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LAVA TUBES OF THE SOUTH MEDICINE LAKE HIGHLAND, CALIFORNIA

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ABSTRACT

The Medicine Lake Highland is an eastern extension of the Cascade volcanic province in northern California. Situated on the Modoc Plateau, the Highland is composed of a basaltic and andesitic shield volcano about 13 miles in diameter. It has a prominent summit caldera 6 miles long and 4 miles wide; postcaldera lavas include andesites, dacites and rhyolites. Holocene basalt flows, which erupted predominately from pit craters on the flanks of the shield volcano, contain numerous well-developed lava tubes in the northern region (Lava Beds National Monument) and in the southern region (Siskiyou County). In the southern region an unnamed series of basalts flowed south down a fault valley and merged with similar flows erupted from the Timbered Crater vent. Extensive lava tubes, many of which are partly collapsed, characterize the flows. One partly collapsed tube (possibly originating from Giant Crater) can be traced for about 14 miles. Some sections of the tube divide into four distinct levels that are stacked vertically for a total height exceeding 120 feet. Collapsed wall sections display preflow country rock and reveal the lower surface of the lava flow. Well-preserved sections of the lava tube linings, and subsequent flows along the floor. Details of these and other lava tube structures provide additional information on the mechanisms of lava tube formation and geomorphology.

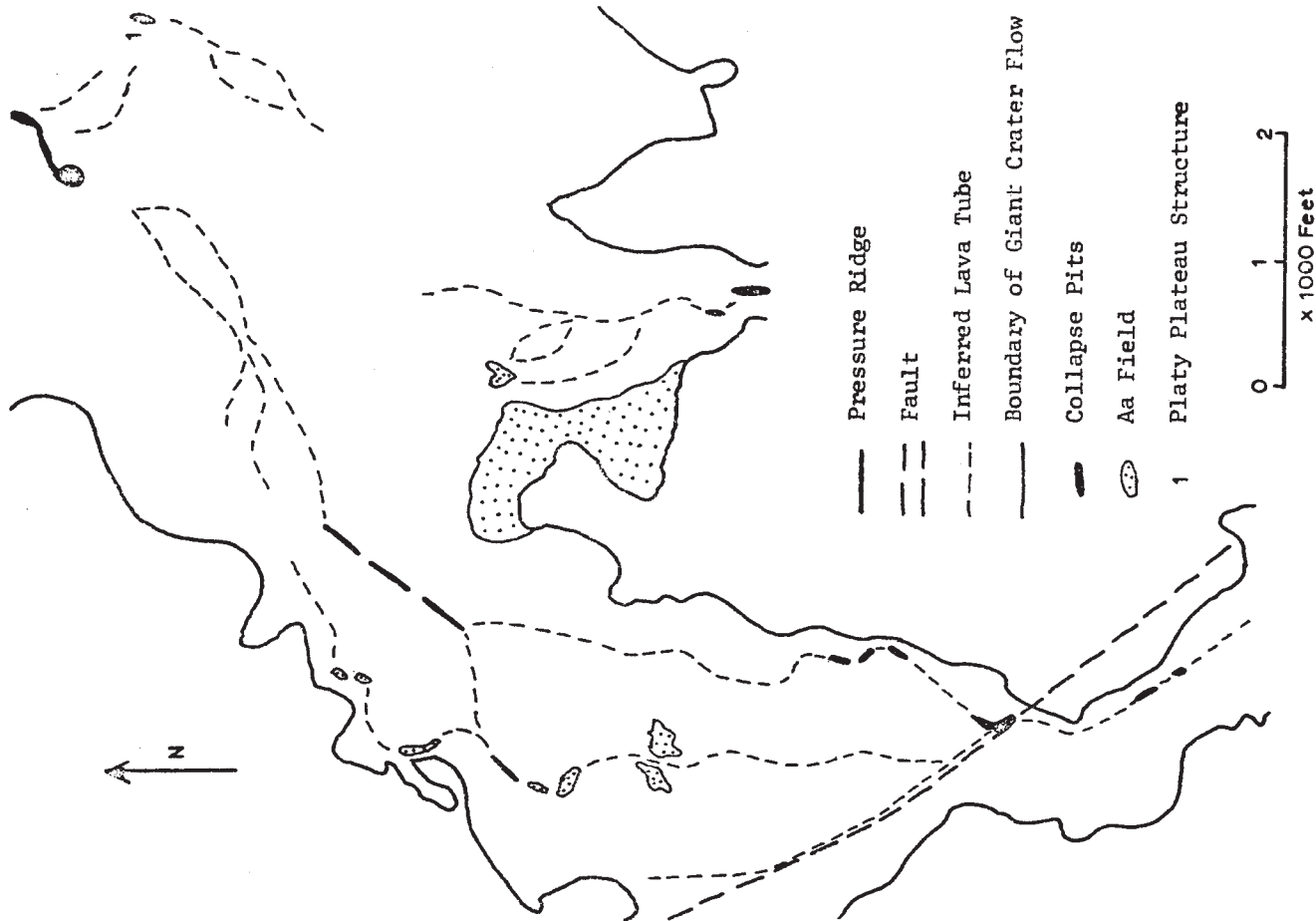


Figure 8-2: Map of a section of the Giant Crater flow.

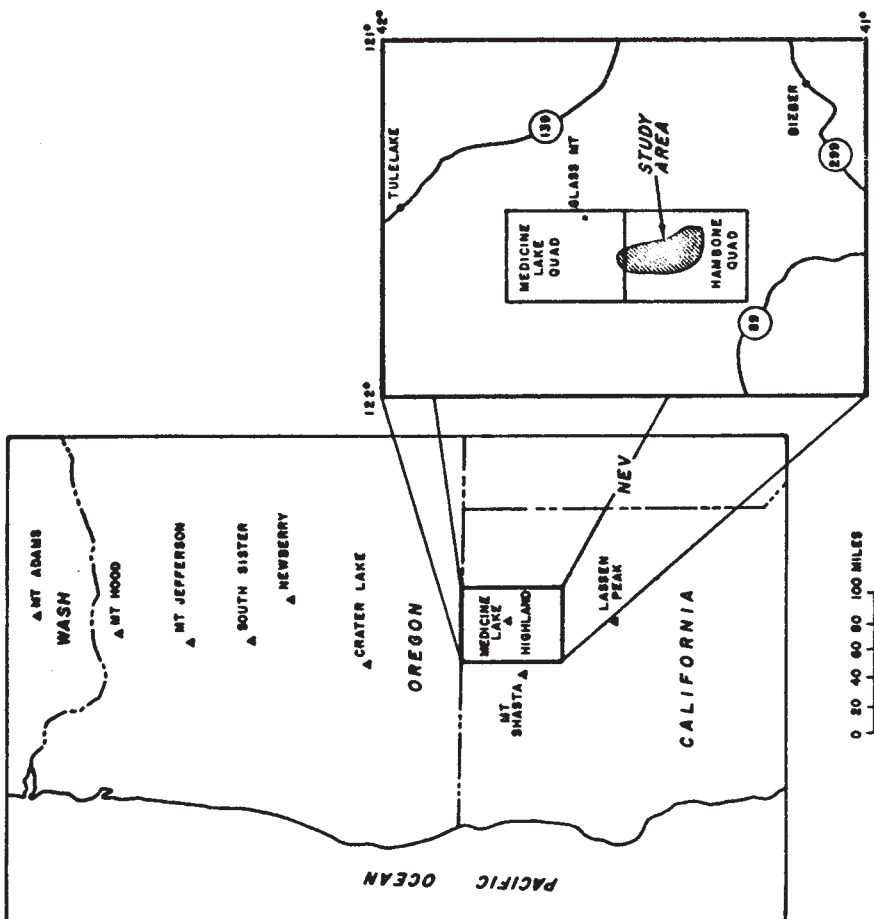


Figure 8-1: Map of northern California, western Oregon and southern Washington with a blowup of the one degree quadrangle containing the Medicine Lake Highland. Selected peaks of the Cascade Range and the location of the study area are shown. Maps after Macdonald (1966).

Fig. 2 Map of northern California, western Oregon and southern Washington with a blowup of the one degree quadrangle containing the Medicine Lake Highland. Selected peaks of the Cascade Range and the location of the study area are shown. Maps after Macdonald (1966).