

Hawaiian Volcanic Activity: Recent Kilauea Status Reports, Updates, and Information Releases

By [Global Research](#)

Global Research, March 14, 2011

U.S. Geological Survey Hawaiian Volcano
Observatory 13 March 2011

Region: [USA](#)

Theme: [Science and Medicine](#)



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Montreal. March 18. Centre Saint Pierre, 7.00pm Click for details

HAWAIIAN VOLCANO OBSERVATORY DAILY UPDATE

Sunday, March 13, 2011 7:16 AM HST (Sunday, March 13, 2011 17:16 UTC)

This report on the status of Kilauea volcanic activity, in addition to maps, photos, and Webcam images (available using the menu bar above), was prepared by the USGS Hawaiian Volcano Observatory (HVO). Hawai`i Volcanoes National Park status can be found at <http://www.nps.gov/havo/> or 985-6000. Hawai`i County Kalapana Viewing Area status can be found at 961-8093. All times are Hawai`i Standard Time.

KILAUEA VOLCANO (CAVW #1302-01-)

19°25'16" N 155°17'13" W, Summit Elevation 4091 ft (1247 m)

Current Volcano Alert Level: **WATCH**

Current Aviation Color Code: **ORANGE**

Activity Summary for past 24 hours: The switch to DI inflation occurred at the summit last night; no active lava was visible on Kilauea volcano. Summit seismicity continued decreasing; SO2 emissions remain elevated from summit and east rift zone vents.

Past 24 hours at Kilauea summit: The summit tiltmeter network recorded the switch to DI inflation at about 7:40 pm last night, almost 56 hours after the start of DI deflation. Seismic tremor levels continued to decrease but remain at elevated values; a slight decrease accompanied the switch to DI inflation. The summit GPS network recorded about 12 cm (4.7 in) of contraction across and at least 13 cm (5.1 in) of subsidence within the summit caldera between March 5 and March 8; the rates of summit deformation slowed after the 8th.

Four earthquakes were strong enough to be located within Kilauea volcano – one within the upper east rift zone and three on south flank faults.

No glow was visible in the webcam overnight. The summit gas plume is moving to the

southwest this morning. The most recent (preliminary) sulfur dioxide emission rate measurement was 700 tonnes/day on March 12, 2011.

Past 24 hours at the middle east rift zone vents: The Pu`u `O`o and TEB vents remained inactive and Kamoamoa fissure within Hawai`i Volcanoes National Park remained paused with no glow visible in any webcams overnight.

The most recent (preliminary) sulfur dioxide emission rate measurement was 350 tonnes/day on March 10, 2011 from all east rift zone sources – a value similar to those measured for the months before March 5 but a significant decrease from the values of 10,00-11,000 tonnes/day measured on March 7 and 8.

The tiltmeter on the north flank of Pu`u `O`o recorded continued, but slowing, deflation (-1.7 microradians/day) which flattened out just before 6 am this morning; there was no discernible tilt response at Pu`u `O`o to the ongoing DI event at the summit confirming that the two were no longer hydraulically connected. Seismic tremor levels were below those measured before March 5, 2011.

Hawai`i Volcanoes National Park message: In response to the current volcanic conditions, Hawai`i Volcanoes National Park has closed some areas of the park. Check the latest information at http://www.nps.gov/havo/closed_areas.htm.

Hazard Summary: East rift vents and flow field – near-vent areas could erupt or collapse without warning; potentially-lethal concentrations of sulfur dioxide gas are present within 1 km downwind of vent areas. Kilauea Crater – explosive events are capable of ejecting rocks and lava several hundred meters (yards) from the Halema`uma`u vent; ash and potentially-lethal concentrations of sulfur dioxide are present within 1 km downwind.

Maps, photos, Webcam views, and other information about Kilauea Volcano are available at <http://volcanoes.usgs.gov/hvo/activity/kilaueastatus.php>. A daily update summary is available by phone at (808) 967-8862.

A map with details of earthquakes located within the past two weeks can be found at <http://tux.wr.usgs.gov/>

A definition of alert levels can be found at <http://volcanoes.usgs.gov/activity/alertsystem/index.php>

Definitions of Terms Used:

methane blast: when lava flows advance through a vegetated area, small explosions sometimes occur due to the ignition of methane gas, produced by lava-cooked plants and trapped beneath the ground surface. Injuries can occur as the result of airborne rock fragments.

rootless shields: a small mound of lava, located directly over an active lava tube that is built by repeated overflows from its top. These are rootless because they are fed from a lava tube and not from a deeper source (vent). The upper part of the TEB lava tube has numerous rootless shields built from the vent down to about the 1,500 ft elevation.

mauka, makai: Hawaiian terms for directions relative to the coast – makai (toward the coast) and mauka (away from the coast).

composite seismic events: is a seismic signal with multiple distinct phases that has been recorded frequently at HVO from the Halema`uma`u Overlook vent area since its explosive opening in March, 2008. For the composite events recorded at Halema`uma`u, we typically see an initial high frequency vibration lasting for a few seconds that have been correlated with rockfalls. This is followed by about 30 seconds of a long-period (LP) oscillation with an approximately 2- to 3-second period. The final phase of the signal is several minutes of a very-long-period (VLP) oscillation with an approximately 25- to 30-second period. The LP signals are interpreted to be from the uppermost portion of the conduit and VLP signals are interpreted to be fluid passing through a deep constriction in the conduit through which lava rises to the pond surface we see in the webcam.

high lava stands: Starting in June, 2010, lava within the Halema`uma`u Overlook vent rises 20-40 m over an interval of 10s of minutes, remains high for up to several hours, and then drains back to its previous level, while vigorously degassing, in several minutes. During the high stand, the gas plume becomes wispy, gas emissions halve in rate, and seismic tremor drops to very low levels; the high stand is followed by a strong seismic tremor burst, lasting several minutes, accompanying the draining. Many, but not all, high lava stands start with a rockfall event, some accompanied by VLP seismic energy.

Inflating surface flow: is a lava flow that may not advance but continues to thicken as its top and bottom crusts grow around a continuously replenished molten interior. This can be visualized as a large flat bladder of molten lava that could burst along its edges at any time.

Hakuma horst: a horst is an section of earth that is raised between two nearly parallel faults so that its surface is higher than the surrounding ground. The Hakuma horst is located along the coast west of Kalapana; it was responsible for diverting lava through Kalapana village in 1990 and appears to be having a similar influence on lava flows in 2010.

Halema`uma`u Overlook vent: has been difficult to describe concisely. The vent is actually a pit, or crater, in the floor of the larger Halema`uma`u Crater in the floor of the larger Kilauea caldera or crater - a crater within a crater within a crater. It is easiest to describe as a pit inset within the floor of a crater within a caldera. The pit is about 140 m (460 ft) in diameter at the Halema`uma`u Crater floor, is about 50 m in diameter at the pit floor, and is about 200 m (660 ft) deep. As of November, 2009, a lava pond surface has been visible in a hole in the floor of this pit.

glow: light from an unseen source; indirect light.

incandescence: the production of visible light from a hot surface. The term also refers to the light emitted from a hot surface. The color of the light is related to surface temperature. Some surfaces can display dull red incandescence at temperatures as low as 430 degrees Centigrade (806 degrees Fahrenheit). By contrast, molten lava displays bright orange to orange-yellow light from surfaces that are hotter than 900 degrees C (1,650 degrees F).

CD: Hawai`i County Civil Defense

tonne: metric unit equal to 1,000 kilograms, 2,204.6 lbs, or 1.1 English tons.

tephra: all material deposited by fallout from an eruption-related plume, regardless of size.

ash: tephra less than 2 mm (5/64 inches) in size.

TEB: Thanksgiving Eve Breakout, the designation used for lava flows that started with a breakout on November 21, 2007.

microradian: a measure of angle equivalent to 0.000057 degrees.

DI tilt event: DI is an abbreviation for 'deflation-inflation' and describes a volcanic event of uncertain significance. DI events are recorded by tiltmeters at Kilauea summit as an abrupt deflation of up to a few microradians in magnitude lasting several hours to 2-3 days followed by an abrupt inflation of approximately equal magnitude. The tilt events are usually accompanied by an increase in summit tremor during the deflation phase. A careful analysis of these events suggests that they may be related to changes in magma supply to a storage reservoir at less than 1 km depth, just east of Halema`uma`u crater. Usually, though not always, these changes propagate through the magma conduit from the summit to the east rift eruption site, as many of the DI events at Kilauea summit are also recorded at a tiltmeter at Pu`u `O`o, delayed by several hours. DI events often correlate with lava pulses and/or pauses in the eruption at the Pu`u `O`o/July 21/TEB vents.

More definitions with photos can be found at <http://volcanoes.usgs.gov/images/pglossary/index.php>.

The Hawaiian Volcano Observatory is one of five volcano observatories within the U.S. Geological Survey and is responsible for monitoring volcanoes and earthquakes in Hawai`i.

HAWAIIAN VOLCANO OBSERVATORY DAILY UPDATE

Saturday, March 12, 2011 7:48 AM HST (Saturday, March 12, 2011 17:48 UTC)

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Current Volcano Alert Level: **WATCH**

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Activity Summary for past 24 hours: There was no active lava visible on Kilauea volcano. On the east rift zone, the March 5 Kamoamo fissure eruption remained paused. At the summit, the bottom of the deep vent inset within the east wall of Halema`uma`u Crater was covered with rubble and lava was no longer visible. Summit seismicity and sulfur dioxide emissions remained elevated.

Past 24 hours at Kilauea summit: The bottom of the deep vent inset within the east wall of Halema`uma`u Crater was covered with rubble with occasional views of weak glow in the webcam and a few minor rim collapses overnight. The summit tiltmeter network recorded no significant ground tilting. Seismic tremor levels continued to decrease but remained at elevated values. Five earthquakes were strong enough to be located within Kilauea volcano – four west of Kalapana and one on south flank faults.

The summit gas plume is moving to the southwest this morning. The most recent (preliminary) sulfur dioxide emission rate measurement was 900 tonnes/day on March 11,

2011.

Past 24 hours at the middle east rift zone vents: The Kamoamoa fissure within Hawai'i Volcanoes National Park remained paused. The webcam showed several persistent glowing spots indicating residual heat but not activity.

The most recent (preliminary) sulfur dioxide emission rate measurement was 350 tonnes/day on March 10, 2011 from all east rift zone sources.

The tiltmeter on the north flank of Pu'u 'O'o recorded continued deflation (-2.5 microradians/day). Seismic tremor levels have decreased to low values similar to or lower than those measured before March 5, 2011.

Hawai'i Volcanoes National Park message: In response to the current volcanic conditions, Hawai'i Volcanoes National Park has closed some areas of the park. Check the latest information at http://www.nps.gov/havo/closed_areas.htm.

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