

## CITIES ON VOLCANOES 5 CONFERENCE



# COV5 News Letter

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## TOPICS

### Session 1-1: Recent developments in volcano research

Posters on Thursday and Friday focus on lava flows, magmatic processes, and eruption processes.

### Session 1-2: Volcano observation research and eruption forecast and alert programs.

Volcano monitoring is essential for short-range eruption forecasts and warnings to those at risk. Approximately 110 oral and poster presentations will describe recent developments in monitoring technology, forecasting methodology, and alerting systems. Oral presentations on Thursday and Friday will include reports on developments in satellite remote sensing, including interferometric synthetic aperture radar (InSAR) for deformation studies and the Ozone Mapping Instrument (OMI) for studies of pre-eruptive and eruptive degassing of sulfur dioxide. Recent developments in seismic, lightning detection, and infrasound monitoring techniques will also be presented. Early results from testing of the millimeter wave AVTIS system that can be used to track thermal and morphologic changes at volcanoes in cloudy conditions will be presented. Recently developed instrumentation standards for monitoring in the U.S. will be described. Case studies of recent eruptive events including the 2006 eruption Merapi, Indonesia and the 2007 eruption of Stromboli, Italy are highlighted, along with instrumental monitoring of the well-forecast breakout of Ruapehu crater lake. In addition to presentations on monitoring techniques and technology, reports on the effort to create the WOVodat database of volcanic unrest and of the probabilistic forecasting system BET-EF will be heard on Thursday. The growing need for more timely information about volcanic eruptions that endanger aviation will be covered in two talks on Friday. Posters will describe a number of additional monitoring methods.

### Session 1-3: Health hazards of coexisting with active volcanoes

Symposium 1-3 addresses the health hazards of coexisting with volcanoes and sustainability near volcanoes in Japan and around the world over the last two decades. Our plenary presentation, by Peter Baxter will examine emergency planning and mitigation at Vesuvius, Italy, a volcano which affects the city of Naples and many surrounding towns and villages. The rest of the session covers multidisciplinary research that addresses or relates to the theme. In particular, we have several talks and posters which address the impacts of volcanic gases on populations, especially in Japan, and will also focus on occupational safety and psychological impacts of eruptions. The hazards of inhaling volcanic ash are also considered with presentations on mineralogical assessment of crystalline silica toxicity (talks and posters) and quantitative assessments of volcanic ash hazard.

### Session 2-1a: Responding to natural Disasters: Case histories with lessons for volcano crises

Thursday begins with two talks on the Reming Typhoon disaster (Mayon Volcano, Philippines), from the scientist's and the emergency manager's perspective. We move to a warning system developed for a long-awaited lahar event (NZ) and then to a long-term volcanic crisis and the lack of trust the locals have in scientific advice when it differs from their experience (Montserrat). The session will end with two case histories from Papua New Guinea highlighting a successful community self-evacuation and a successful low-tech eruption response.

### Session 2-1b: Assessing long term volcanic hazard and risks

Session 2-1b covers topics on scientific assessment of future volcanism and associated hazards and risks, including the formation of new volcanoes and occurrence of large-magnitude eruptions. Major topics on 22PM oral session are on hazard assessments of future volcanism especially at nuclear power plants and high-level radioactive waste repositories. Those on 23AM oral session are hazards and risks on caldera-forming huge eruption and growth of a new volcano at monogenetic volcanic field. Additional poster presentations are also displayed during 22-23.

### Session 3-2: Education and outreach – Strategies that improve community awareness about volcanoes

Today's session begins with a plenary presentation by Fernando Munoz-Carmona about the importance of community involvement in risk reduction, then progresses through talks about effective communication, volcanic hazards awareness through tourism, and the role of schools in hazards education. Participants learn about opportunities and challenges during talks by speakers from Costa Rica, Italy, Japan, New Zealand, the United Kingdom and the United States. Daisuke Yoshida will explain the interpretive role of the Mount Unzen Disaster Memorial Hall, where we are in conference, and where families are encouraged to participate in volcanic hazard education classes. The session

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concludes with an array of innovative case studies where scientists, park officials, educators and emergency educators address volcanic hazards education. For instance, you will hear about a virtual volcano fieldtrip, a sister volcano program, and the very appealing "Tastiest Book on Volcanoes." Stay for 1.5 hours immediately afterwards for the informal and instructive "Outreach Exchange" session, where you will hear about additional ideas and resources for raising community awareness about volcanoes.

## INFORMATION

### Lunch Time Video Showing (12:00-13:00) at Hall A 2006 Eruption at Merapi volcano

This video on 2006 Eruption at Merapi volcano, Central Java, Indonesia.

Lava dome was formed at the summit of Merapi volcano and Pyroclastic flow caused by collapse of the dome were frequently repeated in April to June, 2006.

Explanation will be made by Dr. Antonius Ratdomopurbo, the Head of Center for Geological Survey, Indonesia.

### International Volcanic Health Hazard Network Workshop November 22, 18.30-20.00 at Tsukumo Hotel

(Co-convenors: C. Horwell and P. Baxter)

The International Volcanic Health Hazard Network (IVHHN) will hold its fourth annual meeting at CoV5. IVHHN aims to develop understanding of the health effects of volcanic emissions, 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 150 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 currently of interest to IVHHN e.g. volcanic soil degassing and psychological issues of evacuation. The workshop is open to all conference delegates who may be interested in learning more about this rapidly emerging field of volcanic hazard assessment.

### Discussion with Local People who Experienced Unzen Disaster November 22, 19:00-21:00 at Annaka Public Hall

Organized by T. Omachi (NPO Shimabara Fugen-kai)

First 30 are acceptable. Free small food and drink are served. Please sign up at the general information desk. DVD movie "Making our own town by citizens -Records of level change at the Annaka Triangle Area" (20 min) Bus start 18:30 from the conference site, no bus is available after the meeting.

## REPORT

### A short report of A05 excursion: Kikai caldera and southern Kyushu

The aim of this excursion is observation of a low aspect ratio ignimbrite from Kikai caldera, and comparison the deposits with high aspect ratio ignimbrites. In Satsuma Iwo-jima Island, we observed and discussed eruptive products of Kikai-Akahoya eruption (7.3 ka). People in Satsuma Iwo-jima Island warmly welcomed us, and they were very helpful for our short excursion. At night, we held a small symposium to discuss the evacuation program and recent activities of some active volcanoes in Japan and Hawaii, including Iwo-dake volcano (a). During and after the symposium, we enjoyed dinner, concert, and a hot-spring.

After a move to southern Kyushu (Satsuma and Osumi Peninsulas), we observed and discussed distal facies of Koya low aspect ratio ignimbrite, and Ata and Ito high aspect ratio ignimbrites under good climate (b).



(a)



(b)