

= Mount Tehama =

Mount Tehama (also called Brokeoff Volcano or Brokeoff Mountain) is an eroded andesitic stratovolcano in the Cascade Volcanic Arc and the Cascade Range in Northern California . Part of the Lassen volcanic center , its highest remaining remnant , Brokeoff Mountain , is itself the second highest peak in Lassen Volcanic National Park and connects to the park 's highest point , Lassen Peak . Located on the border of Tehama County and Shasta County , Tehama 's peak is the highest point in the former . The hikers that summit this mountain each year are treated to " exceptional " views of Lassen Peak , the Central Valley of California , and many of the park 's other features . On clear days , Mount Shasta can also be seen in the distance .

Tehama started life some 600 @, @ 000 years ago . At its peak activity , it reached approximately 3 @, @ 350 meters (11 @, @ 000 ft) high , with a basal diameter of approximately 12 kilometers . Volcanic activity then declined 400 @, @ 000 years ago , with other volcanic lava domes forming at the edges of Mount Tehama later on , the largest and best known of which is Lassen Peak . A combination of continued hydrothermal activity and erosion , particularly by glaciers during ice ages , removed the central cone of the volcano , leaving a large caldera , the northern edge of which can still be seen .

Other remnants of Mount Tehama include Mount Conard , Pilot Pinnacle , Mount Diller , and Diamond Peak .

= = History = =

The area near Lassen Peak became a haven for new settlers throughout the 1800s . Wagon trains followed winding trails on the Nobles Emigrant Trail which cut through the Lassen Peak vicinity near Sacramento Valley . One of the main landmarks along this trail was a volcano . Called Lassen Peak after Peter Lassen , a prominent blacksmith and guide who escorted California settlers , the volcano and the area around it were given merit for their gripping volcanic phenomena , which included lava beds and extinct volcanic cones . In May 1907 , Lassen Peak was declared a National Monument by President Theodore Roosevelt to protect the area for " future generations to study and enjoy " . Roosevelt had been told that the area was actually extinct in terms of eruptive activity . Despite assurance from Native Americans in the area that the mountain was indeed active , settlers continued to think that Lassen Peak was extinct and " dead " and so continued to settle nearby . The natives continued to declare that " one day the mountain would blow itself to pieces " . In May 1914 , almost exactly seven years later , the volcano began a large explosive eruption sequence . More than a hundred eruptions of varying size took place over the next seven years , attracting national interest and the designation of national park in 1916 .

= = Geography and geology = =

The state of California is located on the Pacific Ring of Fire , an area of highly active tectonic activity that includes seismicity and volcanism . Tehama and the other volcanoes near Lassen Peak were produced by subduction of the oceanic Pacific Plate under the North American Plate .

Mount Tehama originated in the Lassen volcanic complex , an area of active volcanism for more than three million years . It formed during a period of eruptive activity approximately 600 @, @ 000 years ago on a series of faults ; the largest of these eruptions was about 50 times as powerful as the 1980 eruption of Mount St. Helens . During the Pleistocene , constantly renewed lava of andesite flowed from the caldera of the volcano , eventually becoming " interbedded " and heightening the mountain . By the time it reached its peak size , the volcano was immense , measuring at its base between 11 miles (18 km) and 15 miles (24 km) wide and more than 11 @, @ 000 feet (3 @, @ 353 m) tall . Activity at Tehama lasted for approximately 200 @, @ 000 years . Eruptions varied from ejection of pyroclastic material to andesitic lava flows built of olivine and other minerals .

Soon after the formation of Tehama , other , smaller volcanoes began to form . Shield volcanoes like Raker Peak , Red Mountain , Prospect Peak , and Mount Harkness appeared . At this point , the

Pleistocene was coming to an end . One additional and final vent formed on the northeastern flank of the volcano , erupting glassy dacitic flows . Over time , the volcano became dilapidated from extensive erosion and " hydrothermal activity " , and collapsed . Prior leaking of dacite dried , forming smaller landforms like Mount Conard and Diamond Peak . The result of this huge collapse was a caldera 2 miles (3 km) in diameter . Later activity built more than thirty other cones known as the Lassen Domes . Today the most active volcano in the area is Lassen Peak . Other smaller craters younger than 50 @, @ 000 years are also active .

Tehama 's remains sit under Mount Lassen in Shasta County , California . Sulphur Works , an area known for its sharp , putrid scent , is thought to be the center of the old caldera . It is located by Diamond Point , the conduit for magmas in Tehama .

After Tehama disappeared , local volcanism became more silicic , moving to Lassen Peak 's northern flank . The last 400 @, @ 000 years have seen at least three known flows , parts of which are still on Raker Peak and Mount Conard . A subsequent explosive eruption ejected 12 cubic miles (50 km³) of material and created a large crater , which was soon covered by lava . Twelve lava domes were built throughout the area and the next period of eruptive activity began . Spanning 50 @, @ 000 years it ejected 3 @. @ 5 cubic miles (15 km³) to 6 cubic miles (25 km³) of material and was followed by a third period . At least twelve periods of activity have taken place since Tehama formed , consisting of activity including pyroclastic flows , pasty lavas , and additional lava domes . Among the vents built by this activity include Lassen Peak .

= = Flora and fauna = =

Near the trailhead at lower elevations , alder thickets are present , as well as incense cedar , red firs , and western white pine . At higher elevations , groups of mountain hemlock and lupines prevail . Eagles and hawks can be frequently noted on high crags , and squirrels and pika live about the mountain .

= = Recreation = =

Hiking is especially popular on the mountain during summer . The mountain trail lasts between four and six hours , spans 7 @. @ 4 miles (12 km) , and offers " exceptional " views of Mount Diller , Lassen Peak , Chaos Crags , and Mount Conard .

Due to the characteristically intermittent eruptions of active volcanoes such as Lassen Peak , there is some threat from the volcanoes of the LVNP . Dacitic explosive eruptions have taken place within the last 50 @, @ 000 years at Lassen Peak , Chaos Crags , and Sunflower Flat , and effusive eruptions of basalt have occurred at Tumble Buttes , Hat Mountain , and Prospect Peak . Pyroclastic flows and lahars could easily occur near glaciated areas and in river valleys like Hat Creek Valley . In addition to the volcanic hazards that could possibly occur , one volcano did erupt in the 20th century in LVNP : (Lassen Peak) . Lassen 's eruptions (1914 @-@ 21 , though most activity occurred between 1914 @-@ 17) were very small compared to the 1980 eruption of Mount St. Helens .