

Mount Shasta Geology & History (from volcanoes.usgs.gov and hikemtshasta.com)



Mount Shasta is located in the Cascade Range in northern California about 65 km (40 mi) south of the Oregon-California border. One of the largest and highest (14,162 ft) of the Cascade volcanoes, the compound stratovolcano is located near the southern end of the range that terminates near Lassen Peak. Mount Shasta was primarily constructed during four major cone-building episodes that were centered on separate vents. Each of the cone-building periods produced andesite lava flows, block-and-ash flows, and mudflows originating mainly at the central vents. Construction of each cone was followed by more silicic eruptions of domes and pyroclastic flows at central vents, and of domes, cinder cones, and lava flows at vents on the flanks of the cones. Mount Shasta's estimated volume is 350 km³ (84 mi³).

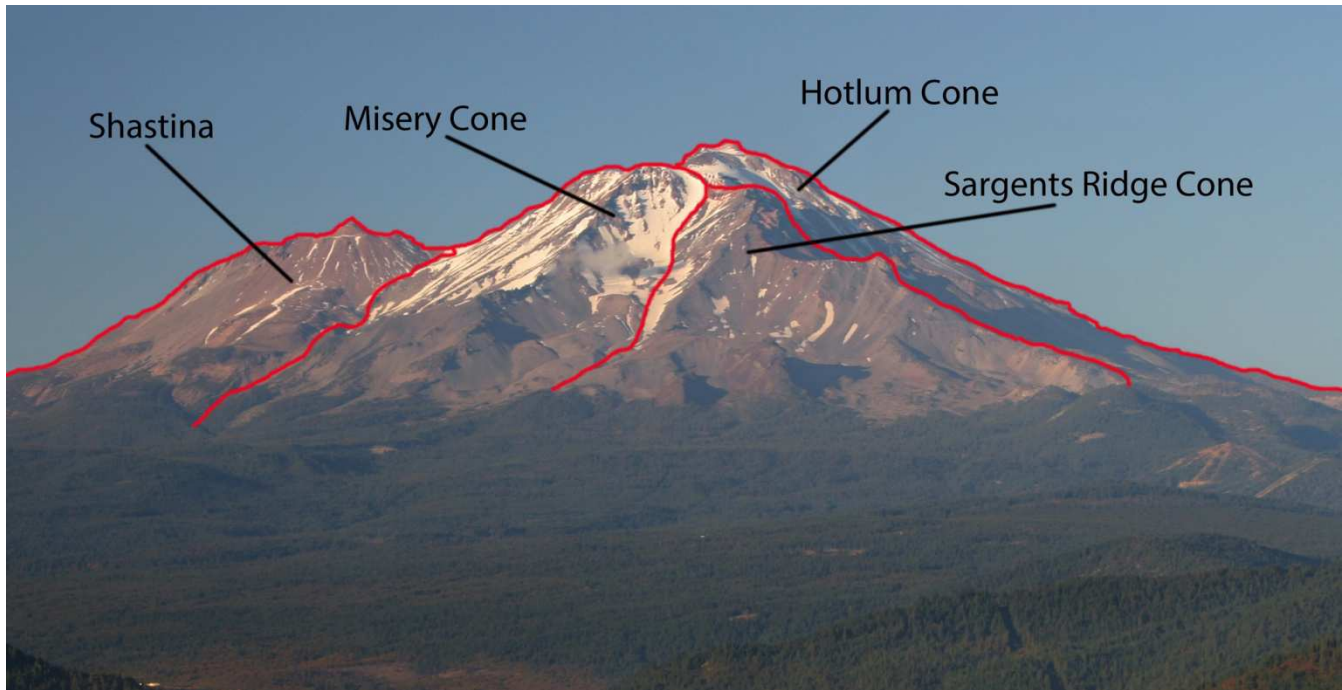
Two of the main eruptive centers at Mount Shasta, Shastina (3,758 m 12,303 ft), and Hotlum cones were constructed during Holocene time, which includes about the last 10,000 years. Holocene eruptions also occurred at Black Butte, a group of overlapping dacite domes about 13 km (8 mi) west of Mount Shasta. The extrusion of the domes about 9,500 years ago was accompanied by the formation of pyroclastic flows, which extended more than 10 km (6.2 mi) south and 5 km (3.1 mi) north of the domes. Evidence of geologically recent eruptions at these two main vents and at flank vents forms the chief basis for assessing the most likely kinds of future eruptive activity and associated potential hazards.

Streams that head on Mount Shasta drain into the Shasta River to the northwest, the Sacramento River to the west and southwest, and the McCloud River to the east, southeast, and south. Mount Shasta hosts five glaciers: Bolam, Hotlum, Konwakiton, Whitney, and Wintun glaciers. Whitney Glacier is the largest glacier in California.

Mount Shasta was designated a National Landmark in December of 1976.

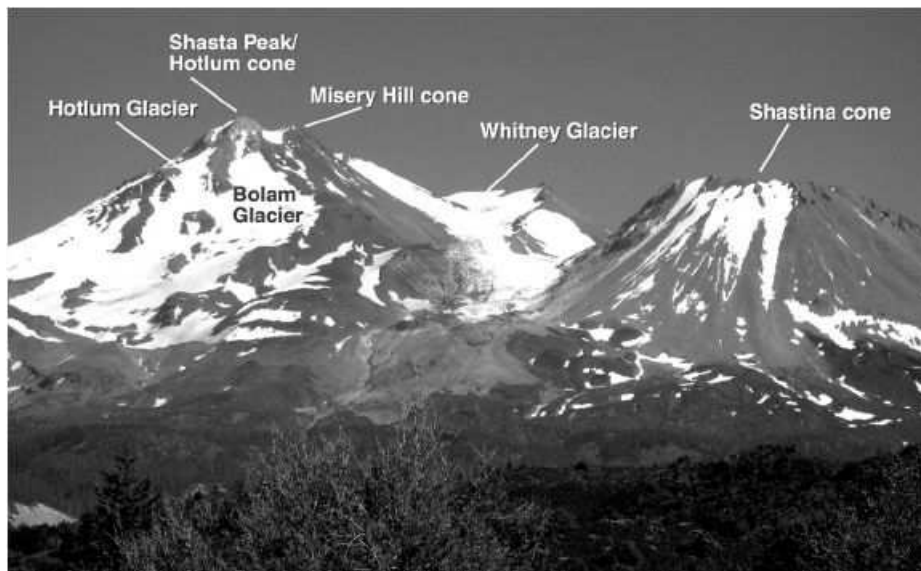
The geology of Northern California is a subject of endless fascination, with its many mountain ranges, varied geologic compositions and complex associations that these create. Mount Shasta is a microcosm of many of the features, condensed down into a single mountain. While there are indeed different types of rock within the mountain, it remains relatively homogeneous in the sense that all the types are of volcanic origin. However, the volcanic genesis of Mount Shasta is, in fact far more varied than many casual observers might suspect. Yet even the quickest of surveys of the mountain cannot help but notice the mighty satellite cone of Shastina protruding abruptly from Mount Shasta's northwest flank. This is ready evidence that there have been more than one eruptive period for California's great volcano. Indeed, this unmissable landmark is the gateway observation to a far more complex geologic history.

A more in depth study of Mount Shasta's geography will yield some more detailed elements of the mountain's structure. Things worth noting are the presence of four large glaciers on the north and east sides, the presence of large, craggy ridges on the west and south sides, the absence of such ridges on the north and east and the relatively smooth curvature of the mountain's flank on those sides. All of these elements are indicative of the complex eruptive history of Mount Shasta. Specifically, these observations are indicative of the fact that the mountain is not merely a main volcanic cone with the large Shastina a single satellite cone, but rather, a complex joining of 4 different cones, each representing a different eruptive period.



Sunrise view from the south shows 3 eruptive cones

Another beautiful photo from hikemtshasta.com



View of Mount Shastina from the northwest near Weed