Iceland's Katla volcano is getting restless

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Vik, a small Icelandic town of just 300 people, where residents still recall stories from their relatives of Katla volcano's last eruption in 1918, sits under a blanket of cloud in this Sept. 27, 2011 photo. If Iceland's air-traffic paralyzing volcanic eruption in 2011 seemed catastrophic, just wait for the sequel. That's what many experts are saying as they nervously watch rumblings beneath a much more powerful Icelandic volcano - Katla - which could spew an ash cloud dwarfing eruption that cost airlines $2 billion and drove home how vulnerable modern society is to the whims of nature.(AP Photo/Paisley Dodds)

(AP) -- If Iceland's air-traffic paralyzing volcanic eruption last year seemed catastrophic, just wait for the sequel. That's what some experts are saying as they nervously watch rumblings beneath a much more powerful Icelandic volcano - Katla - which could spew an ash cloud dwarfing the 2010 eruption that cost airlines $2 billion and drove home how vulnerable modern society is to the whims of nature.

Brooding over rugged moss-covered hills on Iceland's southern edge, Katla is a much bigger beast than the nearby Eyjafjallajokul volcano, which chugged ash all over Europe for several weeks in an eruption that local scientist Pall Einarsson describes nonetheless as "small."

Named after an evil troll, Katla has a larger magma chamber than Eyjafjallajokul's. Its last major eruption in 1918 continued more than a month, turning day into night, starving crops of sunlight and killing off some livestock. The eruption melted some of the ice-sheet covering Katla, flooding surrounding farmlands with a torrent of water that some accounts have said measured as wide as the Amazon.

Now, clusters of small earthquakes are being detected around Katla, which means an eruption could be imminent, seismologists say. The earthquakes have been growing in strength, too. After a long period of magnitude 3 tremors, a magnitude 4 quake was detected last week.

"It is definitely showing signs of restlessness," said Einarsson, a professor of geophysics at the University of Iceland.

Teams of seismologists and geologists at the university are tracking the spike in seismic activity and working with disaster officials to prepare communities near Katla like Vik, a small town of some 300 people that is flanked by black sand beaches.

Civil defense authorities have been holding regular meetings with scientists. Disaster officials have also drafted an evacuation plan and set aside temporary housing, but many fear they may have less than an hour to evacuate once the volcano erupts.

Iceland sits on a large volcanic hot spot in the Atlantic's mid-oceanic ridge. Eruptions, common throughout Iceland's history, are often triggered by seismic activity when the Earth's plates move and magma from deep underground pushes its way to the surface.

The longer pressure builds up, the more catastrophic an eruption can be. Records show that Katla usually has a large eruption twice a century. Since its last eruption was almost exactly 93 years ago, it is long overdue for another, seismologists say.

Icelanders are getting nervous as they mark the

anniversary of Katla's last blast.

"We've been getting calls recently from people concerned that Katla is about to erupt because it erupted ... in 1918 on Oct. 12," said Einar Kjartansson, a geophysicist at the Icelandic Meteorological Office.

"As scientists we don't see that much of a correlation in the date but there is most definitely increased activity. The question is whether it calms down after this or whether there is an eruption."

The eruption of Laki in 1783 was one of Iceland's deadliest. It freed poisonous gases that turned into smog and floated across the jet stream, killing thousands of people with toxic fumes in the British Isles alone.

As sulfur dioxide was pumped into the atmosphere, crop production fell across western Europe because of the smog. Famine spread. And the sun reportedly turned a blood-red hue - a phenomenon painted by many artists of the time. Temperatures in Europe were about 2 degrees Celsius (3.6 degrees Fahrenheit) below average.

The winter of 1784 was also reportedly one of the longest and coldest on record in North America, with the Mississippi River freezing in New Orleans. Scientists believe volcanic ash floating over the Atlantic was a factor.

"Volcanoes can be quite beautiful, but they can also obviously be quite destructive," Einarsson says.

Of Iceland's more than 22 volcanoes, seven are active and four are particularly active - including Katla and Hekla.

Although it doesn't pose the same flood risk as Katla because it's not situated beneath an icecap, Hekla is one of Iceland's most active volcanoes and sits in the path of most international flight patterns. During the Middle Ages, Icelanders called Hekla the "Gateway to Hell," believing that souls were dragged into the fire below.

Like Katla, Hekla is also overdue for a large eruption and could produce a disruptive and dangerous ash cloud that, in addition to disrupting air travel, could lower overall temperatures across continents by blocking out sunlight for days or weeks.

The capital Reykjavik also sits on a plate boundary but it hasn't seen any eruptions for some 800 years.

Still, one of the plates is showing an uplift, or expansion of the crust, which could mean either that a volcano could be nearing an eruption or there is an increase of geothermal activity. Much of Iceland's infrastructure was built during a lull in volcanic activity.

"One of these days that situation will change and we will definitely see more eruptions close to Reykjavik," Einarsson says.

After the Eyjafjallajokul eruption, Icelandic President Olafur Ragnar Grimsson warned European officials that they should be prepared for future eruptions, and urged the aviation industry to develop engines that are less sensitive to ash and a better warning system to gauge the threat posed by volcanic ash.

The aviation industry says there is little that airlines can do to prepare for a future ash cloud because decisions on closing air space rest with national regulators.

"The issue is what the regulators will allow us to do, and that's down to the precise circumstances of any future eruption," said David Henderson, spokesman for the Brussels-based Association of European Airlines.

But he said that, despite the fragile state of the airline industry at a time of economic crisis, a new ash cloud would be unlikely to cause any airlines to go under. Still, Katla's eruption could prove significantly larger than last year's, producing a larger ash cloud.

"It would take a closure greater than last May's to put people out of business," he said. "Everything depends on the magnitude of the eruption."

There are no plans to change engines or any other

parts of the airframe because all such components are susceptible to damage from volcanic ash.

Any major eruption could also upset Iceland's precarious economic situation.

This island nation of some 300,000 is only just starting to recover from the collapse of its economy in 2008, when a massive speculative bubble that built up in the banking sector came crashing down in a foretaste of the global financial meltdown that was to ensue.

Meanwhile, many Icelanders remain nonchalant about warnings of a major volcanic eruption. Some are even hopeful that they'll get to see one of the awe-inspiring spectacles.

And Icelanders know that volcanoes are tied closely to their livelihood, at most times more friend than enemy. Without them, Iceland would be stripped of its cheap and valuable energy source - geothermal power, which comes from heated water beneath the earth.

Even Iceland's most famous person, singer-songwriter Bjork, has drawn from Iceland's volatile geology for her new album, "Biophilia."

"For me, to connect nature to music is a very effortless and natural connection" Bjork, 44, told The Associated Press.

Thorir Kjartansson, who manages a souvenir and wool shop in Vik - a town close to the flood path of Katla - says he's been waiting for a large eruption since he was a teenager. His father, who witnessed the 1918 eruption, used to warn him before he set out in his car to look north toward Katla's glacier cap.

Residents say they only had about 20 minutes from that eruption to escape its raging flood waters.

"We've been waiting for it for a long time, and we know that it will come one day," he said. "Until then, there's no point in worrying about it."