USGS
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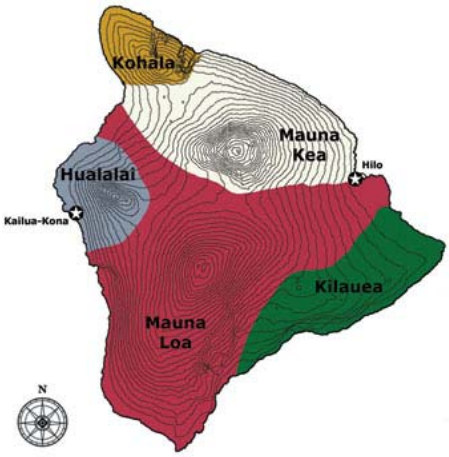
Hawaiian Volcano Observatory

About Hawai‘i’s Volcanoes

Hawai‘i Island is composed of five volcanoes. Through countless eruptions over hundreds of thousands of years, each volcano grew from the ocean floor to above sea level, where they merged to form the island we know today.



Kohala, the oldest volcano on the island, last erupted about 60,000 years ago. It is not classified as an “active” volcano because it erupted more than 10,000 years ago.

Mauna Kea has erupted several times in the last 10,000 years, most recently about 4,600 years ago. It is classified as one of the State’s six active volcanoes.

Hualālai (*left*) is Hawai‘i Island’s third most active volcano. It has erupted three times in the past 1,000 years, with the most recent eruption occurring in 1801. In 1929, an intense and damaging swarm of earthquakes was likely caused by magma rising in the volcano, but an eruption did not occur. Hualālai is not currently showing signs of unrest, but the volcano will erupt again some time in the future. HVO keeps a close eye on Hualālai and will notify the public if any change in its status is detected.

Mauna Loa (*right*), the largest volcano on Earth, makes up more than half of Hawai‘i Island’s surface area. Since 1843, it has erupted 33 times, producing lava flows that have covered extensive areas on the flanks of the volcano. During those eruptions, lava flows reached the ocean eight times along the south, west, and northwest coasts of the island.

When this massive volcano erupts, high-volume ‘a‘ā lava flows can quickly move downslope, sometimes traveling from the vent to the ocean in only hours. In 1984, during Mauna Loa’s most recent eruption, lava flowed to within four miles of Hilo city limits in a matter of days.

Mauna Loa will erupt again, quite likely during your lifetime. Because of its potential to erupt far-reaching and fast-moving lava flows, Hawai‘i Island residents should increase their awareness of, and be prepared for, this volcano’s next eruption.

Kīlauea, one of the most active volcanoes in the world, is Hawai‘i Island’s youngest volcano. Over 90 percent of the volcano’s surface is covered by lava flows less than 1,100 years old. Kīlauea has been erupting essentially non-stop since 1983. Today, eruptions continue from two active vents on the volcano: on its east rift zone (Pu‘u ‘Ō‘ō) and at its summit (Halema‘uma‘u Crater, *left*).

In addition to Hawai‘i Island’s four active volcanoes, which are closely monitored by the USGS Hawaiian Volcano Observatory (HVO), there are two other volcanoes in the State of Hawai‘i that are classified as active: Lō‘ihi and Haleakalā.

Lō‘ihi, a submarine volcano (still below sea level) located south of Hawai‘i Island, last erupted in 1996. HVO does not monitor Lō‘ihi directly, but its eruptions, which are often accompanied by increased earthquake activity, can be detected by the observatory’s monitoring instruments.

Haleakalā (*right*), a volcano on the island of Maui, is monitored by HVO. Its most recent eruption occurred 300–500 years ago.

For more information about Hawaiian volcanoes, please visit the HVO Web site at:
http://hvo.wr.usgs.gov/volcanoes/

“Volcanoes are an important part of life in Hawai‘i. Those of us who live on Hawai‘i Island deal with the consequences of volcanic activity every day—both good and bad. We enjoy the spectacular beauty and drama of active lava flows, but grumble about the poor air quality caused by Kīlauea’s ongoing eruptions. We appreciate the volcanic soils in which flowers, coffee, and other agricultural products grow, but are sad about the loss of homes burned by lava. Hawaiian volcanoes create, but they can also destroy. So, if we choose to live on Hawai‘i Island, we must learn to live in harmony with the dynamics of its ever-changing environment.”

Jim Kauahikaua
HVO Scientist-in-Charge