

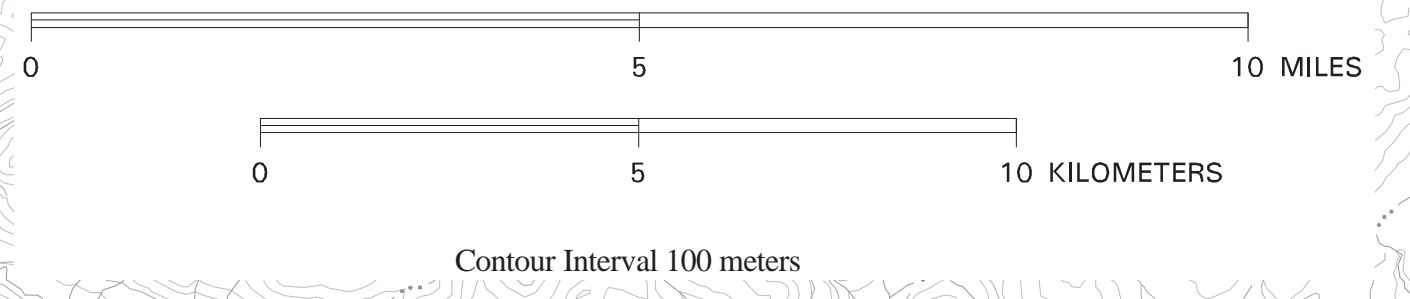
Case II inundation area in lower Puyallup River includes the entire area possibly subject to inundation by such a flow. Actual inundation areas will probably be more limited and will be strongly influenced by the existing and future network of levees and road and rail embankments.

Note on lower Nisqually below Alder Dam: Inundation area shown downstream from Alder Dam is a sub-case of the Case I lahar. Inundation could result from dam failure caused by lahar impact, displacement by the lahar or some of the water impounded by the reservoir, or possible continuation of the lahar past the dam site. Some part of a Case I lahar may be impounded in the reservoir. Thus, without dam failure, lahar-related inundation downstream from Alder Dam would most probably affect less area than shown.

Note: Downstream risk associated with this inundation area includes the potential for dam failure from nonvolcanic causes, including seismically induced failure. Inundation area is mapped at a 1:24,000 scale (by the City of Tacoma Department of Public Utilities, 1997, Nisqually River; Alder and Lagrange Dam failure flood inundation maps).

EXPLANATION

- Inundation Zone for Case I Lahars: Areas that could be affected by cohesive lahars that originate as enormous avalanches of weak, chemically altered rock from the volcano. Case I lahars can occur with or without eruptive activity. The average time interval between Case I lahars on Mount Rainier is about 500 to 1000 years.
- Inundation Zone for Case II Lahars: Areas that could be affected by relatively large non-cohesive lahars, which most commonly are caused by the melting of snow and glacier ice by hot rock fragments during an eruption, but which can also have a non-eruptive origin. Because the average time interval between Case II lahars from Mount Rainier is near the lower end of the 100- to 500-year range, making these flows analogous to the so-called "100-year flood" commonly considered in engineering practice.
- Inundation Zone for Case III Lahars: Areas that could be affected by moderately large debris avalanches or small non-cohesive lahars, all of non-eruptive origin. The average time interval between Case III lahars at Mount Rainier is about 1 to 100 years.
- Pyroclastic-Flow Hazard Zone: Areas that could be affected by pyroclastic flows, pyroclastic surges, lava flows, and ballistic projectiles in future eruptions. During any single eruption, some drainages may be unaffected by any of these phenomena, while other drainages are affected by some or all phenomena. The average time interval between eruptions of Mount Rainier is about 100 to 1000 years.
- Post-Lahar Sedimentation
- Water body
- Stream
- Spot Elevation, text is elevation in meters



VOLCANO HAZARDS FROM MOUNT RAINIER, WASHINGTON, REVISED 1998

by
R.P. Hoblitt, J.S. Walder, C.L. Driedger, K.M. Scott, P.T. Pringle, and J.W. Vallance