

MEETINGS

Volcanism and the Atmosphere

AGU Chapman Conference on Volcanism and the Earth's Atmosphere; Selfoss, Iceland, 10–16 June 2012

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Volcanic eruptions release volcanic ash and gases into the atmosphere that alter atmospheric chemistry and climate, and represent a hazard to aviation, particularly for modern jet aircraft. At the AGU Chapman Conference on Volcanism and the Earth's Atmosphere, 124 scientists gathered to discuss the effects of volcanism on the atmosphere at timescales ranging from billions of years, over which volcanic emissions have changed the composition of the atmosphere, to the Icelandic Eyjafjallajökull eruption in 2010, which caused a 10-day-long shutdown of North Atlantic air traffic. This was the third Chapman Conference on Volcanism and the Atmosphere, following those held in Hilo, Hawaii, in 1992 and in Santorini, Greece, in 2002, all of which were organized under the auspices of the Commission on Volcanism and the Earth's Atmosphere of the International Association of Volcanism and Chemistry of the Earth's Interior (IAVCEI) and the International Association for Meteorology and Atmospheric Sciences.

Several items contributed to the success of the conference:

Controversy. Much good science was presented at the meeting (see the online supplement to this meeting report at http://www.agu.org/journals/eo/v093/i049/2012EO490004/2012EO490004_suppl.pdf), and new research collaborations were forged. Students were exposed to new work and had the chance to talk informally with experienced scientists. These are the usual benefits of Chapman Conferences. But the controversy was interesting and unusual. Two of the issues that

arose deserve particular mention: Franck Lavigne (Panthéon-Sorbonne University) and coworkers claimed to have discovered which volcano erupted in 1258 C.E. (not revealed by him at the conference), producing the largest stratospheric cloud of the past millennium (according to ice core records) and initiating the Little Ice Age, as described in new work by Gifford Miller (University of Colorado Boulder) and colleagues. On another topic, back-to-back talks by Michael Mann (Pennsylvania State University) and Rosanne D'Arrigo (Lamont-Doherty Earth Observatory) debated how well tree rings can quantify the climate response to large volcanic eruptions, such as that in 1258. The jury is still out.

Location, location, location. Each of the previous two Chapman Conferences on volcanism and the atmosphere was held in a volcanic location, and this one did not disappoint. Thanks to the guiding from local experts Thor Thordarson, Ármann Höskuldsson, Jónas Guðnason, and Karl Grönvold, the field trips during and after the conference were successes. Included in the conference were Tuesday afternoon trips to the active volcano Hekla, to a geothermal power plant, and to Thingvellir, where the mid-ocean ridge and the splitting of the tectonic plates are dramatically exposed. On Wednesday, conference attendees visited outcrops of historic and prehistoric ash layers, the products of the 2010 Eyjafjallajökull eruption, and climbed to the ice sheet near the base of the volcano. The postconference trip viewed the spectacular geology of the Reykjanes peninsula en route back to Reykjavík.

The location of Iceland also made for easy access from the United States and Europe, the home of the vast majority of attendees. Hotel Selfoss had excellent conference facilities, the town had enough restaurants, and it was close enough to Reykjavík (Iceland's capital) to allow access but isolated enough to ensure that attendees spent a lot of time together.

Scheduling. The conference organizers used the Gordon Conferences as a model, with talks in the morning, the afternoon free for discussion and collaboration, and an evening keynote lecture, followed by poster sessions lubricated by beer and wine. Every speaker also brought a poster, so as to participate fully in the poster sessions. One of the talks was adjusted to accommodate football fan attendees (for a Euro 2012 game), as was done in Santorini for a 2002 World Cup game. Spontaneous meetings were organized during some of the free afternoons to organize future work on the Laki eruption and volcano monitoring, and they were well attended. In fact, every poster session, even on the last day (Friday), saw people avidly discussing until past 11 P.M., not only because of the interesting science, but also because it was still light outside and did not seem like time for bed.

Support. AGU staff provided support during all phases of the planning and conduct of the conference. They gave individual attention to the needs of all the attendees and submitted a successful proposal to NSF (grant AGS-1213114) to provide travel assistance for all who requested support. In particular, Lynn Ervin, Cynthia Wilcox, and Brenda Weaver made the conference possible. In addition, the conference received support from IAVCEI and the Atmospheric Sciences and Volcanology, Geochemistry, and Petrology Sections of AGU.

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