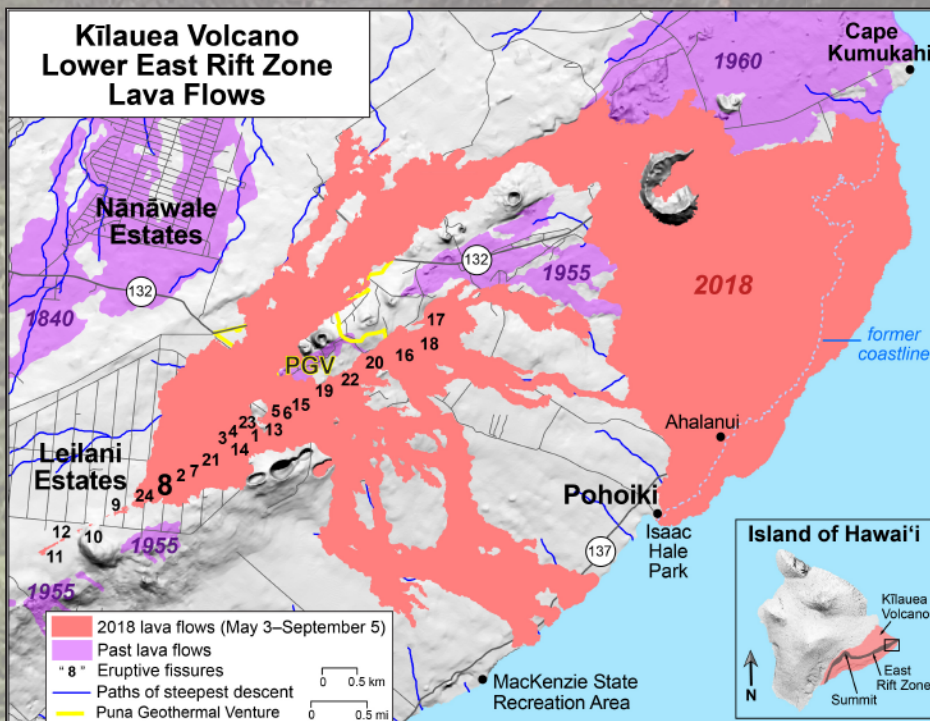


Overview of Kīlauea Volcano's 2018 lower East Rift Zone eruption and summit collapse

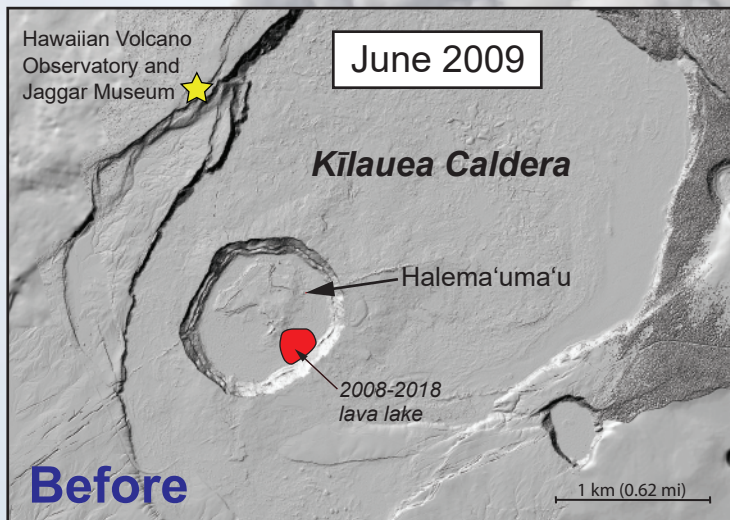
Chronology

April 30	Long-term Pu'u 'Ō'ō eruptive vent collapses; magma begins moving downrift toward Puna
May 1	HVO issues notice of potential eruption on Kīlauea's lower East Rift Zone Deflation of Kīlauea's summit begins and Halema'uma'u lava lake starts to drop
May 3	Onset of fissure eruptions on lower East Rift Zone; Volcano Alert Level raised to WARNING
May 4	Magnitude-6.9 earthquake on south flank of Kīlauea
May 9	HVO issues notice of potential summit explosions; lull in lower East Rift Zone fissures May 9-12
May 10	Halema'uma'u lava lake disappears from view
May 11	Hawai'i Volcanoes National Park closes to the public (Kahuku Unit remains open)
May 15	Aviation Color Code elevated to RED in anticipation of summit explosive events
May 16	Onset of Kīlauea summit explosive events; HVO building evacuated
May 19	Lava enters ocean near Mackenzie State Recreation Area (lasts about 10 days)
May 25	Fissure 8 reactivates; new pit opens on the floor of Halema'uma'u
May 29	Caldera downdrop accelerates; onset of near-daily summit collapse events, with each releasing energy equivalent to a magnitude-5+ earthquake
June 3	Lava erupted from fissure 8 reaches ocean at Kapoho Bay
June 24	Collapse events no longer producing ash; Aviation Color Code lowered to ORANGE
Aug. 2	Summit collapse events end
Aug. 4	Fissure 8 activity significantly decreases; summit deflation stops
Aug. 17	Eruptive pause at fissure 8; Volcano Alert Level lowered to WATCH
Aug. 21	Ocean entry no longer active
Sept. 1-5	Sporadic glow/weak lava activity within fissure 8 cone; no active lava observed after Sept. 5
Sept. 22	Hawai'i Volcanoes National Park reopens (details at nps.gov/havo)
Oct. 5	Kīlauea Volcano Alert Level lowered to ADVISORY; lowered to NORMAL on March 26, 2019

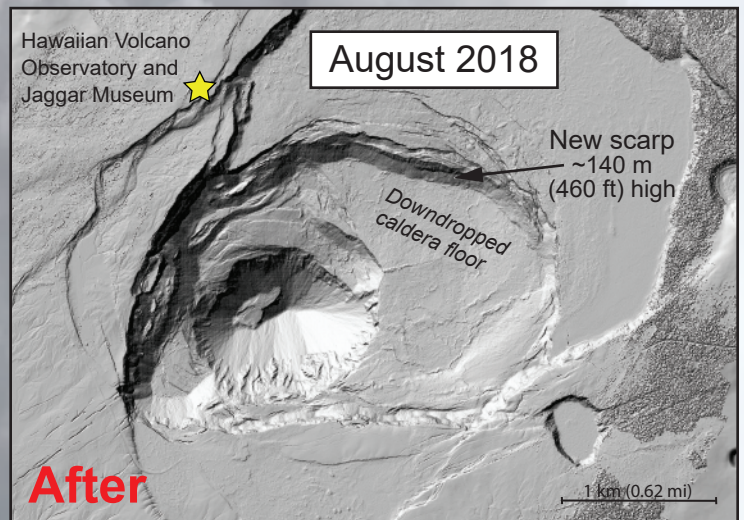


Lava fountains at fissure 8 vent (top right) fed a vigorous channelized lava flow on July 2, 2018.

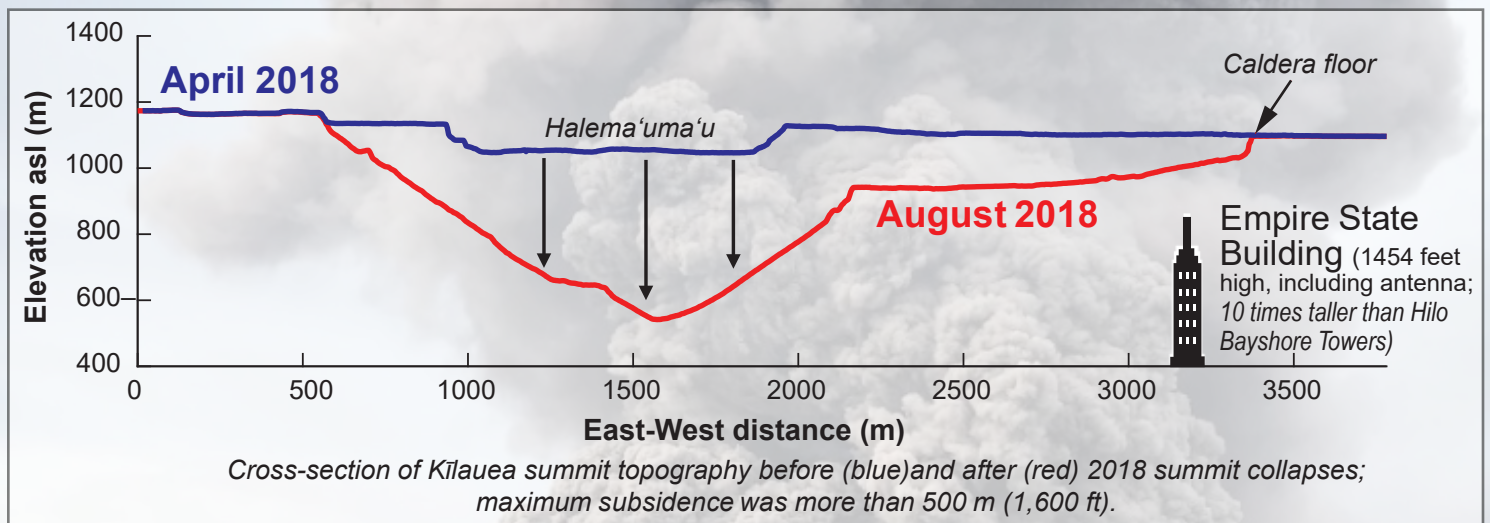
Areas covered by lava flows in 2018 in red; lava flows erupted in 1840, 1955, and 1960 in purple. Black numerals indicate locations of the 24 fissures that erupted in 2018.



Before
The volume of Halema'uma'u was around 54-60 million cubic meters (70-78 million cubic yards) prior to the 2018 events.



After
The volume of the inner collapse crater is now about 885 million cubic meters (1.2 billion cubic yards). Subsidence of the adjacent caldera floor created the new scarp (arrow).



2018 Facts and Statistics

- Largest lower East Rift Zone eruption and summit collapse in at least 200 years
(Overview: <https://science.sciencemag.org/content/363/6425/367>)
- 13.7 square miles of land inundated by lava
(maximum thickness: 180 feet on land, ~ 920 feet in lava delta)
- 875 acres of new land created by ocean entries
- 716 dwellings destroyed by lava (per Hawai'i County; More info: <http://www.hawaiicounty.gov/kilauea-eruption-recovery>)
- ~30 miles of roads covered by lava
- ~1 billion cubic yards of lava erupted
(enough to cover two lanes of I-90 from Boston, MA, to Seattle, WA—around 3,020 miles—with lava about 70 feet deep, or enough to fill at least 320,000 Olympic-size swimming pools)
- Magnitude-6.9 south flank earthquake on May 4 the largest in Hawaii since 1975
- 62 summit collapse events, May 16 to August 2
(each released energy equivalent to a M5.2–M5.4 earthquake)
- 12 ash-producing explosions May 16–26
(highest ash plume reached ~30,000 feet above sea level on May 17)



The USGS Hawaiian Volcano Observatory and NPS Jaggar Museum on Kilauea's caldera rim were vacated in mid-May 2018 due to earthquake damage associated with summit collapse events. As of June 2019, HVO staff are in temporary office space in Hilo. Jaggar Museum remains closed.