

HAZARDS AND THREATS

Volcano Information

The U.S. Geological Survey (USGS) reports that there are 160 U.S. volcanoes that have erupted in the past 10,000 years.

The closest volcanic field areas to Los Angeles County and Southern California are the Lavic and Coso Volcanic Fields. The Lavic Volcanic Field is located near Victorville and east of Lancaster. The Coso Volcanic Field is located approximately 181 miles north of Los Angeles County.

Other volcanoes that reside within the State of California boundaries include Mammoth Mountain, and the Long Valley Caldera. This volcano has had a violent history, and is presently considered a dormant volcano similar to Mt. St. Helens in Washington State.

The possibility of volcanic eruptions in Los Angeles County is low, but the County is contained within a state that has volcanoes that have erupted within the last 10,000 years.

You never know when a volcano may erupt or a natural disaster may strike. It may happen when you are visiting family members or when you are on vacation near these listed volcanic field areas. The following is a list of State of California volcanoes that are being monitored by the USGS California Volcano Observatory located in Menlo Park:

- Brushy Butte (Shasta County, California)
http://volcanoes.usgs.gov/volcanoes/brushy_butte/

Brushy Butte is located east of Timbered Crater, south-southeast of the Medicine Lake Highlands in Shasta County, California.

Location: California, Shasta County

Latitude: 41.178° N

Longitude: 121.443° W

Elevation: 1,174 (m) 3,852 (f)

Volcano type: shield volcano

Composition: basalt

Most recent eruption: Holocene Age

- Clear Lake – California
http://volcanoes.usgs.gov/volcanoes/clear_lake/

Clear Lake Volcanic Field is located about 90 miles north of San Francisco, California. The town of Clear Lake lies within the volcanic field as does much of the 43,000-acre fresh water lake of its namesake. The Geysers steam field, which sits at the southwest margin of the volcanic region, is host to one of the world's most productive geothermal fields, producing enough electricity for 850,000 homes. The most prominent volcanic feature is the 300,000 year old Mount Konocti that rises about 3,200 ft. above the southwestern shore of the lake. The most recent eruptions occurred about 11,000 years ago around Mount Konocti. Although Clear Lake volcanic field has not erupted for several millennia, sporadic volcanic-type earthquakes do occur, and the numerous hot springs and volcanic gas seeps at in the area point to its potential to erupt again.

Location: California, Lake County

Latitude: 38.97° N

Longitude: 122.77° W

Elevation: 1,439 (m) 4,721 (f)

Volcano type: volcanic field (red map area)

Composition: basalt to rhyolite

Most recent eruption: about 10,000 years ago

Nearby towns: Clearlake, Kelseyville, Lakeport, Lucerne

- Coso Volcanic Field (Inyo County, California)

http://volcanoes.usgs.gov/volcanoes/coso_volcanic_field/

The Coso Volcanic Field is located about 100 miles northeast of Bakersfield, mainly within the boundary of the Naval Air Weapons Station, China Lake. It covers approximately 150 miles and is home to one of the largest producers of geothermal power in the United States, with an output sufficient to supply the needs of 270,000 homes. The most recent eruption occurred about 40,000 years ago forming the Volcano Peak basaltic cinder cone and lava flow. Some geological landform relationships suggest that the youngest lava dome may have formed within the past 12,000 years, but this young activity has not been confirmed via dating methods. Geophysical and geochemical studies detect a zone of partially molten rock or magma underlying the center of the Coso Volcanic Field.

Location: California, Inyo County

Latitude: 36.03° N

Longitude: 117.82° W

Elevation: 2,400 (m) 7,874 (f)

Volcano type: monogenetic volcanic field

Composition: basalt to rhyolite

Most recent eruption: 40,000 years ago

Nearby towns: Olancho, Pearsonville

- The Eagle Lake Volcanic Field (Lassen County, California)

http://volcanoes.usgs.gov/volcanoes/eagle_lake_field/

The Eagle Lake Volcanic Field occupies the junction of the Cascades, Sierra Nevada, and Basin and Range geologic provinces and consists of 15 cinder cones and basaltic lava flow vents with a larger Quaternary basaltic field. The vents are aligned along faults defining the Eagle Lake volcano-tectonic depression, and are the southernmost example of late Quaternary back-arc spreading in the northwestern Great Basin. The latest long-lived eruptive period has been roughly estimated to have occurred about 50,000-100,000 years ago.

Location: California, Lassen County

Latitude: 40.63° N

Longitude: 120.83° W

Elevation: 1,652 (m) 5,420 (f)

Volcano type: cinder cones and lava flows

Composition: basalt

Most recent eruption: Holocene

Nearby towns: Susanville

- Golden Trout Creek Volcanic Field (Tulare County, California)

http://volcanoes.usgs.gov/volcanoes/golden_trout_creek/

The Golden Trout Creek Volcanic Field consists of a group of Quaternary basaltic cinder cones and lava flows in the Toowa Valley of the Sierra Nevada about 15.5 miles south of Mount Whitney, California. Lava flows from the Golden Trout Creek Volcanic Field erupted through granitic rocks of the Sierra Nevada batholith during several episodes dating back to about 743,000 years ago, when the Little Whitney cinder cone and lava flows were erupted. The South Fork cone was erupted about 176,000 years ago and produced the largest lava flow of the volcanic field, which traveled 6.2 miles to the west, possibly as far as the floor of Kern Canyon. Tunnel cone to the north of South Fork (Red Hill) cone is undated, but its lava flow is overlain by glacial deposits and it is thought to be only slightly younger than South Fork cone. The youngest lava flow, from Groundhog cone, is thought to be about 5-10,000 years old. The lava flow from Groundhog cone traveled 6 km west down Golden Trout Creek on top of the older flow from South Fork cone.

Location: California, Tulare County

Latitude: 36.358° N

Longitude: 118.32° W

Elevation: 2,886 (m) 9,469 (f)

Volcano type: volcanic field

Composition: basalt

Most recent eruption: 5,000 to 10,000 years ago

- Lassen Peak – Lassen Volcano (Shasta County, California)
http://volcanoes.usgs.gov/volcanoes/lassen_volcanic_center/
- Lassen Volcanic Center lies in Lassen Volcanic National Park 55 miles east of Redding, California. The park attracts more than 350,000 visitors each year with its spectacular volcanic landscapes. Within the last 825,000 years, hundreds of explosive eruptions came from vents scattered over approximately 200 miles. Surrounding Lassen Volcanic Center, more than 50 non-explosive eruptions have occurred in the last 100,000 years. The area has been relatively quiet for the last 25,000 years with three notable exceptions—the Chaos Crags eruption (1,100 years ago), the eruption of Cinder Cone near 1666 A.D., and the Lassen Peak eruption took place A.D. 1914 to 1917. Lassen Volcanic Center hosts a vigorous geothermal system, numerous hot springs, steam vents, and boiling mud pots. Volcanic earthquakes are common, although most are too small to be felt. Ground surveys show localized subsidence of the volcano, probably due to motion on regional faults.

Location: California, Shasta County

Latitude: 40.492° N

Longitude: 121.508° W

Elevation: 3,187 (m) 10,456 (f)

Volcano type: stratovolcano

Composition: andesite, dacite

Most recent eruption: 1917

Nearby towns: Mineral, Viola

The Lavic Lake (San Bernardino County, California)

http://volcanoes.usgs.gov/volcanoes/lavic_lake/

The Lavic Lake Volcanic Field contains four Holocene cinder cones, three in the Lavic Lake area and a fourth in the Rodman Mountains located 12.4 miles to the west. Pisgah Crater, a 328 ft. cinder cone, is the most prominent feature of the basaltic lava field. Nearby vents were the source of dominantly pahoehoe lava flows that traveled 5 miles

southeast to Lavic Lake and in a narrow lobe that traveled over alluvial-fan and lake-bed deposits as far as 18 km (11.2 mi) west of the vent. More recent work indicates a convergence of dates for Pisgah Crater from paleomagnetic, argon-argon, and cosmogenic helium at about 25,000 years BP (Reid 2002, pers. comm.). Another very youthful looking, but undated cinder cone and lava field of the Lavic Lake volcanic field is located in the Sunshine Peak area of the Lava Beds Mountains, south of the better known Pisgah Crater.

Location: California, San Bernardino County

Latitude: 34.75° N

Longitude: 116.625° W

Elevation: 1,495 (m) 4,905 (f)

Volcano type: volcanic field

Composition: basalt

Most recent eruption: 10,000 years ago

Nearby towns: Barstow, Newberry Springs

- Long Valley (Mono County, California)
http://volcanoes.usgs.gov/volcanoes/long_valley/

The 16 x 32 km (20 x 10 mi) Long Valley caldera east of the central Sierra Nevada Range formed as a result of the voluminous Bishop Tuff eruption about 760,000 years ago. Resurgent doming in the central part of the caldera occurred shortly afterwards, followed by rhyolitic eruptions from the caldera moat and the eruption of rhyodacite from outer ring fracture vents, with the last eruptions inside the caldera about 50,000 years ago. During early resurgent doming the caldera was filled with a large lake that left lake-shore traces (strandlines) on the caldera walls and the resurgent dome island; the lake eventually drained through the Owens River Gorge. The caldera remains thermally active, with many hot springs and fumaroles, and has had significant deformation, seismicity, and other unrest in recent years. The late-Pleistocene to Holocene Inyo Craters cut the northwest topographic rim of the caldera in 1,350 A.D., and along with Mammoth Mountain on the southwest topographic rim, are west of the structural caldera and are chemically and tectonically distinct from the Long Valley magmatic system. The most recent activity in the area was about 300 years ago in Mono Lake.

Location: California, Mono County

Latitude: 37.7° N

Longitude: 118.87° W

Elevation: 2,600 (m) 8,530 (f)

Volcano type: caldera

Composition: basalt to rhyolite

Most recent eruption: 50,000 years ago

Nearby towns: Mammoth Lakes

- **Medicine Lake Volcano** (Siskiyou and Modoc Counties, California)
http://volcanoes.usgs.gov/volcanoes/medicine_lake/

Medicine Lake volcano is situated just east of the Cascade Volcanic Arc axis in northern California's high desert 35 miles, northeast of Mount Shasta. Also known as the Medicine Lake Highland, this shield-shaped volcano together with its surrounding apron of lavas covers a total area of about 850 miles, extending approximately 50 miles north-south and 30 miles east-west. A shallow, but wide 4.3x7.5 miles caldera basin containing its namesake lake is located at the summit of the volcano. Medicine Lake volcano has had intermittent eruptive periods over the last half-million years producing mostly basalt to andesite lava flows and cinder cones with occasional dacite to rhyolite lava flows and tephras. The most recent volcanic activity occurred about 950 years ago and formed Glass Mountain, a 1/4 mile dacite and rhyolite obsidian flow that erupted just outside the eastern caldera rim. Lava Beds National Monument is located on the northern flank of Medicine Lake volcano and encompasses mostly basaltic lavas that host spectacular lava-tube caves and form other well-preserved young volcanic features.

Location: California, Siskiyou & Modoc Counties

Latitude: 41.611° N

Longitude: 121.554° W

Elevation: 2,412 (m) 7,913 (f)

Volcano type: composite (red map area)

Composition: basalt to rhyolite

Most recent eruption: 950 years ago

Nearby towns: Malin, Merrill, Tulelake, Klamath Falls (OR)

- **Mono Inyo Chain** (Mono County, California)
http://volcanoes.usgs.gov/volcanoes/mono_inyo_craters/

The Mono-Inyo Craters are a 18 mile long chain of sililic lava domes, lava flows, and explosion craters found along the eastern side of the Sierra Nevada range between Mono Lake and Long Valley Caldera. Mono Craters comprise the northern portion of the chain and form an arcuate, 10.5 mile long group of 30 or more dike-fed eruption centers. Explosive eruptions at Mono Craters began more than 50,000 years ago from now-buried vents, but almost all of the exposed domes and flows are of Holocene Age. The Inyo Craters are a 7.5 mile long chain of volcanic features similar to the northern-lying Mono Craters. The latest eruptions at Mono-Inyo Craters took place about 600 years ago when explosive eruptions and lava flows produced tephra deposits and obsidian lava domes.

Location: California, Mono County
Latitude: 37.82° N
Longitude: 119.02° W
Elevation: 2,629 (m) 8,625 (f)
Volcano type: lava domes
Composition: rhyolite
Most recent eruption: 600 years ago
Nearby towns: Crestview, Mammoth Lakes

- Mount Shasta
http://volcanoes.usgs.gov/volcanoes/mount_shasta/

Mt. Shasta is a majestic, steep-sided stratovolcano located about 97 km (60 mi) north of Redding along the I-5 corridor in Northern California. It is the most voluminous of all the Cascade Range volcanoes, and the towns of Weed, Mt Shasta City, and McCloud lie in the shadow of its 4,317 m (14,163 ft) high snow- and ice-clad edifice, which also holds the headwaters of the Upper Sacramento River. Mount Shasta began forming on the remnants of an older, similar volcano that collapsed 300,000 to 500,000 years ago. The collapse spawned one of the largest landslides known on Earth, covering more than 440 km² (170 mi²) of Shasta Valley to the northeast. Activity over the last 300,000 years includes long intervals of quiet interrupted by shorter spans of frequent eruptions. Eruptions at about 11,000 years ago built Black Butte and Shastina on the western flanks of Mount Shasta. In the last few millennia, smaller eruptions have broken out at the volcano's summit and from vents on its upper east flank. USGS scientists are working on constraining the age of the most recent eruption. Preliminary work indicates the volcano erupted in the past 200-300 years and historic reports of an eruption plume witnessed from sea in 1786 may or may not be accurate. Hot springs and volcanic gases still seep from the summit indicating a still-hot system and relatively young. Non-volcanic shedding of young volcanic rock and ash from Mount Shasta's steep slopes occurs during heavy rainfall or glacial floods. In the last 1,000 years, more than 70 mudflows have inundated stream channels. The record of eruptions over the last 10,000 years suggests that, on average, at least one eruption occurs every 800 to 600 years at Mt Shasta.

Location: California, Siskiyou County
Latitude: 41.409° N
Longitude: 122.193° W
Elevation: 4,317 (m) 14,163 (f)
Volcano type: Stratovolcano
Composition: andesite, dacite
Most recent eruption: 200-300 years ago
Nearby towns: Weed, Mount Shasta, Edgewood, Dunsmuir

- The Salton Buttes (Imperial County, California)
http://volcanoes.usgs.gov/volcanoes/salton_buttles/

The Salton Buttes lie within the Salton Sea Geothermal Field located about 145 km (90 mi) southeast of Palm Springs in Imperial Valley, California. The geothermal system is fueled by heat emanating from zones of partially molten rock (magma) deep below the Earth's surface. Eruptions occurring about 400,000 years ago were followed by a long lull in volcanic activity until about 18,000 years ago. The most recent eruptions, which took place about 9,000 years ago, started explosively, then progressed to relatively gentle effusion of dense, glassy-looking (obsidian) lava domes. The Salton Sea Geothermal Field, which currently produces enough power to supply about 325,000 homes, has persistent small to moderate earthquakes related to the geothermal system and to movement along regional faults. Monitoring of earthquake activity began in the 1930s, and the dense seismic network installed in the 1970s is operated by the USGS and the California Institute of Technology (Caltech). The available data are insufficient to establish a pattern of volcanic activity to determine the likelihood of eruption. The high heat flow from the area and relatively young age of Salton Buttes, however, attest to the potential for future eruptions.

Location: California, Imperial County

Latitude: 33.2° N

Longitude: 115.62° W

Elevation: -40 (m) -131 (f)

Volcano type: lava dome

Composition: rhyolite

Most recent eruption: 6450 BCE

Nearby towns: Westmorland, Calipatrica, Niland, Brawley

- Silver Lake (Shasta County, California)
http://volcanoes.usgs.gov/volcanoes/silver_lake/

Lava flows from two isolated cinder cones northwest of Lassen Peak blocked drainages, forming three small lakes. The cones lie southwest of Burney Mountain and west-northwest of Magee Peak. Lava flows from the Silver Lake cinder cone formed Silver Lake northeast of the cone and crescent-shaped Author Lake to the east and traveled 3.5 km (2.2 mi) to the southwest. The crater of Silver Lake cone is open to the southwest. The flat-topped Buckhorn Lake cinder cone to the southeast of Silver Lake dammed up Buckhorn Lake, northeast of the cone, and produced a lava flow that traveled 3.5 km (2.2 mi) to the southwest. These basaltic cones are of possible Holocene age, but lie outside the area of glaciation at Lassen and their age is not known with certainty.

Location: California, Shasta County

Latitude: 40.731° N

Longitude: 121.841° W

Elevation: 1,535 (m) 5,036 (f)

Volcano type: cinder cones

Composition: basalt

Most recent eruption: Holocene

Nearby towns: Burney, Montgomery Creek, Round Mountain

- Tumble Buttes
http://volcanoes.usgs.gov/volcanoes/tumble_buttes/

A line of cinder cones along a north-northwest- to south-southeast-trending fissure has produced a series of youthful-looking lava flows. The most prominent of these is Devils Rock Garden, a thick, blocky andesitic lava flow complex that extends to the south from Tumble Buttes. Bear Wallow Butte (dated at 35 ka), the source of un-vegetated lava flows on its eastern and western flanks, lies at the southern end of the chain. At the northern end is Eiler Butte, constructed on a topographic high, which has also produced blocky lava flows. Miller (1989) mapped Tumble Buttes as Holocene. The Devils Rock Garden lava flow erupted from Tumble Butte south is the youngest in the area. It blocked glacial outwash channels and overlies glacial gravels and thus is younger than about 15,000 years, but not necessarily Holocene.

Location: California, Shasta County

Latitude: 40.68° N

Longitude: 121.55° W

Elevation: 2,191 (m) 7,188 (f)

Volcano type: cinder cones

Composition: basalt

Most recent eruption: Holocene

Nearby towns: Burney, Old Station, Viola

- Twin Buttes
http://volcanoes.usgs.gov/volcanoes/twin_buttes/

A group of cinder cones near Pleistocene Burney Mountain volcano, including Twin Buttes to the southeast, is considered to be of Holocene age. The cones are part of an area of extensive Quaternary volcanism north of the Lassen volcanic field. The youngest volcanism in this area has been assigned an age of latest Pleistocene or early Holocene. Blocky, partially un-vegetated lava flows extend to the north from North and South Twin Buttes, which are located at the SE foot of the Burney Mountain lava dome complex.

Location: California, Shasta County
Latitude: 40.777° N
Longitude: 121.591° W
Elevation: 1,631 (m) 5,351 (f)
Volcano type: cinder cones
Composition: basalt
Most recent eruption: Holocene
Nearby towns: Burney, Old Station, Viola

- The Ubehebe Craters
http://volcanoes.usgs.gov/volcanoes/ubehebe_craters/

Ubehebe (pronounced you-bee-hee-bee) Craters, located about 150 miles northeast of Bakersfield in Death Valley National Park, consists of at least a dozen overlapping volcanic craters. The largest crater is about 800 m (0.5 mi) wide and 250 m (800 ft) deep. The craters formed during a series of explosions set off as molten rock (magma) rising toward the Earth's surface flashed groundwater to steam (phreatic eruption). Although very little magma actually erupted during these events, the explosive magma-water interaction blasted pulverized rock high into the air. Debris from the explosions blankets about 40 km² (15 mi²). The ages of these explosions are not known precisely, but the largest in the series most likely occurred sometime between 200 and 900 years ago. The USGS has no monitoring networks in the vicinity of Ubehebe Craters. Available data are insufficient to quantitatively determine the likelihood of a future eruption in this area. The word Ubehebe is Native American in origin and means "big basket in the rock."

Location: California, Inyo County
Latitude: 37.02° N
Longitude: 117.45° W
Elevation: 752 (m) 2,467 (f)
Volcano type: maar and tuff ring
Composition: basalt
Most recent eruption: 900 years ago

Information about the above listed volcanoes was provided by the USGS Volcano website.

<http://volcanoes.usgs.gov>

Last Modified: 7-3-12 1206