

# Ash Crisis May Not Be Over, Says Leading Volcanologist

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(PhysOrg.com) -- Air travel may be resuming in some European countries, but Michael F. Sheridan, PhD, 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 Lakigigar. "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 hasn't 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.

Provided by University at Buffalo

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