

HAWAII: WHERE TO FIND INTERNET INFORMATION ABOUT VOLCANIC EMISSIONS (VOG, SULFUR DIOXIDE (SO₂) AND PARTICULATES)

Updated in August 2016

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GENERAL INFORMATION ABOUT VOG AND SO₂

UNIVERSITY OF HAWAII, HILO

The Center for the Study of Active Volcanoes (CSAV) has a 9 minute video about vog along with general information in text format:

http://www.hilo.hawaii.edu/~nat_haz/vog/

UNITED STATES GEOLOGICAL SURVEY (USGS)

Sulphur Dioxide, Vog, and Volcanic Ash – FAQ about air quality in Hawai'i.

http://hvo.wr.usgs.gov/hazards/FAQ_SO2-Vog-Ash/main.html

Volcanic Air Pollution – A Hazard in Hawai'i (Fact Sheet 169-97) – Information about vog in Hawai'i.

<http://pubs.usgs.gov/fs/fs169-97/>

HAWAI'I VOLCANOES NATIONAL PARK (HVNP)

Air Quality Information – General information about air quality.

<http://www.nature.nps.gov/air/Permits/ARIS/HVNP/>

ENVIRONMENT PROTECTION AGENCY (EPA)

Sulphur Dioxide – Information about SO₂, with links to more information on health, standards, sources, trends, and regulatory actions.

<http://www.epa.gov/air/sulfurdioxide/>

INTERNATIONAL VOLCANIC HEALTH HAZARD NETWORK (IVHHN)

Guidelines, databases, and publications on the health hazards of volcanic gas and ash.

<http://www.ivhhn.org/>



MONITORING, CURRENT AIR QUALITY STATUS, AND HISTORICAL DATA

HAWAI'I VOLCANOES NATIONAL PARK (HVNP)/USGS

Current SO₂ and PM_{2.5} Conditions – Map showing approximate location of Halema`uma`u and Pu`u `O`o gas plumes in HVNP, SO₂ concentrations (ppm) at nine locations, and PM_{2.5} at two locations in the park
<http://www.hawaiiSO2network.com/>

Current Web Cam view of Halema`uma`u and Air Quality conditions at Kilauea Visitor Center and Jaggar Museum

<http://www.nature.nps.gov/air/webcams/parks/HVNPcam/HVNPcam.cfm>

SO₂ Advisory Program – Overview of SO₂ monitoring advisory levels.

<http://www.nature.nps.gov/air/webcams/parks/HVNPso2alert/HVNPso2advisories.cfm#AdvisoryLevelCriteria>

Historical Data – Archived data for National Park monitoring sites

<http://ard-request.air-resource.com/>

DEPARTMENT OF HEALTH (HDOH)

Hawai'i Short Term SO₂ Advisory – Current SO₂ levels across the Island of Hawai'i.

<http://www.hiSO2index.info/>

Online Air Quality Data – Maps, current, and historical data of air quality conditions in the Hawaiian islands.

<http://emdweb.doh.hawaii.gov/air-quality/>

Historical Data – Annual summaries of air pollution data in Hawaii as compared to State and Federal ambient air quality standards.

<http://health.hawaii.gov/cab/hawaii-air-quality-data-books/>

AIRNOW (FEDERAL, STATE AND TRIBAL CONSORTIUM)

Air Quality Index based on PM_{2.5} particle real-time monitoring data.

http://www.airnow.gov/index.cfm?action=airnow.local_state&stateid=12&mapcenter=0&tabs=0

FORECASTS

UH MANOA, VOG MEASUREMENT AND PREDICTION PROJECT (VMAP)

Volcanic gas and particulate data and forecast – Uses volcanic gas emission rates and wind field data to model and predict the concentration and dispersion pattern of volcanic SO₂ and particulate matter.

<http://mkwc.ifa.hawaii.edu/vmap/>

NATIONAL WEATHER SERVICE (NWS) WIND FORECAST

Three day forecast for 10m and transport level (mixing layer) winds, as well as mixing layer height, for SE Hawaii Island including Hawaii Volcanoes National Park.

http://www.prh.noaa.gov/hnl/pages/nps_graphics.php

SPACE-BASED IMAGES AND DATA

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

GOES-WEST satellite – used mostly for weather tracking, but also for volcanic gas emissions and lava flows. Images are acquired every 15 minutes.

<http://www.ssd.noaa.gov/VAAC/kilauea/sloop-vis.html>

Near real time OMI satellite images of SO₂ mass. Latest OMI SO₂ column (5 km) images by volcano, plus cloud and aerosol index images.

<http://satepsanone.nesdis.noaa.gov/pub/OMI/OMISO2/index.html>

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

MODIS satellite – passes over Hawai'i twice a day, and can be useful for tracking plumes.

http://rapidfire.sci.gsfc.nasa.gov/subsets/?subset=AERONET_Mauna_Loa

Latest daily (OMI/OMPS) satellite images of SO₂ mass. Site includes daily SO₂ mass plus archived and time series data.

<http://so2.gsfc.nasa.gov/>

NASA Earth Observatory: Various types of space-based images for Kilauea.

<http://earthobservatory.nasa.gov/Search/index.php?hq=&q=kilauea+plume&sa=search>

CONSORTIA

The TROPOspheric Monitoring Instrument (TROPOMI) has UV, UVIS, NIR and SWIR on board the Copernicus Sentinel-5 Precursor satellite which will come online later in 2016. *Consortium consisting of Airbus Defence and Space, KNMI, SRON and TNO.*

<http://www.tropomi.eu/>

SACS - Support to aviation control service: Subscription service for image notification of volcanic gas and particle events from 5 instruments (OMI; Gome2; IASI; AIRS; Sciamachy). *Consortium hosted by Belgian Institute for Space Aeronomy.*

<http://sacs.aeronomie.be/>

VOLCANIC ACTIVITY

HAWAIIAN VOLCANO OBSERVATORY/HVNP

Recent Kilauea eruption update and summary, information on volcanic hazards, and weekly Volcano Watch articles. Search the Volcano Watch archive for information about vog and volcanic gases.

<http://hvo.wr.usgs.gov/>

Webcams – Live views of Kilauea degassing vents.

<http://hvo.wr.usgs.gov/cams/>

VOG ADVICE

HEALTH ISSUES/COPING WITH VOG – PRIMARY SOURCES

DEPARTMENT OF HEALTH (HDOH)

The DOH short-term SO₂ Advisory Levels have recommended actions for SO₂ exposure as part of the 'Guidance on advisory levels'. The National Park Service also links to this document.

<http://www.hiso2index.info/assets/FinalSO2Exposurelevels.pdf>

http://www.nature.nps.gov/air/webcams/details/advisory_healtheffects.cfm

The DOH-Clean Air Branch Hawaii ambient air quality data site links to EPA/AirNow recommended actions for particulate exposure.

http://emdweb.doh.hawaii.gov/air-quality/App_AQI/AQI.en-US.pdf

Frequently Asked Questions and answers on vog and volcanic emissions from Kilauea.

http://health.hawaii.gov/cab/files/2015/02/kilauea_vog_faq-january-2015b.pdf

Recommendations from the Clean Air Branch.

<http://health.hawaii.gov/cab/kilauea-volcano-air-pollutants/>

AMERICAN LUNG ASSOCIATION OF HAWAII

Information about air quality and advice.

<http://www.lung.org/local-content/content-items/support-and-community/local-support/mphi-vog-2.html>

HEALTH ISSUES/COPING WITH VOG – OTHER SOURCES

UNITED STATES GEOLOGICAL SURVEY (USGS)

Advice relating to the hazards of vog.

http://hvo.wr.usgs.gov/hazards/FAQ_SO2-Vog-Ash/P2.html#minimize

GOVERNOR OF THE STATE OF HAWAII

Webpage giving important information about vog.

<http://ltgov.hawaii.gov/emergency-information/important-information-about-vog/>

UNIVERSITY OF HAWAII, HILO, CENTRE FOR THE STUDY OF ACTIVE VOLCANOES

Coping with vog from Halema'uma'u and Pu'u 'Ō'ō.

http://www.uhh.hawaii.edu/~nat_haz/offmain/2009VogHalemaumau.php

http://www.hilo.hawaii.edu/~nat_haz/volcanoes/vog.php

CATCHMENT SYSTEMS

DEPARTMENT OF HEALTH

Document on precautionary measures for residential rainwater catchment users during volcanic ashfall

http://www.health.hawaii.gov/sdwb/files/2013/12/Residential_RainCatch_Info.pdf

How to make a home rainwater catchment system safe for domestic use and information on subsidized testing for lead and copper

<http://health.hawaii.gov/sdwb/raincatchment/>

UNIVERSITY OF HAWAII

Recommendations for catchment users due to increased volcanic activity (ashfall)

<http://www.ctahr.hawaii.edu/hawaiirain/vog.html>

http://www.ctahr.hawaii.edu/hawaiirain/Library/Guides&Manuals/Hi_Guidelines_2010.pdf

VOG DAMAGE TO PLANTS

UNIVERSITY OF HAWAII

Description of damage to ornamental, agricultural and native plants due to volcanic emissions

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/pd-47.pdf>

AIR CLEANERS

ENVIRONMENT PROTECTION AGENCY (EPA)

Guide to Air Cleaners in the Home – Background information for selection of the home air cleaner that may be best for addressing specific types of contaminants

<http://www.epa.gov/iaq/pubs/residair.html>

ASSOCIATION OF HOME APPLIANCE MANUFACTURERS (AHAM)

Certification program for air cleaners that filter particulates, and information on many brands and models of air cleaners

ahamverifide.org

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