



DEPARTMENT OF HEALTH

DAVID Y. IGE
GOVERNOR

BRUCE S. ANDERSON, Ph.D.
DIRECTOR

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New interactive air quality monitoring tool makes data available online during Kilauea volcanic eruption

HILO, HI – Hawai'i Island emergency responders now have access to real-time data from more than 30 additional areas on the island to make informed decisions about the air quality affected by volcanic activity. Data from newly installed air quality monitors stationed in the Kilauea East Rift Zone and other affected areas is now available to the public.

The Hawaii Department of Health (DOH), in partnership with the Hawaii County Civil Defense Agency (HCCDA) and the U.S. Environmental Protection Agency (EPA), expanded air quality monitoring capacity in the lower East Rift Zone during the volcanic eruption on Hawaii Island. The data is now available online at www.epa.gov/kilaueaairdata.

"The health and safety of first responders and the community have been our top priorities," said Director of Health Dr. Bruce Anderson. "These additional monitors will provide integral data for emergency management officials to make critical decisions each day to support response efforts, and for residents and visitors to make informed decisions for their personal health and safety concerns."

"Working together with state and local public health and emergency management agencies, the EPA developed an online mapping tool that provides real-time air quality data near the volcanic activity," said Mike Stoker, regional administrator for the EPA's Pacific Southwest Office. "The EPA will continue to provide support to our partner agencies to ensure first responders and the public have access to this vital information."

The map viewer uses the county's three-color public notification system (blue, orange and red), which recommends protective actions to be taken by responders and the public. The three-color system corresponds with established health guidelines.

"Volcanic eruptions are unique hazards that call for specialized response protocols," said Talmadge Magno, HCCDA administrator. "We developed a system that aligns with federal and state health standards that also meets the needs of our county first responders. We believe these guidelines support our sheltering and evacuation messaging by efficiently communicating health risks to the public during our ongoing response."

In addition to the DOH and EPA monitors, the National Park Service, U.S. Geological Survey, and South Coast Air Quality Management District in California also provided expert staff, equipment and monitors to this network. There are 15 new monitoring stations in place, which brings the total network to 34 monitoring stations. Monitors track sulfur dioxide (SO₂), hydrogen sulfide (H₂S) and particulate matter. Most monitors are placed around the active fissure area, but there are also monitors in the southern and western areas of the island.

The monitors provide real-time data on SO₂ and H₂S levels. The public viewer shows a map of the monitoring stations color-coded based on the average concentration of all data received over 30 minutes and is updated every time a new reading is received. The color air monitoring stations will change depending on the level of health risk. Blue indicates gas levels are healthy, orange indicates moderate levels, and red indicates unhealthy conditions.

To learn more about Hawaii County's evacuation guidance on hazardous gas exposure, visit: <http://www.hawaiicounty.gov/lava-related/#ToxicGasPolicy>.

To sign up for alerts from Hawaii County, visit <https://countyofhawaii.bbcportal.com/>. All alerts are posted at <http://www.hawaiicounty.gov/active-alerts>. Additional county resources are available at <http://www.hawaiicounty.gov/lava-related/>.

In addition to existing real-time and historic air quality data, the new SO₂ and H₂S data can be accessed on the Interagency Vog Dashboard at <https://vog.ivhnh.org/current-air-quality> or by going directly to www.epa.gov/kilaueaairdata.

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Hawaii County Evacuation Guidance on Hazardous Gas Exposure



Code	Color	SO ₂ Level (parts per million) – 30 min average	H ₂ S Level (parts per million) – 30 min average	Health Effect	Public Response
Blue		0.0 to 0.2	0.0 to < 0.6	<ul style="list-style-type: none"> Individuals with pre-existing medical or respiratory conditions may be affected at these levels. Little or no risk to healthy individuals. 	<ul style="list-style-type: none"> People with breathing difficulties should take action to avoid exposure. Everyone should be alert for changing conditions.
Orange		> 0.2 to 1.0	0.6 to < 7.0	<ul style="list-style-type: none"> Individuals with pre-existing medical or respiratory conditions may experience health effects, like wheezing or chest tightness, and should leave the area. The general public is not expected to be affected in this range. 	<ul style="list-style-type: none"> Individuals with pre-existing medical or respiratory conditions should avoid outdoor activities that cause heavy breathing or breathing through the mouth. Minimize physical activities. Take actions to limit exposure by going indoors or leaving the area. Everyone should be alert for changing conditions.
Red		Above 1.0	7.0 or above	<ul style="list-style-type: none"> The general public may experience minor respiratory issues and should be on alert while minimizing exposure. As concentrations increase, everyone may experience more serious health effects. Severe effects may include choking or difficulty breathing. May affect entire exposed population. 	<ul style="list-style-type: none"> Prepare and be alert for Civil Defense warnings regarding possible evacuation. Take actions necessary to limit further exposure (remain indoors or leave area). Monitor emergency broadcasts and follow instructions. Call 9-1-1, Hawaii Poison Center (1-800-222-1222) or seek medical attention if severely affected.

NOTES:

- Asthmatics & persons with chronic respiratory disease: Always have your medications available.
- Reducing your exertion level so that you can breathe through your nose will reduce the amount of hazardous gas that reaches your lungs.
- People experiencing health effects: Contact your doctor as soon as possible if any problems develop, as respiratory conditions might worsen rapidly in heavy sulfur dioxide (SO₂), hydrogen sulfide (H₂S) or vog conditions.
- People have different sensitivities to hazardous gas. Use this table to learn how sensitive you are, so that you can develop appropriate measures to protect your health and avoid serious responses.
- Readings are based on 30-minute average. Part per million equals part per billion divided by 1000.
- Susceptible individuals may develop symptoms at or below the warning limits.
- Individuals with pre-existing respiratory conditions such as asthma, bronchitis, emphysema, lung or heart disease may be more severely impacted by poor air quality conditions. Note: Some people with mild asthma may not be aware of it. If you have breathing difficulties at low levels of SO₂ or H₂S, check with your healthcare provider.
- People react differently to hazardous gas exposure - some are more sensitive. For many people simply reducing activity levels enough so that they can breathe through the nose will permit them to be outdoors without symptoms.
- Current levels can be monitored at <http://www.epa.gov/kilaueaairdata>

This is a joint venture and product of the Hawaii County Civil Defense Agency, Hawaii State Department of Health, and the U.S. Environmental Protection Agency in response to the Kilauea volcanic eruptions. Last updated: June 5, 2018.