California Geological Survey
California Volcanoes

Current volcanic activity in Hawaii has raised awareness about the potential for volcanic hazards in California. At this time, California has no volcanic eruptions or lava flows occurring, but the state does have several volcanoes that have the potential to produce various types and levels of volcanic activity.

Although earthquakes, landslides, and even tsunamis are more commonly encountered geologic hazards in California, volcanic eruptions occur in the state about as frequently as the largest earthquakes along the San Andreas Fault Zone. There have been 10 eruptions in in California over the last 1,000 years.

California has several volcanoes that have exhibited very low levels of volcanic activity for decades or even centuries without having an eruption. This activity includes hot springs, gas emissions, earthquakes, and ground deformation. The U.S. Geological Survey (USGS) monitors sixteen California volcanoes that have the potential to become active again.

There are seven volcanoes in California that are ranked as having a high to very high threat potential. The USGS ranks the volcanic threat based on the age of the volcano, types of potential hazards, and potential to affect people and structures.

Very High Threat Potential:

♦ Lassen Volcanic Center -- Located in Lassen Volcanic National Park in Shasta County, this region's last eruption was on Lassen Peak during 1915-1917, with the largest event occurring on May 22, 1915. A vertical column of ash and gas was blasted more than 30,000 feet into the air. People as far away as Eureka, 150 miles to the west, could see the plume, and there was significant damage to nearby farms and ranches from the ash fallout.

♦ Long Valley Caldera -- Located in Mono County about 30 miles southeast of Yosemite National Park, this region includes the Mammoth Lakes resort area and the northern end of Crowley Lake -- a water reservoir for Los Angeles. The Long Valley Caldera's most recent eruptions occurred 16,000-17,000 years ago. In 1980 significant earthquake swarms prompted the USGS to establish the California Volcano Observatory. There are many hot springs and steam vents in the area, providing signs of ongoing volcanic activity underground.

♦ Mount Shasta -- The 14,000+ foot mountain in Siskiyou County is a beautiful landmark, but potentially dangerous. It last erupted 200-300 years ago and has had small eruptions at the summit and from vents

on the east flank over the last few millennia. Mount Shasta and Mount Lassen are part of the southern end of the Cascade Range that also includes the volcanoes of Mount Rainier, Mount Hood, and Mount St. Helens.

High Threat Potential:

♦ The Clear Lake Volcanic Field – Located in Lake County about 90 miles north of San Francisco, this volcanic area last erupted approximately 10,000 years ago. The 4,300-foot Mount Konocti along the south shore of Clear Lake is composed of much older eruptive rocks. Ongoing activity in this region is indicated by the many hot springs and gas vents in the area. The heat rising from the magma chamber at depth is utilized by The Geysers, the world's largest geothermal energy facility.

♦ Medicine Lake Volcano – Located in Siskiyou and Modoc counties, this shield type volcano has erupted nine times in the past 5,200 years, with the last event occurring about 950 years ago. This volcanic region includes Lava Beds National Monument.

♦ The Mono-Inyo Chain - This 18-mile chain of volcanic craters in Mono County includes domes and lava flows that extend north of Long Valley Caldera to Mono Lake. The most recent eruption occurred at the northern end of the chain, on Paoha Island in Mono Lake, about 300 years ago.

♦ The Salton Buttes – Located in Imperial County at the south end of the state, the Salton Buttes are the only active volcanic area in Southern California. There are numerous small earthquakes and geothermal energy production associated with this volcanic system. The last eruption was about 1,800 years ago.

Emergency Response

In the event of heightened volcanic activity in the state, the California Geological Survey (CGS) will be notified by the USGS California Volcano Observatory. CGS will maintain close contact with the USGS and the Governor's Office of Emergency Services throughout a volcanic event to offer support as needed, to provide information and guidance to decision-makers, and to map geologic hazards. CGS hazard mapping may include documenting ground rupture, landslide, and lahars (mud flows related to volcanic activity), and measuring and evaluating earthquakes and other earthquake hazards.

More Information

California Geological Survey: http://www.conservation.ca.gov/CGS
USGS California Volcano Observatory: https://volcanoes.usgs.gov/observatories/calvo/
Governor's Office of Emergency Services: http://www.caloes.ca.gov/cal-oes-divisions/earthquake-tsunami-volcano-programs