

# Volcanism in the American Southwest

October 18-19, 2012

## Meeting Location:

U.S. Geological Survey  
2255 North Gemini Drive  
Flagstaff, AZ 86001

**Meeting Purpose:** Bring together volcanologists, network operators, land managers, and emergency managers to start a conversation about southwestern volcanoes and identify how to best prepare for future activity.

Organizers: **Jake Lowenstern**, **Laz Kestay**, SAFRR Project: Science Application for Risk Reduction (**Sue Perry** and **John Bwarie**) all from USGS; **Nelia Dunbar** NMBGMR; **Greg Valentine**, University at Buffalo; **Michael Ort**, Northern Arizona University

## Meeting Outcomes:

- Communicate who would be responsible for what during a crisis
- Communicate the roles and limitations of USGS
- Communicate the roles of other federal agencies (NOAA, FAA, military)
- Raise understanding of resources available to state and local EM
- Use discussion panels to determine what else could be needed (e.g., regional plans regular ongoing activities, etc.)
- Increase awareness of volcanism and vulnerabilities in the American Southwest.
- Ponder eruption probabilities in regions with rare, distributed, volcanism.

## October 18, 2012

- 7:45-8:00      “Registration”, coffee, etc.
- 8:00-8:10      Introduction to the Flagstaff Campus and meeting logistics *Laz Kestay, and Jake Lowenstern, both at USGS*
- 8:10–8:30      Self-introductions, facilitated (Name, agency, relevant responsibilities)
- 8:30–9:00      Pondering the consequences of a volcanic eruption in the American Southwest: *Tina Neal, USGS*
- 9:00–9:30      Scenario for an eruption in the San Francisco Peaks Volcanic Field: effects on Northern Arizona and beyond: *Steve Self, NRC*

9:30–10:00 Volcanism in the American Southwest over the last million years: what happens here, how often, and why? *Greg Valentine, University at Buffalo and Michael Ort, Northern Arizona University*

10:00–10:20 BREAK (10:18 is GREAT ARIZONA SHAKEOUT!).

10:20–10:50 From the trenches: Anecdotes from actual eruptions and crises in the US and abroad. *John Ewert, USGS*

10:50–11:20 Scenarios for eruptions in New Mexico: Valles Caldera, Taos, Zuni-Bandera, etc.: *Nelia Dunbar, New Mexico Bureau of Geology and Mineral Resources*

11:20–11:50 Seismic and other networks in the southwest: how would we monitor volcanic unrest? *Paul Earle, USGS*

Lunch (11:50–13:10):

13:10–13:40 An Introduction to incident response and the Incident Command System: *Ellis Stanley, Dewberry*

13:40–14:40 PM 3 Minute Presentations (*Sixteen poster presenters give quick overviews of what they'll show at their poster*)

14:40–15:40 Poster session: Attendees circulate through the first 12 posters.

Coffee served during poster session

15:40–16:10 Eruption potential and hazard, Valles Caldera, New Mexico: *Fraser Goff, Ret., Los Alamos National Laboratory*

16:10–17:10 Panel Discussion: Incident Response in the context of volcanic unrest in AZ, NM, UT: Incorporating science into decisions for public safety: *Lou Trammell, Director of AZDEM, Robert Rowley, Coconino County; Alan Sinclair, BIA; Ellis Stanley, Dewberry; Wendy Blackwell, NMDHSEM*

17:10–17:40 Capstone Talk: Impact of Sunset Crater eruption on prehistoric groups in Northern Arizona: lessons on human adaptation to disasters: *Mark Elson, Desert Archaeology, Inc.*

17:40 Adjourn for Day. Dinner on your own.

**Day 2 October 19, 2012**

- 8:00–8:30 Small group planning: identifying challenges of Southwest volcanism.
- 8:30–9:00 The view from social science: how people will think and behave during an extended crisis with large uncertainties: *Katherine Thompson, Columbia University*
- 9:00–9:30 Monitoring dike intrusions with GPS networks: past experience and future potential: *Bill Hammond, University of Nevada, Reno*
- 9:30–10:00 3 Minute Presentations (8 final posters)
- 10:00–10:20 Break
- 10:20–11:20 Panel Discussion: Seismic and geodetic monitoring in the southwest: What do networks need to do and to provide? Panel members *Keith Koper, UU; Paul Earle, USGS; Bill Hammond, UNR; David Brumbaugh, NAU; Rick Aster, New Mexico Tech*
- 11:20–11:50 Volcanic ash plumes and their impact to aviation in the Western United States: *Jeff Osiensky and Scott Birch, NOAA/National Weather Service*
- 11:50-13:00 Lunch
- 13:00–14:00 Discussion: What (if anything) should we do next?
- 14:00-14:10 Volcano Readiness Wrap-Up *John Bwarie, USGS SAFRR*
- AFTERSESSION: SOUTHWEST VOLCANO PROBABILITIES
- 14:10–14:40 Modeling mafic lava flows with an eye to emergency response (*Laz Kestay, USGS*)
- 14:40-15:45 Poster session: Attendees circulate through the day's posters.
- Coffee served during posters.
- 15:45–16:45 Panel Discussion: Geology, geochronology, and probabilistic modeling of volcanism in the U.S. Interior (*Greg Valentine, U. Buffalo; Bill McIntosh, NMT; Duane Champion, USGS; Chuck Connor, U. S. Florida; Jorge Vazquez, USGS*)
- 16:45–17:15 Overview of the field trip for 10/20: *Michael Ort, Nancy Riggs, Northern Arizona University*)

Adjourn

Day 3 October 20, 2012

Optional field trip to Sunset Crater National Monument