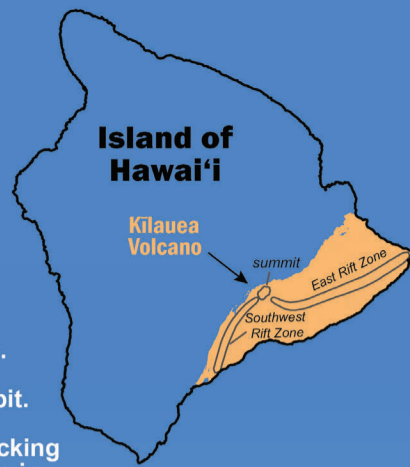


Kīlauea

Summit crater lake growth July 25, 2019 to July 25, 2020

- During the 2018 lower East Rift Zone eruption, Kīlauea Volcano's summit collapsed, forming a pit more than 1600 ft (500 meters) deep within the caldera.
- On July 25, 2019, ponded water was first observed at the base of the collapse pit.
- U.S. Geological Survey Hawaiian Volcano Observatory (HVO) scientists are tracking and characterizing the lake, which continues to grow as hot groundwater seeps in.
- The summit of Kīlauea, located within Hawai'i Volcanoes National Park and home to Hawaiian volcano deity Pele, is a dynamic volcanic landscape monitored by HVO.



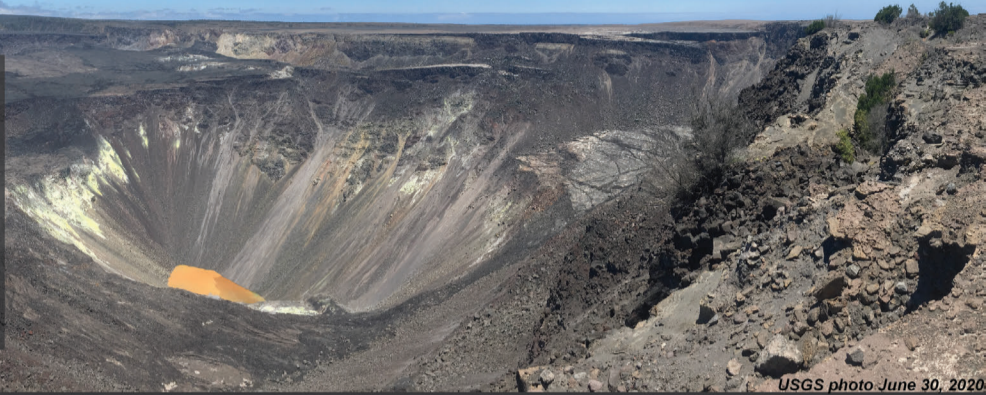
July 2020 Lake Statistics

Volume: over 125 million gallons (480,000 cubic meters); equivalent to almost 200 olympic swimming pools

Dimensions: over 885 by 430 ft (270 by 131 meters)

Area: over 6 acres (2.5 hectares)

Depth: over 130 ft (40 meters); ~2.5 ft (0.75 meters) of rise each week since first seen on July 25, 2019



USGS photo June 30, 2020

Monitoring the lake

Webcam imagery:

Visual and thermal cameras track lake-surface color and temperature

Measuring lake level:

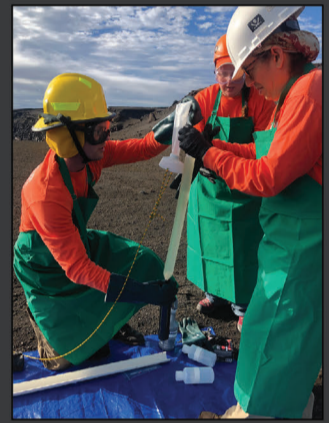
Routine laser rangefinder measurements

Water sampling:

Two dedicated water-sampling missions via unoccupied aircraft systems: October 2019 and January 2020

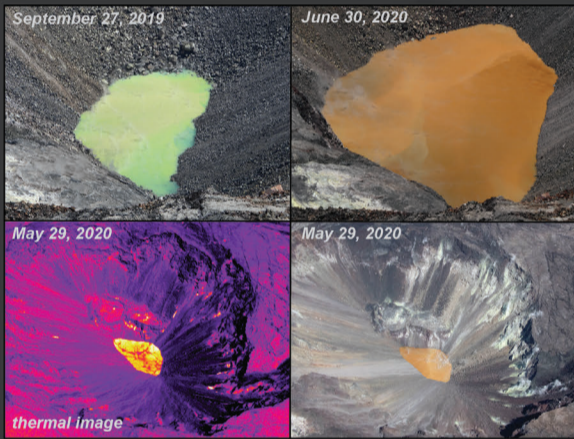


Measuring lake level—April 6, 2020



Sampling water—January 17, 2020

Lake color, chemistry, and temperature



Color:

Color is variable, ranging from green to yellow to orange to dark brown; likely influenced by water influx

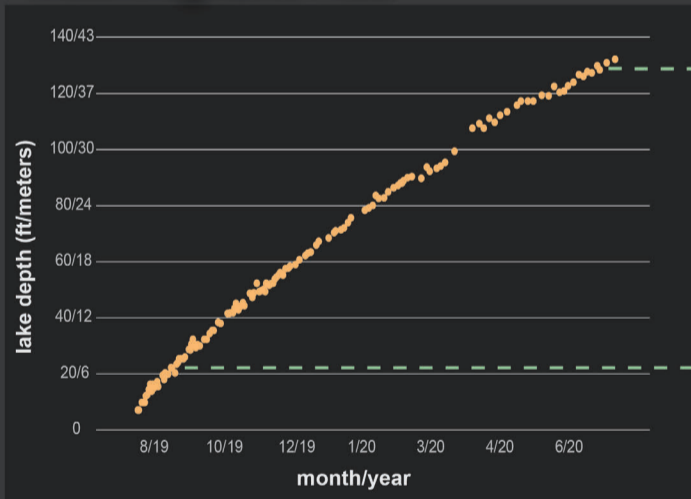
Chemistry:

Water is moderately acidic, with a pH of ~4 (similar to fruit juice); chemistry indicates ongoing reactions between lake water, volcanic gases, and surrounding basaltic rocks

Temperature:

Thermal cameras and water sampling indicate that the lake surface is consistently around 158–185 degrees Fahrenheit (70–85 degrees Celsius)

Tracking lake rise

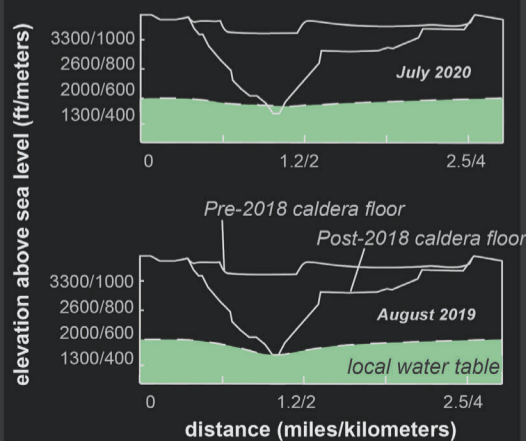


July 7, 2020



August 27, 2019

Caldera cross-section (west-east, see map at right)



Aerial map of summit made on May 29, 2020

Hazards

Kīlauea is currently at volcano alert-level NORMAL and aviation color code GREEN. Levels of seismicity, deformation, and gas emission remain at background levels following the 2018 activity. At this time, there is no indication of an impending eruption at Kīlauea's summit.

Magma and water interactions can be explosive so HVO closely monitors multiple data streams on Kīlauea Volcano including ground deformation, seismicity, volcanic gases, and imagery.

Subscribe to the Volcano Notification Service to receive volcano activity notifications: volcanoes.usgs.gov/vns2/

Visit https://volcanoes.usgs.gov/volcanoes/kilauea/summit_water_resources to learn more about Kīlauea's summit crater lake.

Visit volcanoes.usgs.gov/hvo to learn more about Kīlauea and other active volcanoes in Hawaii monitored by the USGS Hawaiian Volcano Observatory.