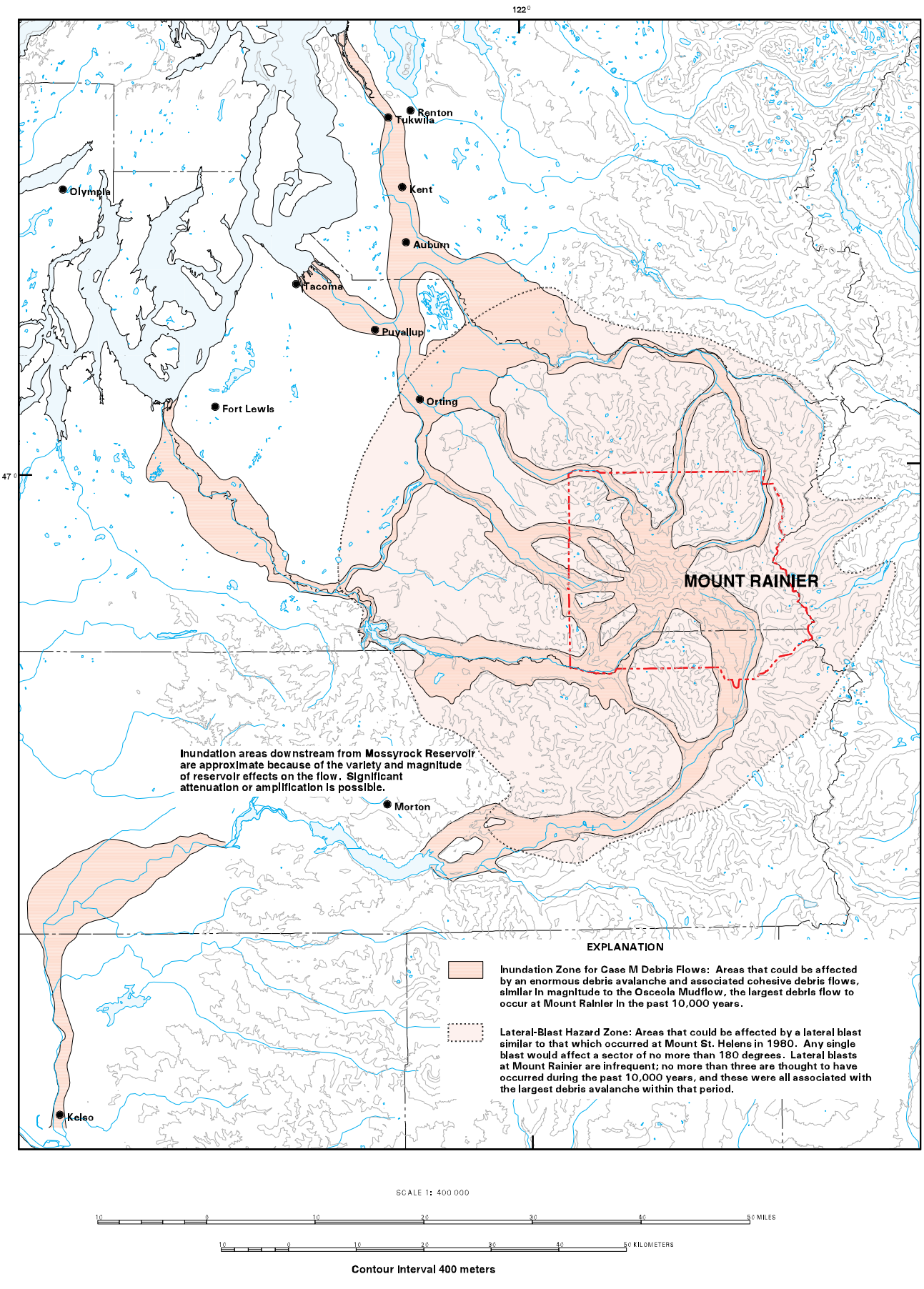


**EXPLANATION**

- Inundation Zone for Case I Debris flows: Areas that could be affected by cohesive debris flows that originate as enormous avalanches of weak, chemically altered rock from the volcano. Case I debris flows can occur with or without explosive activity. The average time interval between Case I debris flows on Mount Rainier is about 500 to 1000 years.
- Inundation Zone for Case II Debris flows: Areas that could be affected by relatively large non-cohesive debris flows, 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-explosive origin. Because the average time interval between Case II debris flows 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 flow" commonly considered in engineering practice.
- Inundation Zone for Case III Debris flows: Areas that could be affected by moderately large debris avalanches or small non-cohesive debris flows, all of non-explosive origin. The average time interval between Case III debris flows at Mount Rainier is about 1 to 100 years.
- Proclastic-Flow Hazard Zones: Areas that could be affected by proclastic 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.
- Town boundaries: Town boundaries shown are not official corporate boundaries but are drawn by the authors around areas of de-facto urban-suburban areas as indicated by the highest concentrations of roads depicted on USGS 1:100,000 quadrangles of late-1980's vintage.
- Water body
- County boundary
- Mt Rainier National Park boundary
- Stream
- Spot Elevation, text is elevation in meters

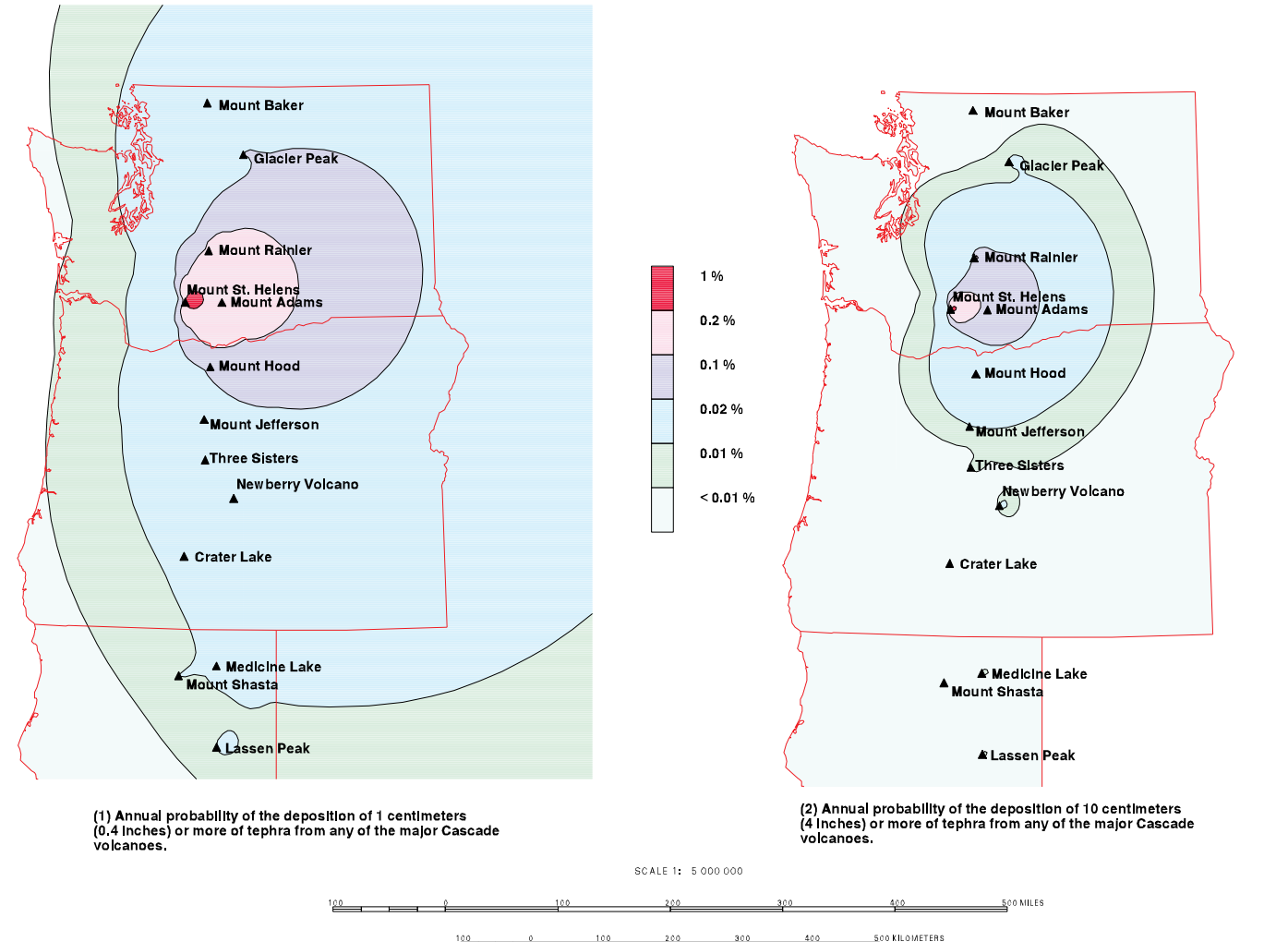
This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey information standards. Any use of trade names or product names is for information only and does not imply endorsement by the U.S. Government.

**Inset Map A: Low-Probability, High-Consequence Events**



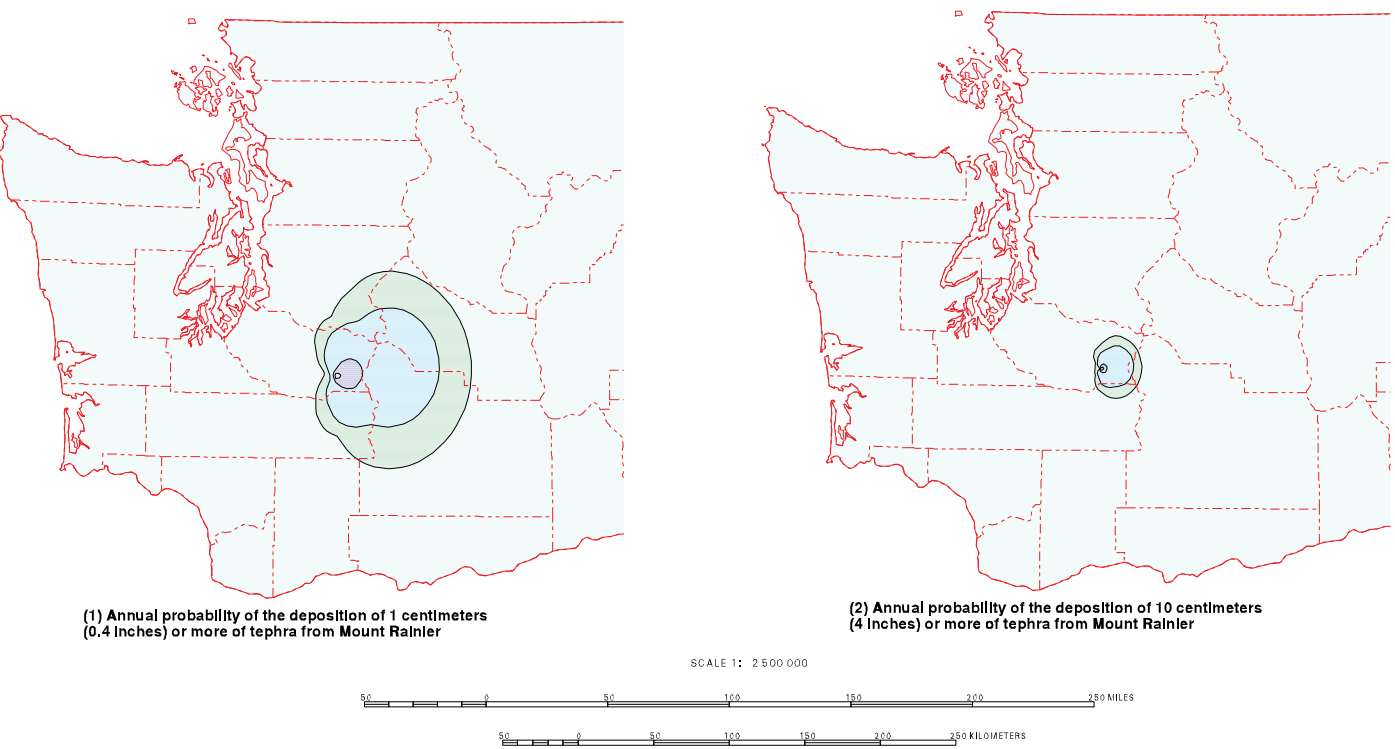
- Inundation Zone for Case III Debris Flows: Areas that could be affected by an enormous debris avalanche and associated cohesive debris flows, similar in magnitude to the Cascade Mudflow, the largest debris flow to occur at Mount Rainier in the past 10,000 years.
- Lateres-Blast Hazard Zone: Areas that could be affected by a lateral blast similar to that which occurred at Mount St. Helens in 1980. Any single blast would affect a sector of no more than 150 degrees. Lateral blasts at Mount Rainier are infrequent; no more than three are thought to have occurred during the past 10,000 years, and these were all associated with the largest debris avalanche within that period.

**Inset Map B: Total Cascades tephra hazards**



- (1) Annual probability of the deposition of 1 centimeters (0.4 inches) or more of tephra from any of the major Cascade volcanoes.
- (2) Annual probability of the deposition of 10 centimeters (4 inches) or more of tephra from any of the major Cascade volcanoes.

**Inset Map C: Mount Rainier tephra hazards**



- (1) Annual probability of the deposition of 1 centimeters (0.4 inches) or more of tephra from Mount Rainier.
- (2) Annual probability of the deposition of 10 centimeters (4 inches) or more of tephra from Mount Rainier.

**VOLCANO HAZARDS FROM MOUNT RAINIER, WASHINGTON**

by  
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1995