

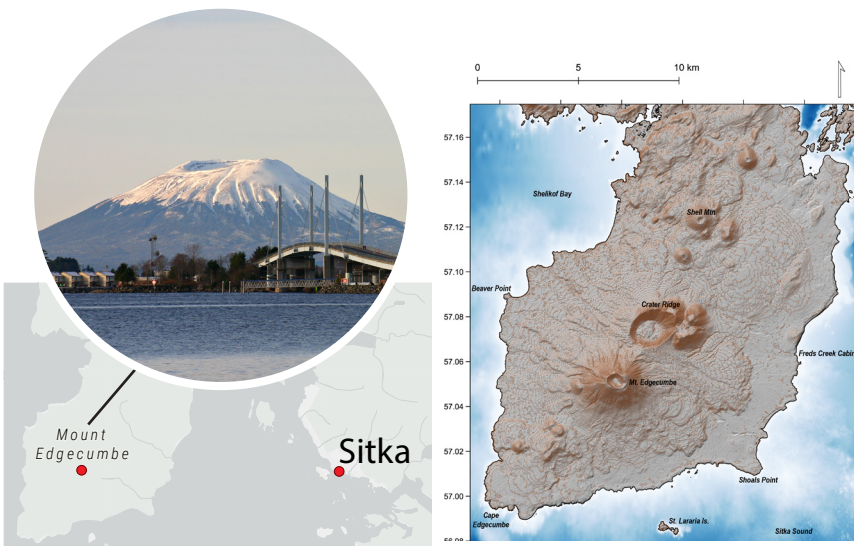
MOUNT EDGECUMBE

Ongoing volcanic unrest and response actions



Mount Edgecumbe (Tlingit name "L'úx Shaa") is a 976 m (3,202 ft) high stratovolcano on Kruzof Island located 24 km (15 mi) west of Sitka, Alaska, and is part of a broader volcanic field of lava domes and craters on southern Kruzof Island and surrounding submarine vicinity.

Interest in Mount Edgecumbe has increased since April 2022, following a seismic swarm and AVO analyses showing ongoing magmatic intrusion under the volcano, leading to designating Mount Edgecumbe as an "active" volcano.



Potential Hazards

The primary hazards of past eruptions, and thus likely in future eruptions, have been volcanic ash emissions producing local and region ashfall and drifting ash clouds. Volcanic lahars (sediment-rich debris flows), pyroclastic flows (hot rock avalanches), and lava flows have also occurred on the flanks of Mount Edgecumbe. Mount Edgecumbe and the surrounding volcanic field lie within the Tongass National Forest.

Prognosis

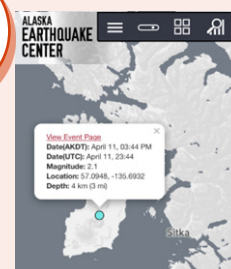
Intrusions of new magma under volcanoes do not always result in volcanic eruptions. The deformation and earthquake activity at Edgecumbe may cease with no eruption occurring. If the magma rises closer to the surface, this would lead to changes in the deformation pattern and an increase in earthquake activity. Therefore, it is very likely that if an eruption were to occur it would be preceded by additional signals that would allow advance warning.

Timeline of Unrest and Response at Mt. Edgecumbe

August 2018

Magma begins quietly intruding underneath Mt. Edgecumbe at a depth of 6 miles.

April 11, 2022



Alaska Earthquake Center locates a M2.1 earthquake directly under Mt. Edgecumbe; seismic swarm recorded in Sitka.

April 12–13, 2022

Earthquake swarm subsides.

April 22, 2022

Retrospective study by AVO reveals ongoing magmatic intrusion.

May 20, 2022

AVO installs a temporary seismic station on Mt. Edgecumbe; geologists travel to Sitka to host information sessions; discussion and collaboration is ongoing.

August 2022

AVO makes the seismic and GPS station on Mount Edgecumbe permanent.

Summer 2023

AVO will install 3–4 more seismic and GPS stations on Mount Edgecumbe; continue community engagement activities, conduct geologic studies.

MOUNT EDGE CUMBE

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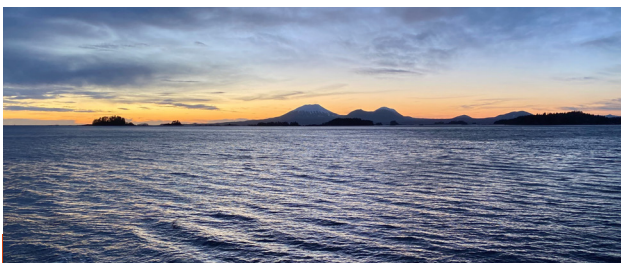


Historical Activity

There are no written observations of eruptions from the volcanic field; although Tlingit oral history describes small recent eruptions. Geologic investigations show that eruptions 13,000 to 14,500 years ago produced at least one widespread regional tephra (ash) layer around 1 m (3 ft) thick near Sitka and over 30 m (100 ft) thick on parts of Kruzof Island. Smaller eruptions occurred between 6,000 and 4,000 years ago. The volcanic field has erupted a wide range of basalt to rhyolite compositions from numerous vents over the past 600,000 years.

Volcano Monitoring and 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 participate in around-the-clock volcano monitoring using satellite, seismic, and infrasound data to assess activity levels at volcanoes. Detailed records of eruption timelines, pilot reports, and monitoring data help make informed decisions before, during, and after a volcanic event.



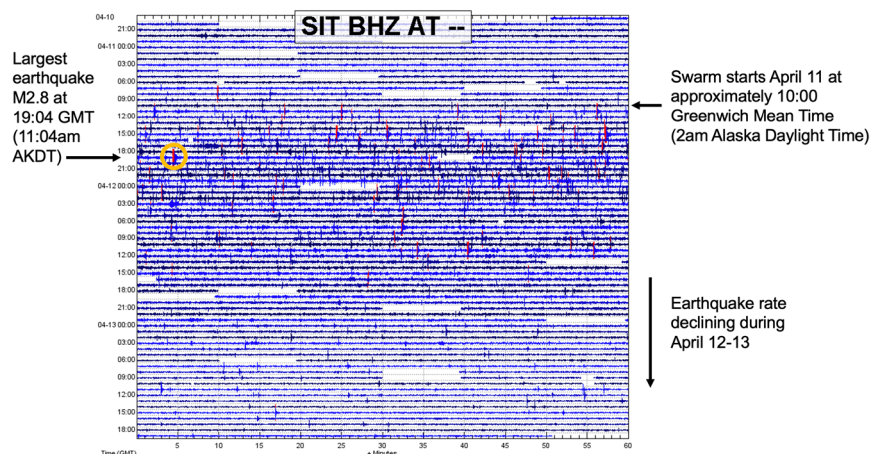
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avo.alaska.edu

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AVO personnel installing a station on Edgecumbe in May, 2022; M. Kaufman, UAFGI.



Stay connected:

Subscribe for email/text alerts: volcanoes.usgs.gov/vns2

For ashfall forecasts: weather.gov/afc

More information on Alaska's volcano hazards:
avo.alaska.edu/volcanoes/hazards.php

View the Interagency Ash Plan for Volcanic Ash Episodes:
avo.alaska.edu/downloads/reference.php?citid=3996

If you see it, report it!

You can report any volcanic activity that you see.

To report anomalous volcanic activity, such as unusually strong sulfur smells or changes in fumarolic activity, contact AVO at 907-786-7497 or avo.alaska.edu/contact.php

To report ashfall, visit: avo.alaska.edu/ashfall/ashreport.php

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