sectional and planimetric areas as functions of lahar volume. These equations, a Digital Elevation Model (DEM) and user-specified lahar volumes provide an automated method to delineate a set of nested lahar-inundation zones that depict gradations in hazard in a manner that is rapid, objective, and reproducible. This three day course will include one-half day of instruction on the methodology of LAHARZ and comparison with other methods, one and one-half days of instruction on the use of LAHARZ, GIS and DEMs, and a one day field trip to view lahar deposits at Cotopaxi. Each student will receive a solid foundation in basic GIS and in the use of the LAHARZ software.

January 16-21, 2006

2- VOLCANO SEISMOLOGY FOR THE SMALL OBSERVATORY: SIMPLE AND USEFUL MONITORING TECHNIQUES AND RESULTS

Organizers: Randy White, John Power, Charlotte Rowe, Andy Lockhart and Jeff Marso – United States Geological Survey (USGS)
Dates: January 16-21, 2006 (6 days)
Place: CEC – Escuela Politécnica Nacional. Edificio de Ingeniería Civil. Piso 5.

Description:
The course is designed primarily for Latin American volcano observatory seismologists who routinely must work with small networks of short-period seismographs. The course will present many examples of, and emphasize differences between, typical precursory seismic signals of silicic and mafic eruptions. In particular the course will summarize patterns and mechanisms of volcano-tectonic earthquakes, deep long-period earthquakes and tremor, as well as shallow long- and very long-period earthquakes and tremor. Their significance and use for monitoring and forecasting will

be detailed. Much additional data has been gathered with much more extensive instrument arrays of various types and many of their results will also be summarized. However the course will emphasize the considerable portion of the latter information that may be inferred from small short-period network data alone. The Earthworm computer data acquisition and analysis system will be discussed in considerable detail and recent improvements and additions will be presented. The course draws on more than 20 years of USGS and VDAP experience with more than 30 eruptions in Alaska and worldwide. In addition, participants will be asked to present a 20 minute talk showing examples of pre- and/or co-eruptive seismicity from recent eruptions in their own countries.

Sunday, January 22, 2006

3- FIRST INTERNATIONAL WORKSHOP ON ACOUSTIC REMOTE SENSING OF VOLCANOES

Organizers: Milton Garces – Univ. of Hawaii, Manoa, David McCormack - Geological Survey of Canada
Dates: January 22, 2006
Place: Hotel Quito.
Contact: Dr. Milton Garces (milton@isla.hawaii.edu); Dr. David McCormack (cormack@seismo.nrcan.gc.ca)

Description:
The workshop presents volcano-acoustic remote sensing as a mature technology, with established measurement, analysis, and data dissemination procedures that can be incorporated into civil defense and aviation applications as well as into research programs. We present the basic physics of acoustic wave propagation in the atmosphere, summarize the state of the art in recording and data analysis techniques, and discuss applications using near- and far-field acoustic observations of diverse volcanic eruption styles. We also consider the interpretive tools needed to transform a raw acoustic data stream into useful products that may be used by civil defense authorities and the aviation industry.

Tuesday, January 24, 2006

4- THE CITIES ON VOLCANOES-4 OUTREACH EXCHANGE

Organizers: Carolyn Driedger
Date: January 24, 2006 – 16:30
Place: Convento San Francisco (in a room near the poster session)

Description:
At COV4, bring your favourite recently-developed graphics, brochures, educator activities, educational CDs, and webpage models to the "Outreach Exchange."

Participants will be allowed 3 minutes to describe their product. Laptop and computer projector will be provided. You are
invited to bring additional copies for distribution. If you wish to ensure a spot at the outreach exchange, contact Carolyn Driedger at the address below.

Contact: Carolyn Driedger (cdriedger@usgs.gov)

5- INTERNATIONAL VOLCANIC HEALTH HAZARD NETWORK (IVHHN) MEETING

Organizers: Claire Horwell – International Volcanic Health Hazard Network
Date: January 24, 2006 – 19:00
Place: Hotel Quito
Contact: Claire Horwell (claire.horwell@bristol.ac.uk)

Description:
The International Volcanic Health Hazard Network (IVHHN) will hold its third annual meeting at COV4. IVHHN aims to develop understanding of the health effects of volcanic emissions, to characterize ash with respect to parameters relevant to assessing health hazards, to develop international guidelines for the public and scientists on volcanic health hazards and to disseminate this information internationally. IVHHN currently has more than 30 expert members and over 130 corresponding members, with expertise from varied disciplines including volcanology, mineralogy, epidemiology, toxicology, physical chemistry, medicine, and occupational health.

The workshop will review the progress of IVHHN, including recent achievements and work in progress and will involve an open discussion of future work and collaborations. There will also be short presentations on projects completed by IVHHN over the last year. The workshop is open to all conference delegates who may be interested in learning more about this rapidly emerging field of volcanic hazard assessment. We invite and encourage delegates to submit abstracts for poster presentations with direct relevance to health hazards of volcanic emissions to Symposium VII “Human Health Impacts of Volcanism” which is hosting the contributions of IVHHN's researchers.

6- AGENDA SOBRE GESTION DEL RIESGO VOLCANICO

Organiza: Municipio del Distrito Metropolitano de Quito en asociación con otras Instituciones nacionales y extranjeras.
Lugar: Salón de la Ciudad
Fecha: Martes 24 y Miércoles 25 de Enero, 2006
Hora: 17h00 a 19h00

El objetivo es que la ciudadanía se beneficie de los conocimientos y la experiencia de los expertos que asisten al Congreso Ciudades en Volcanes.

La agenda consiste en una serie de conferencias destinadas a una gama de público más amplia: educadores, historiadores, estudiantes, comunicadores, trabajadores de la salud, promotores de turismo, empresas privadas, inversionistas y público

Además, se se organizó un concurso de Pintura Infantil, **La Ciudad, los volcanes y sus riesgos,** cuyos trabajos serán expuestos en el Centro Cultural Metropolitano. Adicionalmente, hay una muestra de Posters sobre: "La vulnerabilidad en el Distrito Metropolitano de Quito"

Entre las actividades organizadas se encuentran:

- NEVADO DEL RUIZ 20TH ANNIVERSARY (1985-2005)

- FORO PÚBLICO: Ciudades en Riesgo y La Gestión Urbana

Otros eventos relacionados temas, horarios y lugares, se indicaran durante el congreso

6a- NEVADO DEL RUIZ 20TH ANNIVERSARY (1985-2005)

Organizers: INGEOMINAS, COLOMBIA. Colombian Embassy in Quito, Municipio de Quito
Date: January 24, 2006 – 17:00
Place: Salón de la Ciudad- Municipio de Quito
Contacts: Gloria Patricia Cortés (gpcortes@ingeominas.gov.co) and Marta Calvache (mcalvache@ingeominas.gov.co), or Nuri Bermudez (dgp@quito.gov.ec)
Moderador: Arq. Fernando Carrión – Concejal del Municipio de DMQ.

La serie de conferencias previstas para recordar los 20 años de la erupción del Nevado del Ruiz de Colombia, es un evento programado por la Alcaldía Metropolitana de Quito, a través de la Dirección Metropolitanaa de Seguridad Ciudadana quienes han coordinado con los profesionales de INGEOMINAS – Colombia, para exponer sobre las experiencias que represento para Colombia la erupción del Nevado del Ruiz en noviembre de 1985

El objetivo de estas conferencias es la concienciación y sensibilización de los participantes, autoridades y de la población en general sobre los riesgos a los cuales estamos expuestos al estar ubicados en una zona volcánica y las acciones de Prevención, Mitigación, Atención de Emergencias, Resiliencia y Reconstrucción necesarias.

La experiencia que vivió el pueblo colombiano hace 20 años, cuando el volcán Nevado del Ruiz erupcionó el 13 de noviembre de 1985 y que acabó con la población de Armero (Tolima), es de gran importancia, no solo por los aspectos técnico-científicos a tratar, sino que constituye una experiencia que sirve de base para las autoridades locales y la población en general, pues es necesario conocer los acontecimientos anteriores a la erupción, la preparación técnico-científica y de la población para el evento, los procesos eruptivos, la toma de decisiones de las autoridades, los sistemas de comunicación empleados, las acciones ejecutadas por las instituciones de respuesta, las acciones realizadas por la población, los procesos de emergencia, atención psicológica y de salud, la evaluación preliminar post evento, la resiliencia física y poblacional, la programación de reconstrucción, etc.

Dirigido a: Autoridades gubernamentales, municipales y privadas, técnico-científicos interinstitucionales, funcionarios públicos y municipales, profesionales de las

instituciones de respuesta, profesores, estudiantes universitarios, dirigentes comunitarios y público en general.

Expositores y Temática: Profesionales de INGEOMINAS - Colombia

- Ing. Fernando Gil Cruz - Acontecimientos antes de la erupción de 1985 del Nevado del Ruiz.
- Geóloga Marta Lucia Calvache - Un buen ejemplo de una mala gestión del riesgo durante una crisis volcánica: Nevado del Ruiz erupción 1985.
- Licenciado Miguel Thomas - La erupción del volcán Nevado del Ruiz: Educación y Prevención 20 años después.
- Dr. Barry Voight- Universidad de Pennsylvania-USA

Paralelamente a este evento se realizará una exposición de afiches temáticos interinstitucionales y la difusión de videos en el Patio Cubierto del Centro Cultural Metropolitano.

7- WOVO—World Organization of Volcano Observatories—MEETING

Organizers: Andrew Tupper, Warner Marzocchi and Glen Mattioli
Date: January 24, 2006 – 19:00
Place: Hotel Quito
Contact: Andrew Tupper, Warner Marzocchi and Glen Mattioli (A.Tupper@bom.gov.au, warner@ov.ingv.it, mattioli@uark.edu)

Description:
The WOVO co-leaders, Glen Mattioli, Warner Marzocchi, and Andrew Tupper, warmly invite members of volcano observatories to this WOVO meeting.
We will have an open discussion on:
- The overall aims and potential new work for WOVO
- WOVO's immediate priorities
- A proposed workshop, "Non-localised volcanic hazards - Inter-agency and international communications", for the 2007 IUGG

Refreshments will be provided. Suggestions for the agenda are welcome- contact: wovo@cavern.uark.edu

8- CITIES AND VOLCANOES COMMISSION (COV) MEETING

Organizers: David Johnston (david.johnston@gns.cri.nz).
Date: January 24, 2006 – 19:00
Place: Hotel Quito

Description:
The Cities and Volcanoes Commission will host a short meeting at Hotel Quito. If you are interested and would like to contribute to the agenda, please contact David Johnston (david.johnston@gns.cri.nz).

9- NOVAC – Network for Observation of Volcanic and Atmospheric Change

Organizers: Bo Galle (bo.galle@rss.chalmers.se)
Date: January 24 and 26, 2006 – 19:00 – 21:00 (first part)
Place: Hotel Quito

Description:

NOVAC is a recently started project, funded by the European Union, with the aim to establish a global network of stations for the quantitative measurement of volcanic gas emissions. The network is based on a novel type of instrument, the Scanning Dual-beam mini-DOAS, developed within the EU-project DORSIVA. Primarily the instruments will be used to provide new parameters in the toolbox of the observatories for risk assessment, gas emission estimates and geophysical research on the local scale. In addition to this, data are exploited for other scientific purposes then local volcanic gas emissions, e.g. global estimates of volcanic gas emissions, large scale volcanic correlations, studies of climate change, studies of stratospheric ozone depletion. In particular large scale validation of satellite instruments for observing volcanic gas emissions will be possible for the first time, allowing tobring observation of volcanic gas emissions from space a significant step forward.

The Scanning Dual-beam Mini-DOAS instrument represents a major breakthrough in volcanic gas monitoring; it is capable of real-time automatic, unattended measurement of the total emission fluxes of SO_2 and BrO from a volcano with better then 5 minutes time resolution during daylight. The high time-resolution of the data enables correlations with other geophysical data, e.g. seismic data, thus significantly extending the information available for real-time risk assessment and research at the volcano. By comparing high time resolution gas emission data with emissions from neighbouring volcanoes on different geographical scales, or with other geophysical events (earthquakes, tidal waves) mechanisms of volcanic forcing may be revealed.

The spectra recorded by the instrument will also be used to derive data that complement global observation systems related to climate change and stratospheric ozone depletion research.
The consortium encompasses observatories of 15 volcanoes from five continents, including some of the most active and strongest degassing volcanoes in the world.

Wednesday, January 25, 2006

10 - IGOS GEOHAZARDS BUREAU MEETING.

Organizers: IGOS Geohazard Bureau. BRGM - French Geological Survey 3, Avenue Claude Guillemin, BP 6009, 45060 Orléans, France
Date: January 25, 2006 – 19:00
Place: Hotel Quito.
Contact: Steven Hosford (s.hosford@brgm.fr) - Coordinator, IGOS Geohazards

Description:
The IGOS Geohazards Bureau is pleased to announce the organisation of a meeting during the Cities on Volcanoes 4 conference to examine potential links between the volcanology community and the cross-geohazard community efforts undertaken within the context of the IGOS Geohazards initiative.

The Integrated Global Observing Strategy (IGOS) for Geohazards (www.igosgeohazards.org) was launched in 2001 by the UNESCO, ICSU and CEOS with the aim of developing and implementing a strategy to improve the coverage of both in situ and space-based earth observations applied to the study of geohazards. Following an initial strategy definition phase which concentrated primarily on space-based earth observations, the IGOS Geohazards Theme Report was issued in April 2004. One of the recommendations of this report was the implementation of an IGOS Geohazard Bureau intended to continue the development of the initiative by encouraging wider representation of the in situ earth observation community. This Bureau was subsequently established by the European Space Agency (ESA) and the French Geological Survey (BRGM).
This meeting seeks to raise the awareness of the IGOS Geohazard initiative in the volcanology community and investigate ways in which IGOS Geohazards can contribute to interaction between the volcanological, seismological and ground instability communities. This subject is particularly relevant in the context of the GEO initiative which aims at federating efforts globally in the development of new (both in situ and satellite based) earth observation systems.

The meeting will will touch on the following issues:

- Introduction to the IGOS Geohazards initiative
- Recent work in the initiative. This includes a cross-geohazard survey of Data Requirements currently under development and work on a hazard map inventory in collaboration with GEO.
- Discussion on potential volcanology collaboration and links
- Conclusions

6b- FORO PÚBLICO: Ciudades en Riesgo y La Gestión Urbana

Organizan: Naciones Unidas - Municipio del Distrito Metropolitano de Quito.
Lugar: Salón de la Ciudad-- Municipio de Quito.

Fecha: Miércoles 25 de enero 2006
Hora: 18h00

Los temas que se analizarán durante el foro, tratarán por una parte, sobre el crecimiento y complejidad de las condiciones de amenaza, vulnerabilidad y riesgo en las ciudades, así como la importante relación que existe entre el riesgo y el desarrollo, la forma y la estructura urbana y los desafíos que esto ofrece para los procesos de planificación o gestión urbana.

Además, se analizará la necesidad de impulsar la planificación urbana desde la perspectiva sectorial y territorial bajo la consideración del riesgo y su gestión, como una modalidad para fomentar la sustentabilidad y la seguridad dentro de una visión holística del riesgo, considerando tanto el riesgo de desastre como el riesgo cotidiano.

Thursday, January 26, 2006

11- VOLCANIC ASH HAZARDS TO AVIATION IN LATIN AMERICA

Organizers: Christina A. Neal – USGS – Alaska Volcano Observatory
Date: January 26, 2006 – 08:00 – 18:00
Place: Hotel Quito
Contact: Christina Neal tneal@usgs.gov

Description:
We propose a 1-2 day workshop to review the status of ash warning systems in Latin America and recent developments in technology and collaboration; to identify steps to address deficiencies; and to share useful volcanic ash monitoring, detection, and communication protocols from around the world. Depending upon interest, we suggest a second day to focus on management of the ash and aviation issue in Ecuador, and to examine the feasibility of a national plan that documents communication protocols and responsibilities of key agencies. Invited speakers for overview presentations will represent Latin American volcano observatories, the remote sensing and aviation meteorology community, the aviation industry and civil aviation authorities, and ICAO's International Airways Volcano Watch Program. The workshop will include ample time for interactive discussion among various stakeholder groups and sharing of information in poster format. We are looking into the possibility of simultaneous translation (English and Spanish). An outcome of the workshop will be a bilingual report that includes prioritized recommendations for improving the efficient delivery of volcanic ash warnings to aviation in the region. **PARTICIPANTS ARE ENCOURAGED TO REGISTER FOR THE ENTIRE COV4 MEETING.**

9b- NOVAC – Network for Observation of Volcanic and Atmospheric Change

Organizers: Bo Galle (bo.galle@rss.chalmers.se)
Date: January 24 and 26, 2006 – 19:00 – 21:00 (second part)
Place: Hotel Quito

12- INTERNATIONAL JOURNAL-- SPECIAL ISSUE

Organizers: Jeffrey B. Johnson (jeff.johnson@unh.edu) and Pablo Sarmaniego (psarmaniego@igepn.edu.ec).
Date: January 26, 2006 – 19:00
Place: Hotel Quito

Description:
Ecuador is a small nation with a very active and diverse recent volcanic history. Since 1999, five volcanoes have erupted explosively and/or effusively providing a wealth of geological and geophysical data, which needs now to be disseminated to the broader volcanological community. We believe that a special journal volume with the broad theme of recent Ecuadorian volcanism is overdue. We welcome all scientists with ongoing projects and works in progress related to this theme to attend a special workshop at COV4 to put together a strong proposal for a special issue in an international journal. During this meeting we will develop the theme of the volume, discuss the preferred destination (e.g., JVGR), construct a list of titles which will complement each other, and facilitate networking for those interested in collaborative investigation. Both those who plan to attend, and those are not able to attend, but are interested in participating in the special volume, should send a brief note of interest to the workshop conveners, Jeffrey B. Johnson (jeff.johnson@unh.edu) and Pablo Sarmaniego (psarmaniego@igepn.edu.ec).

ANNEXED ACTIVITIES

13- STUDY CASES PMA:GCA – USE OF THE GEOSCIENCES FOR BETTER DECISION MAKING

Organizers: Fernando Muñoz, Mike Ellerbeck – Multinational Andean Project PMA:GCA
Dates: January 28-05 February, 2006
Contact persons: Fernando Muñoz (femuca2002@yahoo.com) and Mike Ellerbeck (mellerbe@nrcan.gc.ca)
Place: GRAND HOTEL MERCURE ALAMEDA—Calle Amazonas

Description:
The "Multinational Andean Project: Geosciences for the Andean Communities (PMA:GCA) is a five year project focused toward the generation and application of geo-scientific knowledge for emergency management and development planning, in order to reduce the risk of disasters in the Andean communities. The project is sponsored by the Canadian Agency for International Development (CAID) and is co-sponsored and operated by the geological surveys of Argentina, Bolivia, Canada, Chile, Colombia, Ecuador, Peru and Venezuela. To present results obtained by the participant countries, a workshop has been proposed, so that organizations involved with emergency management, development planning, communities, governmental and non-governmental organizations, universities and research centres involved with the PMA:GCA program will have the opportunity to present and share experiences

obtained in the fields of generation and application of geo-scientific knowledge for disaster prevention and mitigation.

PROYECTO MULTINACIONAL ANDINO: GEOCIENCIAS PARA LAS COMUNIDADES ANDINAS PMA:GCA

En el marco del Proyecto Multinacional Andino:Geociencias para las Comunidades Andinas PMA:GCA, que ejecuta la Dirección Nacional de Geología con el apoyo técnico y económico del Gobierno Canadiense a través del servicio Geológico de Canadá y la participación de los países Andinos de Argentina, Bolivia, Chile, Colombia, Ecuador, Perú y Venezuela, se llevarán a cabo las reuniones semestrales del proyecto, durante el período comprendido entre el 28 de enero y 5 de febrero de 2006.

Paralelamente también se llevará a cabo la reunión extraordinaria de los Servicios Geológicos y Mineros de Iberoamérica ASGMI.

Dichas reuniones se llevaran a efecto en el GRAND HOTEL MERCURE ALAMEDA, en la ciudad de Quito de acuerdo al cronograma que se indica a continuación.

28 y 29 de Enero: Seminario Taller de Comunicación con Comunidades

30 de Enero
al 1 de Febrero: Reunión del Grupo de Trabajo de Geociencias del PMA:GCA.

02 de Febrero: Salida de campo PMA:GCA y ASGMI
03 de Febrero: Sesión Especial (PMA:GCA y ASGMI)
04 de Febrero: Reunión ASGMI (Firma de ACTAS de ASGMI)
05 de Febrero: Consejo Ejecutivo de PMA:GCA

Durante el seminario Taller de Comunicación con Comunidades se expondrán los avances de cada país en lo relacionado a la interrelación entre los investigadores y las comunidades afectadas por procesos de movimientos en masa, así como también se expondrán afiches ilustrativos de cada país.

En la reunión del Grupo de Trabajo de Geociencias se evalúan los avances del trabajo técnico de cada país y se establece el plan de trabajo para el año fiscal 2006, el mismo que debe ser aprobado por los Directores de los Servicios Geológicos de los países participantes durante la reunión de Consejo Ejecutivo.

14- FIELD COURSE ON RECOGNITION OF VOLCANIC SEQUENCES

Organizers:
GOAL (Geo-Network of Latinamerican-German Alumni (http://www.uni-muenster.de/GeoPalaeontologie/goal/);
DAAD (German Academic Exchange Service) http://www.daad.de/de/index.html);
Instituto GEONORTE de la Universidad Nacional de Salta – Argentina (http://www.unsa.edu.ar/~geonorte/cursos/curvol04.html).

Dates: January 30 to February 3, 2006

Contact persons: Prof. Dr. Christoph Breitkreuz (cbreit@geo.tu-freiberg.de) and Dr. Raul Becchio (tato@unsa.edu.ar).

Description:
For several years an International Course on Volcanology of the Central Andes has been held at the University of Salta-Argentina. In this occasion, the course will be held jointly in Ecuador by specialists from the Geophysical Institute of the Escuela Politécnica Nacional – Ecuador, the Centre of Volcanic Textures of the Geological Institute of the TU Bergakademie Freiberg – Germany (http://www.geo.tu-freiberg.de/dynamo/CVT.htm) and University of Salta – Argentina, who will contribute with their knowledge about the volcanology of the different volcanic zones of the Andes.

One of the main goals of the course will be the recognition of volcanic textures in outcrop and thin sections and the interpretation of volcanic sequences as one of the most important conditions for the volcanic risk assessment. The course will be separated in classes dedicated to theoretical aspects and labs including microscopy. Fieldwork will be emphasized visiting some Ecuadorian volcanic centers.

15- SIMULACIÓN POR COMPUTADORA DE UNA CRISIS VOLCÁNICA: EJERCICIO DE COORDINACION Y TOMA DE DECISIONES EN LA RESPUESTA DEL SECTOR SALUD

Organiza: Organización Panamericana de la Salud
Fecha: Thursday-- 26 de Enero 2006
Lugar: Cruz Roja Ecuatoriana
Hora: 14h00

Sobre la simulación
Los preparativos para desastres en el sector salud requieren una actividad permanente orientada a mejorar la coordinación, actualizar planes, conocimientos y lecciones aprendidas. En Centro y Suramérica los volcanes constituyen una de las amenazas naturales más frecuentes frente a la que es necesario fortalecer la capacidad técnica de los servicios de salud para mejorar la respuesta y reducir los efectos de una posible emergencia.

Una de las herramientas que promueven el aprendizaje y facilitan la coordinación y la toma de decisiones son las simulaciones. La OPS/OMS, con el apoyo de numerosos expertos en volcanes y en preparativos para desastres, ha desarrollado un nuevo instrumento de capacitación que permite el desarrollo de ejercicios de simulación, manejados por computadora.

¿En qué consiste el ejercicio?
El programa generará una Simulación de una emergencia volcánica que debe ser manejada por un grupo de autoridades y técnicos que componen un comité operativo de emergencias del sector salud. A partir de un escenario ficticio, que se va "alimentando" en la computadora con información procedente de diferentes fuentes, el COE-Salud debe desarrollar un ejercicio de coordinación y de toma de decisiones, similares a las que suceden en la realidad.

El software de la simulación está diseñado para un ejercicio de 5-6 horas. Se invitará a varios observadores y evaluadores de la práctica.

Cada asistente realizará una evaluación personal del taller y sus contenidos, para identificar tanto los aciertos como las debilidades o fallas de la actividad (en relación a los contenidos, la metodología o la logística).

Objetivos

- Fortalecer la capacidad de coordinación interna (en el sector salud) y externa, con las demás áreas y sectores que intervienen en una emergencia volcánica.
- Mejorar la toma de decisiones técnicas y políticas en situaciones de emergencia, a través de la simulación de una emergencia que representa una situación lo más realista posible.
- Intercambiar experiencias y lecciones aprendidas en diferentes emergencias pasadas y rescatar recomendaciones y lecciones aprendidas.
- Compartir y validar la herramienta de capacitación utilizada, que podrá sufrir ajustes y modificaciones de acuerdo a las recomendaciones de los participantes.

16*a*- Concurso de Cuentos y Relatos "CUÉNTAME - CIUDADES EN VOLCANES 2006"

16*b*--Concurso Nacional de Ensayo "ECUADOR Y SUS VOLCANES: Historia, Cultura y Vida Cotidiana"

Organiza: Universidad Andina Simón Bolívar, a través del Programa de Escuelas Lectoras y del Programa de Reforma Curricular del Bachillerato.

1. Concurso de Cuentos y Relatos **"CUÉNTAME - CIUDADES EN VOLCANES 2006**", enfocado en el mundo de los volcanes, producidos por niños y niñas de 1, 2, 3 y 4 de Básica de las esuelas fiscales, tanto urbanas como rurales.
2. Concurso Nacional de Ensayo "**ECUADOR Y SUS VOLCANES**: **Historia, Cultura y Vida Cotidiana**", para los niveles de 1, 2 y 3 de Bachillerato.

Este esfuerzo permitirá a los científicos naturales establecer un puente con el sector educacional para desarrollar una conciencia de prevención hacia los desastres naturales.
Las BASES de los concursos se encuentran publicados en la página web:
www.citiesonvolcanoes4.com

La premiación de los concurso se efectuará el día lunes 23, durante la ceremonia de inauguración del Congreso Ciudades en Volcanes en el Teatro Nacional Sucre 19H00.

17- DETERMINATION OF CRUCIAL FIELD PARAMETERS FOR THE STUDY OF TEPHRA DEPOSITS

(IAVCEI Working Group on Modeling Volcanic Tephra-Fall Hazards)
Organizers: C. Bonadonna and M. Rosi
Date: January 16-18, 2006

Leaders:
C. Bonadonna (University of South Florida, Tampa (USA)) M. Rosi (Dipartimento di Scienze della Terra, Pisa (Italy))

Contact person:
C. Bonadonna (costanza@cas.usf.edu)

Places: Quilotoa caldera (*elevations 3500 - 4000 m above sea level*); accommodation at Salcedo
(elevation 2500 m above sea level)

Approx. cost: $100-150

Participants: 5 (min) – 30 (max)

Subject:
Field investigations are crucial to the study of eruptive dynamics. Amongst pyroclastic deposits, tephra deposits retain a considerable amount of information of the generating processes, such as total erupted mass, initial grainsize distribution and also important constraints on plume dynamics and eruption intensity. However, investigations of tephra deposits are not always easy and scientists often need to adapt to specific environments and logistical difficulties. As a result, several techniques have been developed to determine unique field parameters (e.g. distribution of maximum clast, deposit density, granumoletry). These parameters are typically used to derive important eruptive characteristics through the application of dispersal models (e.g. column height, erupted volume, wind speed). Unfortunately, the determination of these parameters is very sensitive to the technique used and therefore very different eruptive features can be obtained depending on the technique. In addition, the variation
expected in the determination of eruptive features due to different techniques is currently unknown, and therefore the constraint in the eruptive dynamics can be very problematic.

We feel that it is very important to (1) identify the field parameters necessary to describe tephra deposits, (2) identify the most common techniques used to determine crucial field parameters, (3) evaluate their differences and (4) see how these different techniques affect the investigation of eruptive dynamics through the application of dispersal models. These issues will be extensively addressed during both the discussion and field sessions of this workshop. The final results will represent the first important step towards a standardization of field techniques, and above all, towards a better understanding of field investigations and of the determination of eruptive parameters through the application of dispersal models.

During the field exercise (17 January), we will focus on the determination of the maximum clast, as this is crucial to the determination of column height and wind velocity and therefore to the determination of the eruption magnitude. Techniques used for the determination of the maximum clast include averaging the maximum axis of the 3 largest clasts and averaging the 3 axis of the 5 largest clasts. However, also other techniques are used. In addition, the area of collection can vary significantly. As a result, the distribution of the “so-called” maximum clast varies significantly depending on the technique used. In this workshop we want to identify the main techniques used and quantify the effects of these techniques on the determination of column height and wind velocity.

Program:
Day 1 Arrival of participants at Quito airport and transportation by bus to Salcedo (about 60 km south of Quito). Accomodation to Rumipamba lodge. Afternoon: 1) identification of crucial field parameters for the study of tephra deposit, 2) identification of main techniques used to determine field parameters,
3) identification of main dispersal models used to derive important eruptive features.

Day 2 Investigations of the different techniques in the field + application of dispersal models

Day 3 Comparison and discussion of different results.

IMPORTANT:

This workshop is organized as part of the IAVCEI Working Group on Modeling Volcanic Tephra-Fall Hazards and will be immediately followed by the workshop "Eruptive dynamics evolution during the 800 yr BP Quilotoa eruption" organised by Mauro Rosi, Andrea Di Muro and Edoardo Aguilera (IAVCEI Commission on Explosive Volcanism).

The two workshops are completely separate but will be supported by the same logistic facilities. Participants of the first workshop (“Determination of crucial field parameters for the study of tephra deposits”) are welcome to stay for the second workshop ("Eruptive dynamics evolution during the 800 yr BP Quilotoa eruption"), but this is not a strict requirement. Buses will be organized to take participants back to Quito at the end of the first workshop if necessary.

It is extremely important that people interested in attending both workshops will contact both workshop leaders: Costanza Bonadonna for the first workshop and Mauro Rosi for the second workshop.

18- ERUPTIVE DYNAMICS EVOLUTION DURING THE 800 YR BP QUILOTOA ERUPTION

Organizers: M. Rosi, A. Di Muro, E. Aguilera
Date: January 18-22, 2006
Leaders:
M. Rosi (Dipartimento di Scienze della Terra, Pisa (Italy))
A. Di Muro (Université Paris VI, Paris (France))
E. Aguilera (ESPE, Sangolqui, (Ecuador))

Contact person:
M. Rosi (rosi@dst.unipi.it)

Places: Quilotoa caldera (*elevations 3500 - 4000 m above sea level*); accommodation at Salcedo (elevation 2500 m above sea level)

Approx. cost: US$ 250 - 300
Participants: 15 (min) – 35 (max)

Subject:

This excursion will visit Quilotoa volcano and its summit, small-diameter (< 3 km) caldera located about 75 km south of Quito. During the last 40.000 years, the volcano emitted crystal-rich dacite magmas as plinian eruptions and lava dome extrusions. The last plinian eruption occurred 800 yr BP had a great impact on the pre-Inca human communities causing the displacement of populations towards northern regions of the country and triggering relevant social, technological and architectural changes. The 800 BP eruptive products exhibit extraordinary similarities with the 1991 Mt. Pinatubo eruption. The visit of pyroclastic fall, surge and flow deposits will include observation of the deposit sequence from the distal to the very-proximal area around the caldera rim.

Superb exposures of the pyroclastic sequence dissected by the drainage system provide unique opportunity to follow the evolution of deposit facies in highly variable topographic contexts.

Issues that will be addressed in the field workshop include: 1) general features of the transitional regime deposits resulting from contemporaneous convective and collapsing eruptive dynamics, 2) the progressive temporal evolution of plinian dynamics from convective, to transitional, to collapsing, 3) origin of chemical and textural heterogeneities in crystal-rich and crystal-poor pumices of the 800 BP eruption in relationships with the magma ascent dynamics.

Program:
Day 1 Arrival of participants at Quito airport and transportation by bus to Salcedo (about 60 km south of Quito). Accomodation to Rumipamba lodge. Late afternoon: Introduction to the volcanology of Quilotoa caldera and its 800 BP plinian eruption and analogies with the Mt. Pinatubo volcano.

Day 2 Distal tephra deposits of the 800 BP plinian eruption north of the caldera. Observation of the general eruptive sequence, lahars and pyroclastic flow deposits (HARI) in the Rio Toachi valley, normally graded plinian fallout deposits, intraplinian pyroclastic surge deposits. Stop at Quilotoa caldera and return to the Rumipamba lodge.

Day 3 Examination of the general architecture of the 800 BP transitional pyroclastic deposits: fall and syn-plinian dry surge deposits and post-plinian pumice flow deposits in the Zumbagua Valley (about 10 km south of the caldera). Late erupted lithic-rich pyroclastic flow deposits associated to the caldera collapse. Post-eruptive secondary pyroclastic flows and root-less phreatic vents. Return to the Rumipamba lodge.

Day 4 Longitudinal variations of pyroclastic surge and flow deposits. Lateral variations of pyroclastic surge facies in relationships to the topographic location. Return to the Rumipamba lodge.

Day 5 Visit to the distal co-ignimbrite ash fall of the 800 yr BP intercalated to the Cotopaxi tephra. Arrival to Quito in the afternoon.