Threat of new, larger Icelandic eruption looms

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This aerial photo shows a plume of ash rising from the volcano in southern Iceland's Eyjafjallajokull glacier, Monday, April 19, 2010. Scientists say because this volcano is located below a glacial ice cap, magma is being cooled quickly, causing explosions and plumes of grit that can be catastrophic to plane engines, depending on prevailing winds. But scientists in Iceland offered some hope Monday that conditions might be easing, saying the new volcanic ash plume is lower, which would pose less of a threat to commercial aircraft in the future. (AP Photo/Arnar Thorisson, Helicopter.is)

(AP) -- For all the worldwide chaos that Iceland's volcano has already created, it may just be the opening act.

Scientists fear tremors at the Eyjafjallajokull (ay-yah-FYAH-lah-yer-kuhl) volcano could trigger an even more dangerous eruption at the nearby Katla volcano - creating a worst-case scenario for the airline industry and travelers around the globe.

A Katla eruption would be 10 times stronger and shoot higher and larger plumes of ash into the air than its smaller neighbor, which has already brought European air travel to a standstill for five days and promises severe travel delays for days more.

The two volcanos are side by side in southern Iceland, about 12 miles (20 kilometers) apart and thought to be connected by a network of magma channels.

Katla, however, is buried under ice 550 yards (500 meters) thick - the massive Myrdalsjokull glacier, one of Iceland's largest. That means it has more than twice the amount of ice that the current eruption has burned through - threatening a new and possibly longer aviation standstill across Europe.

Katla showed no signs of activity Tuesday, according to scientists who monitor it with seismic sensors, but they were still wary.

Pall Einarsson, professor of geophysics at the Institute of Earth Sciences at the University of Iceland, said one volcanic eruption sometimes causes a nearby volcano to explode, and Katla and Eyjafjallajokull have been active in tandem in the past.

In fact, the last three times that Eyjafjallajokull erupted, Katla did as well.

Katla also typically awakens every 80 years or so, and having last exploded in 1918 is now slightly overdue.

That notion is frightening for nearby villagers, who would have to quickly evacuate to avoid the flash floods that would rip down Katla's slopes. Even last week's eruption generated spectacular cascades of melted water and ice chunks the size of houses when burning gases and

molten earth carved through the glacier.

Svenn Palsson, the 48-year-old mayor of the coastal village of Vik, said residents are going over evacuation plans now just in case.

With a population of 300, Vik has been covered in 3 millimeters (0.12 inches) of ash from the Eyjafjallajokull eruption, but the real concern is Katla. Residents would have two to three hours to reach the safety of a shelter if the volcano erupted and caused the ice to melt quickly.

"We have practiced and can do it in 30 minutes," Palsson said.

Other areas around the mountain, however, would have no more than 20 minutes to evacuate, he said.

Katla's substantial ice cap is a major worry because it's that mixture of melting cold water and lava that causes explosions and for ash to shoot into high altitudes. Strong winds can then carry it on over Europe.

So far there have been minor tremors at Katla, which scientists believe to be movements in the glacier ice, but the activity from Eyjafjallajokull is making measurements more difficult to read and an eruption more tricky to predict.

"It is more difficult to see inside Katla," said Kristin Vogfjord, geologist at the Icelandic Met Office.

Her team of geophysicists, based in the capital of Reykjavik, use seismometers and GPS units planted around volcanoes to monitor quakes and the swelling of the land, which can indicate magma reservoirs that are pushing up through the crust. The area around Eyjafjallajokull rose up as much as 3 inches (8 centimeters) in recent months and then contracted slightly following the latest eruption.

Vogfjord says Katla's sensitivity to eruptions at Eyjafjallajokull may have to do with pressure shifts in the Earth's crust that are caused by an eruption's magma flow.

There are no clear answers, however, and even fewer predictions about what the future may hold. Volcano eruptions, like earthquakes, are difficult to predict.

"Katla can start tomorrow or in 100 years, you don't know," said Palsson. "All we can do is be ready."

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