

# Hawaii volcano could blow its top soon, hurl rocks and ash (Update)

May 11 2018, by Sophia Yan And Seth Borenstein

---



This Wednesday, May 9, 2018, photo shows an aerial view of the East Rift Zone, along which the Leilani Estates neighborhood sits, from the ongoing Kilauea eruption, as seen from a helicopter flying around Pahoehoe, Hawaii. Hawaii County Civil Defense official reported Wednesday morning that lava has spread across 104 acres, destroying 36 structures, most of them homes. (Cindy Ellen Russell/Honolulu Star-Advertiser via AP)

A Hawaii volcano is threatening to blow its top in coming days or weeks

after sputtering lava for a week, forcing about 2,000 people to evacuate, destroying two dozen homes and threatening a geothermal plant.

Experts fear Kilauea volcano on the Big Island it could hurl ash and boulders the size of refrigerators miles into the air.

But scientists say an eruptive explosion would not be deadly if people stay out of closed areas of a national park around the volcano.

"If it goes up, it will come down," said Charles Mandeville, volcano hazards coordinator for the U.S. Geological Survey. "You don't want to be underneath anything that weighs 10 tons when it's coming out at 120 mph (193 kph)."

The added threat could ground planes at one of the island's two major airports and pose other dangers. The volcano park closed indefinitely Thursday night because of the risks.

"We know the volcano is capable of doing this," Mandeville said, citing similar explosions at Kilauea in 1925, 1790 and four other times over the last few thousand years. "We know it is a distinct possibility."

He would not estimate the likelihood of such an explosion, but said internal volcanic conditions are changing in a way that could lead to a blast in about a week. The volcano's internal plumbing could still prevent an explosion.



Sgt. 1st Class Carl Satterwaite, of the U.S. National Guard, tests air quality near cracks emitting volcanic gases from a lava flow in the Leilani Estates subdivision near Pahoa, Hawaii Thursday, May 10, 2018. Kilauea has destroyed more than 35 structures since it began releasing lava from vents about 25 miles (40 kilometers) east of the summit crater. (AP Photo/Jae C. Hong)

If an explosive eruption happens, a summit blast could also release steam and sulfur dioxide gas.

Kilauea has destroyed 36 structures—including 26 homes—since May 3, when it began releasing lava from vents about 25 miles (40 kilometers) east of the summit crater. Fifteen vents are now spread through the Leilani Estates and Lanipuna Gardens neighborhoods.

Hawaii Gov. David Ige, a Democrat, said crews at a geothermal energy plant near the lava outbreak accelerated the removal of stored flammable fuel as a precaution. The Puna Geothermal Venture plant had about

50,000 gallons (189,270 liters) of pentane. It was removed early Thursday.

Barbara Lozano, who lives within a mile of the plant, said she would have thought twice about buying her property if she had known the risks.

"Why did they let us buy residential property, knowing it was a dangerous situation? Why did they let people build all around it?" she asked.



This Wednesday, May 9, 2018, photo shows an aerial view of the East Rift Zone, along which the Leilani Estates neighborhood sits, from the ongoing Kilauea eruption, as seen from a helicopter flying in Pahoa, Hawaii. The Puna Geothermal Venture power plant is seen at lower right. If Hawaii's Kilauea volcano blows its top in the coming days or weeks, as experts fear, it could hurl ash and boulders the size of refrigerators miles into the air, shutting down airline traffic and endangering lives in all directions, scientists said Thursday. (Cindy Ellen Russell/Honolulu Star-Advertiser via AP)

Avani Love, 29, moved to the Big Island about a month ago from Maui with her four children. They evacuated their home May 3, and only found out it was destroyed when a relative went back to get her personal belongings.

While saying she's sad to have lost her home, she also feels a sense of renewal brought on by Pele, the Hawaiian volcano goddess, to correct overpopulation of the island.

"Everyone comes here," she said. "When you have that, it's Pele's way of clearing house and restoring the place. There's beauty and also darkness."

No one lives in the immediate area of the summit. Communities about 2 miles (3 kilometers) away could be showered by pea-size rock fragments or dusted with nontoxic ash, said Tina Neal, scientist-in-charge at the Hawaii Volcano Observatory.

What could happen is not an eruption of volcanic gases but mostly trapped steam from flash-heated groundwater released like in a kitchen pressure cooker, with rocks, said volcanologist Janine Krippner of Concord University in West Virginia.





Visitors are reflected in the window of the Jaggar Museum as they view Kilauea's summit crater in Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)

The problem is the lava lake at the summit of Kilauea is draining fast, about 6.5 feet (2 meters) per hour, Mandeville said.

In little more than a week, the top of the lava lake has gone from spilling over the crater to almost 970 feet (295 meters) below the surface as of Thursday morning, Mandeville said. The lava levels in the lake are dropping because lava is spewing out of cracks elsewhere in the mountain, lowering the pressure that filled the lava lake.

"This is a huge change. This is three football fields going down," Mandeville said.

The fear is that it will go below the underground water table—another 1,000 feet (305 meters) further down—and that would trigger a chain of events that could lead to a "very violent" steam explosion, Mandeville said.

At the current rate of change, that is about six or seven days away.



Visitors view Kilauea's summit crater outside the Jaggar Museum in Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)

Once the lava drops, rocks that had been superheated could fall into the lava tube. And once the lava drops below the water table, water hits rocks that are as hot as almost 2,200 degrees (1,200 Celsius) and flashes into steam. When the water hits the lava, it also steams. And the dropped

rocks hold that steam in until it blows.

A similar 1924 explosion hurled pulverized rock, ash and steam as high as 5.4 miles (9 kilometers) into the sky, for several weeks. If another blast happens, the danger zone could extend about 3 miles (5 kilometers) from the summit to land that all falls within the national park, Mandeville said.

The small, aptly named town of Volcano, Hawaii, population 2,500, is about 3 miles (4.83 kilometers) from the summit.

Janet Coney, office manager of the Kilauea Lodge, an inn and restaurant, said officials told her lodge employees probably won't have to worry about rocks raining down on them but might experience falling ash.



People visits the Jaggar Museum located near Kilauea's summit crater in



Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)



People stand outside the Jaggar Museum overlooking Kilauea's summit crater in Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)



Steam and gas rise along the edge of Kilauea's summit crater in Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)



Steam and gas rise from Kilauea's summit crater in Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)



Raindrops sit on the plastic cover of a park ranger's hat outside the Jaggar Museum overlooking Kilauea's summit crater in Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)



A couple sits on the edge of the Jaggar Museum's overlook to view Kilauea's summit crater in Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)





A visitor stands outside the Jaggar Museum overlooking Kilauea's summit crater in Volcanoes National Park, Hawaii, Thursday, May 10, 2018. The park is closing Friday due to the threat of an explosive volcanic eruption. (AP Photo/Jae C. Hong)



Restaurant worker William Kauhane, 20, moves chairs at Lava Rock Cafe in Volcano, Hawaii Thursday, May 10, 2018. The village is located on the border of Hawaii Volcanoes National Park, just a few miles east of Kilauea's summit crater. (AP Photo/Jae C. Hong)



The entrance to Volcano Inn is photographed in Volcano, Hawaii, Thursday, May 10, 2018. The village is located on the border of Hawaii Volcanoes National Park, just a few miles east of Kilauea's summit crater. (AP Photo/Jae C. Hong)



Vehicles wait in line to enter Volcanoes National Park, Hawaii, Thursday, May 10, 2018. If Hawaii's Kilauea volcano blows its top in the coming days or weeks, as experts fear, it could hurl ash and boulders the size of refrigerators miles into the air, shutting down airline traffic and endangering lives in all directions, scientists said Thursday. (AP Photo/Jae C. Hong)





Students play volleyball at the Volcano School of Arts and Sciences in Volcano, Hawaii, Thursday, May 10, 2018. The village is located on the border of Hawaii Volcanoes National Park, just a few miles east of Kilauea's summit crater. (AP Photo/Jae C. Hong)





In this Wednesday, May 9, 2018 photo, an ash column rises from the crater at the summit of Kilauea volcano at Volcanoes National Park, Hawaii. Scientists said Wednesday the risks of an explosive summit eruption will rise in coming weeks as magma drains down the flank of the volcano toward the area lava started erupting from fissures in a residential neighborhood last week. (U.S. Geological Survey via AP)



Sgt. 1st Class Carl Satterwaite, of the U.S. National Guard, tests air quality near cracks emitting volcanic gases from a lava flow in the Leilani Estates subdivision near Pahoa, Hawaii on Thursday, May 10, 2018. Kilauea has destroyed more than 35 structures since it began releasing lava from vents about 25 miles (40 kilometers) east of the summit crater. (AP Photo/Jae C. Hong)



First Lt. Aaron Hew Len, center, and Sgt. 1st Class Carl Satterwaite, of the U.S. National Guard, test air quality near cracks emitting volcanic gases from a lava flow in the Leilani Estates subdivision near Pahoa, Hawaii Thursday, May 10, 2018. Kilauea has destroyed more than 35 structures since it began releasing lava from vents about 25 miles (40 kilometers) east of the summit crater. (AP Photo/Jae C. Hong)

© 2018 The Associated Press. All rights reserved.

Citation: Hawaii volcano could blow its top soon, hurl rocks and ash (Update) (2018, May 11) retrieved 2 May 2024 from <https://phys.org/news/2018-05-volcano-explosion-wont-deadly-people.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.