



Home Authentication / Biometrics Business / Finance Continuity / Recovery Cybersecurity Detection Education / Sci-Tech Emergency / Police / Mil. Government policy  
Infrastructure Public health / Biodefense Surveillance Systems integration Transport / Border

THE BUSINESS OF HOMELAND SECURITY

Thursday, 6 May 2010

ADVERTISE [SIGN UP FOR OUR FREE DAILY REPORT](#)

 

## Leading volcanologist: ash crisis may not be over

Published 22 April 2010

**In addition to air travel woes that the massive ash cloud has already caused, it may trigger longer-term changes in climate and health hazards; moreover, additional eruptions are likely: "The oceanic crust in this region is slowly pulling apart along giant fissures that extend deep enough to reach magma sources; the volcanic magma rises along these fissures and erupts in episodes when and where the fractures break at the surface"**

Air travel may be resuming in some European countries, but Michael F. Sheridan, a leading volcanologist and founder of the University at Buffalo's Center for Geohazards Studies, **says** that the future behavior of both the volcanic ash cloud and the eruptive system that spurred it is difficult to predict.

"It's hard to forecast the behavior of this volcanic system," he says. "It is short-sighted to assume that even if air travel returns to normal that the environmental problems related to the eruption will end immediately."

In addition to air travel woes that the massive ash cloud has already caused, it may trigger longer-term changes in climate and health hazards, Sheridan says. His concern stems from his understanding of similar kinds of eruptions that have occurred in this part of Iceland. "The oceanic crust in this region is slowly pulling apart along giant fissures that extend deep enough to reach magma sources," he says. "The volcanic magma rises along these fissures and erupts in episodes when and where the fractures break at the surface."

Eruptions at adjacent volcanoes could be linked to the same spreading episode, he adds, producing a compound effect.

The Eldgjá eruption of 934 AD was the largest outpouring of flood basalt lava in historic times. Eruptions of Katla volcano, a part of the Eldgjá volcanic fracture system, also are sometimes linked to eruptions of Eyjafjallajökull volcano. "Icelandic volcanoes that erupted from fissures have, in the past, produced a profound climatic effect that can last several years," he says, recalling the 1783-84 eruption of Lakígígar. "In Europe, it produced three years of severe winters and a heat wave in the summer following the onset of the eruption," he says.

There also were a large number of deaths related to the high fluorine content of the ash, as well as health effects resulting from the dense volcanic haze or fog.

Sheridan also notes that Eyjafjallajökull has not readily yielded its history to scientists and observers. "This volcano has a much more enigmatic record than others that have more frequent eruptions," he says. "It's not like we know the size of its magma chamber, the volume of its products or its history. Its previous eruption lasted for two years, from 1821-23. It's a clever criminal, in that sense," he says.

Sheridan, who was a Fulbright Scholar in Iceland in 1978, has spent the past four decades mapping hazards from active volcanoes in Italy, Mexico, Ecuador, and throughout the world, so that civil authorities know how and when to evacuate populations at risk. He has studied ways to improve mitigation efforts during and after volcanic eruptions and other geologic hazards, such as mudslides and the effects of hurricanes like Katrina.

**Topics:** [Natural disasters](#)



Home Authentication / Biometrics Business / Finance Continuity / Recovery Cybersecurity Detection Education / Sci-Tech Emergency / Police / Mil.  
Government policy Infrastructure Public health / Biodefense Surveillance Systems integration Transport / Border  
About us Sign up Advertise Contact Privacy policy

### IN TODAY'S REPORT

- [Oil spill, flooding create perfect storm for commerce, shipping](#)
- [Arizona's immigration measure would hurt H-1B workers, encourage businesses to relocate](#)
- [The right approach to legal immigration // by Ben Frankel](#)
- [New app turns cell phones into night vision devices](#)
- [UAVs to be outfitted with holographic adaptive optics -based instruments](#)
- [Brain scans as lie detectors: judge says time is not ready yet](#)

