

Dynamic Island: How Lava Flows Change Hawai'i, HI

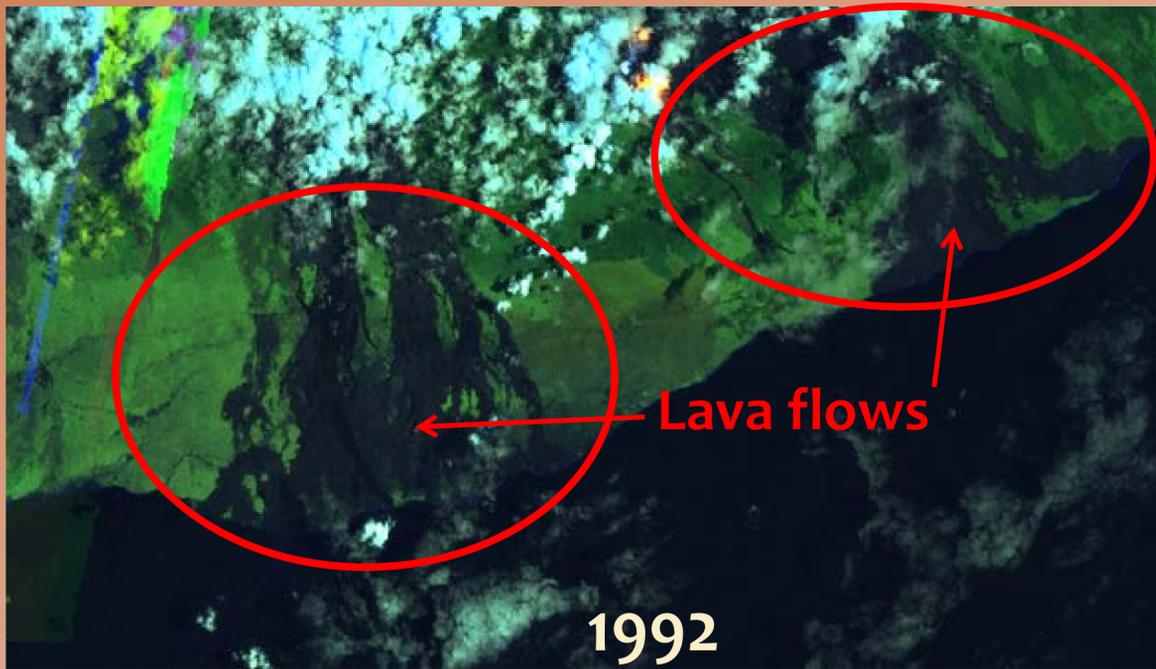
Caroline Pechuzal, Flowing Wells Junior High; Tucson, AZ Earth Camp for Educators 2013



The Power of Perspective

Artist's view of a U.S. Landsat satellite. Credits: NASA.

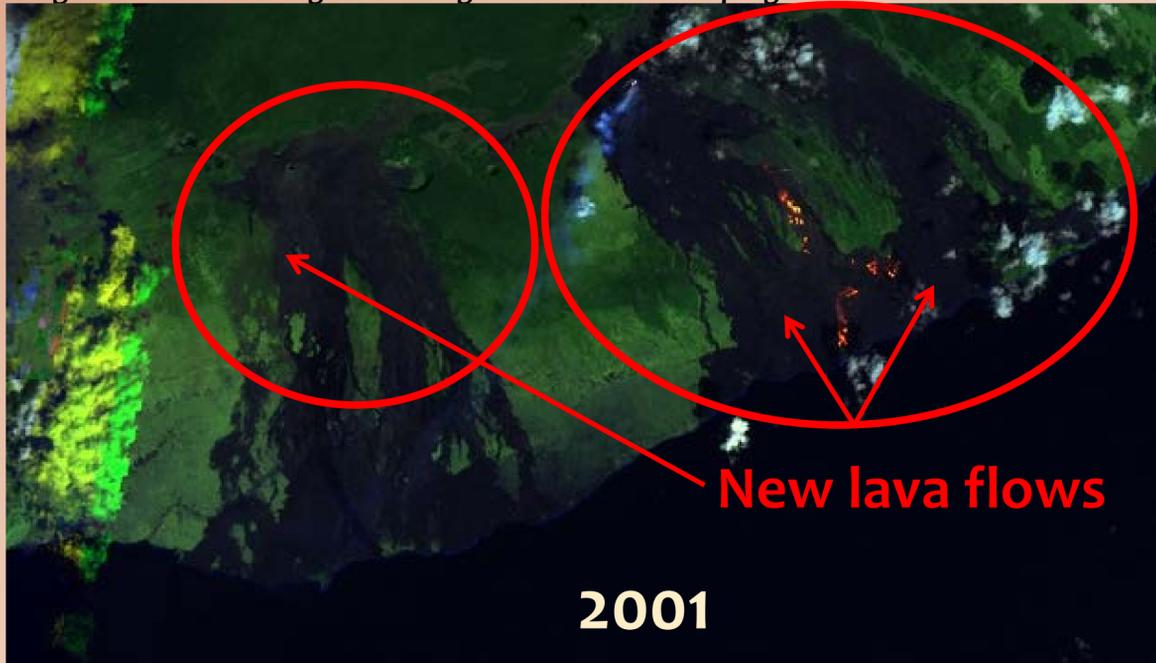
Kilauea is a shield volcano located in the southeastern region of Hawai'i, HI. It is part of Hawai'i Volcanoes National Park and is considered one of the Earth's most active volcanoes. Scientists use the name Kilauea to refer to the caldera itself; however, Kilauea commonly refers to the collection of craters, vents, tubes, and rift zones that are responsible for the lava flows changing the island daily. Kilauea's current eruption began January 3, 1983 and continues today, making it one of the longest continuous eruptions in the world. Lava flows have added 500 acres of new land to the island since 1983.



1992

Kilauea's East Rift Zone from the Nasa Landsat 4 satellite on August 12, 1992. False coloration from Landsat images highlights areas of hot lava (red or yellow) and cooled lava (black or gray).

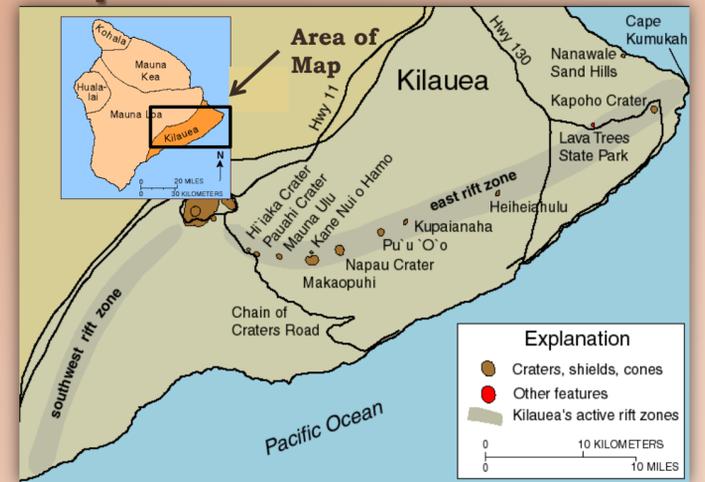
Images accessed via Google Earth Engine's Trusted Tester program.



2001

Kilauea's East Rift Zone image from the NASA Landsat 7 satellite on Jan 1, 2001

Map of Hawai'i and Kilauea



Kilauea East Rift Zone, hvo.wr.usgs.gov



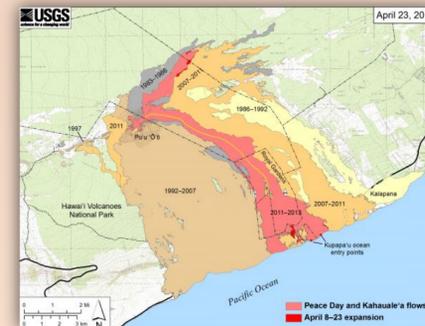
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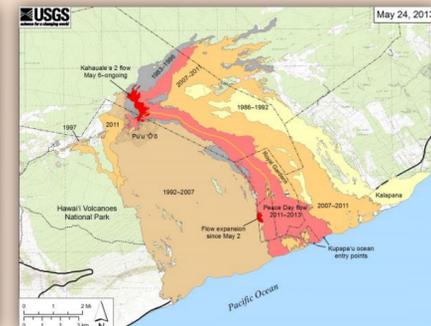
News.nationalgeographic.com

A geographical view of Kilauea's Lava Flows

The maps below compare two major flows that happened within a month of each other in spring 2013.



April 23rd, 2013 Kilauea Lava Flows, hvo.wr.usgs.gov



May 24th, 2013 Kilauea Lava Flows, hvo.wr.usgs.gov



Volcanoes are a constructive force in nature!

Primary succession is a process where soil, vegetation, and eventually animals establish on a barren area over time. The abundance and diversity of vegetation on the Hawaiian Island Archipelago today began forming on barren basalt (rock formed from cooled lava) as long as 70 million years ago. Other Landsat images show vegetation colonizing newly formed basalt as early as 5-10 years after lava cools and hardens.

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