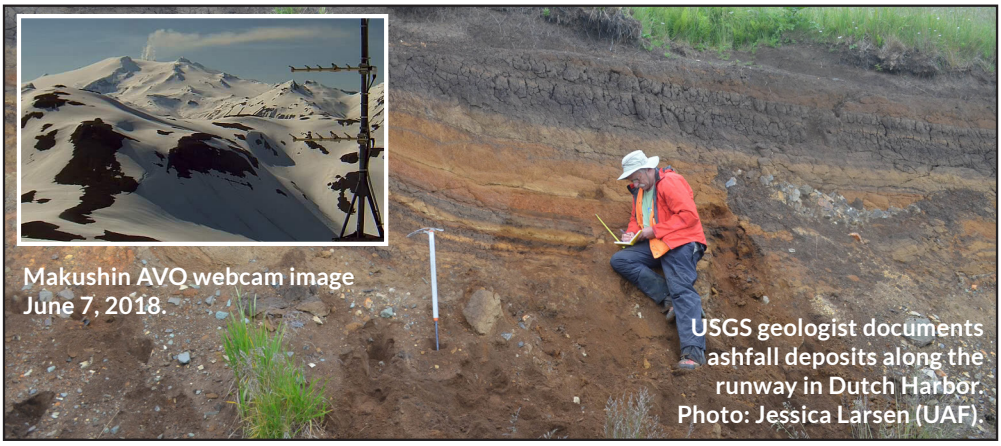
Makushin Volcano

Recent Eruptive History and Ash Hazards



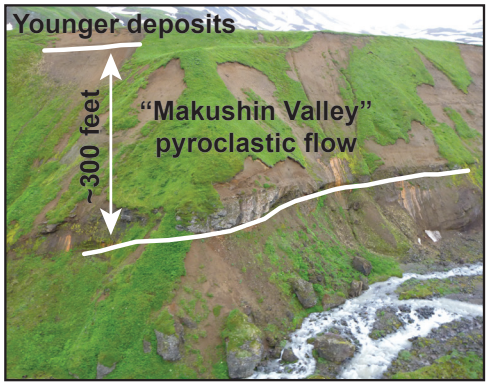
Makushin AVO webcam image June 7, 2018.

USGS geologist documents ashfall deposits along the runway in Dutch Harbor. Photo: Jessica Larsen (UAF).

Makushin's Eruptive History

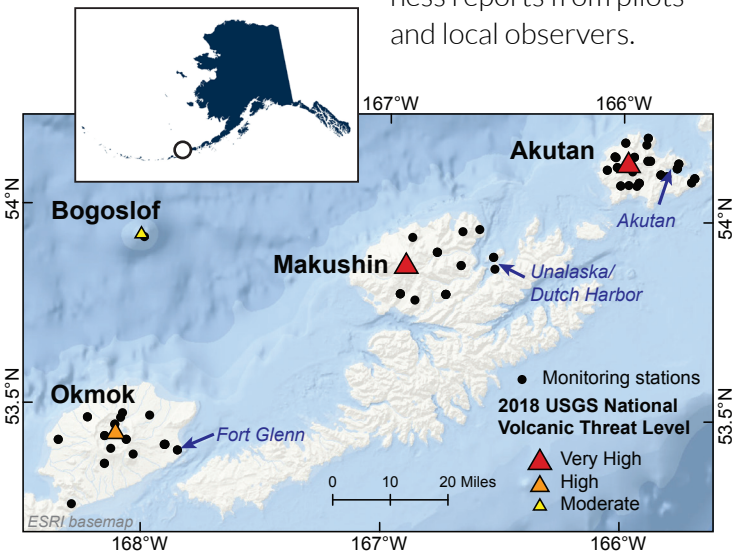
Two large explosive eruptions occurred at Makushin 9,100 and 8,000 years ago, depositing volcanic material many feet thick near the volcano and several inches deep in Unalaska and Dutch Harbor.

In historical times, Makushin eruptions have been primarily small explosive events, with at least 10 occurring since 1769, most recently in 1995. Today, steam and sulfur gases vent from fumaroles near the summit.



▲ A large explosive eruption about 9,100 years ago, though rare, produced this pyroclastic flow deposit in Makushin Valley that did not reach the city of Unalaska. Photo: Jim Vallance (USGS).

Makushin is ranked as a "Very High Threat" volcano by the 2018 USGS National Volcanic Threat Assessment, with ash as the greatest hazard to aviation and nearby communities. Alaska Volcano Observatory (AVO) tracks Makushin activity with local monitoring stations, including seismic, infrasound, lightning, GPS, and a webcam, as well as satellite imagery and eyewitness reports from pilots and local observers.



Volcanoes in the Unalaska and Dutch Harbor region with AVO local monitoring stations shown. ▶

Ashfall from Unalaska's Neighboring Volcanoes

Bogoslof Island – (60 mi. W)
Stratovolcano. Eruptions in 2016–17 sent ash up to 40,000 ft with trace ashfall over Unalaska Island.

Okmok – (70 mi. SW)
Large caldera on Umnak Island. 2008 eruption sent ash plumes to 50,000 ft, with trace ashfall in Unalaska and Dutch Harbor.

Akutan – (28 mi. NE)
Stratovolcano. Last eruption in 1992 produced low-level ash but major eruptions ~1,600 and ~8,800 years ago deposited several inches of ashfall in Unalaska and Dutch Harbor.

Mitigating Ash Impacts

Transportation
Ash is easily remobilized, abrasive, and corrosive, damaging vehicle and airplane engines and windshields. Airports could be shut down.

Health
Breathing ash can harm airways. Wear masks, avoid using contact lenses, and stay inside during ashfall events.

Electrical Utilities
Ash may interrupt generators and distribution. Plan for outages.

Heating/Ventilation
Air filters and intake systems may become clogged. Have extra air filters on hand for homes, cars, and boats.

Ash Removal
Wash ash from windshields with water. Ash is abrasive if dry brushed. Mix ash with snow or water during removal to prevent remobilization.

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Volcanic Eruption Reporting

What can you do to help?

Ash Collection and Reporting

Trace ashfall in Unalaska from Bogoslof Volcano, January 31, 2017. Photo: Zoë Sobel.

The **Alaska Volcano Observatory (AVO)** collects volcanic ashfall to record and research eruptive activity.

Changes in the texture and chemistry of ash can explain behavior changes at the volcano and its magma supply, and can inform our forecasting and reponse for volcanic events.

Reporting and collecting ashfall from eruptions also provides an important record of volcanic activity.

Volcano Monitoring & Eruption Response

The **Alaska Volcano Observatory** is a joint program of the **U.S. Geological Survey**, the **University of Alaska Fairbanks Geophysical Institute**, and the **Alaska Division of Geological & Geophysical Surveys**. Staff monitor Alaska volcanoes around-the-clock using seismic, satellite, deformation, infrasound, and gas data to assess activity levels. Detailed records of eruption timelines, pilot reports, and monitoring data **help make informed decisions before, during, and after a volcanic event**.

Your reports help AVO track and respond to volcano events. Thank you!

Online tour of Makushin and its satellite vents

Makushin summit lake and fumarole field, August 19, 2019. Photo: Christoph Kern (USGS).

If you see it, report it! You can report any volcanic activity that you see.

To report anomalous volcanic activity, such as unusually strong steaming or sulfur smells, contact AVO:
avo.alaska.edu/contact
907-786-7497

To report ashfall:
avo.alaska.edu/ashfall/report_form

Instructions for collecting ash:
avo.alaska.edu/ashfall/instructions

Sign up for volcano notifications
volcanoes.usgs.gov/vns/

Official warnings of ashfall on communities & mariners:
weather.gov/afc

Ashfall impacts & preparedness:
volcanoes.usgs.gov/volcanic_ash

More Information

avo.alaska.edu/volcano/makushin

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