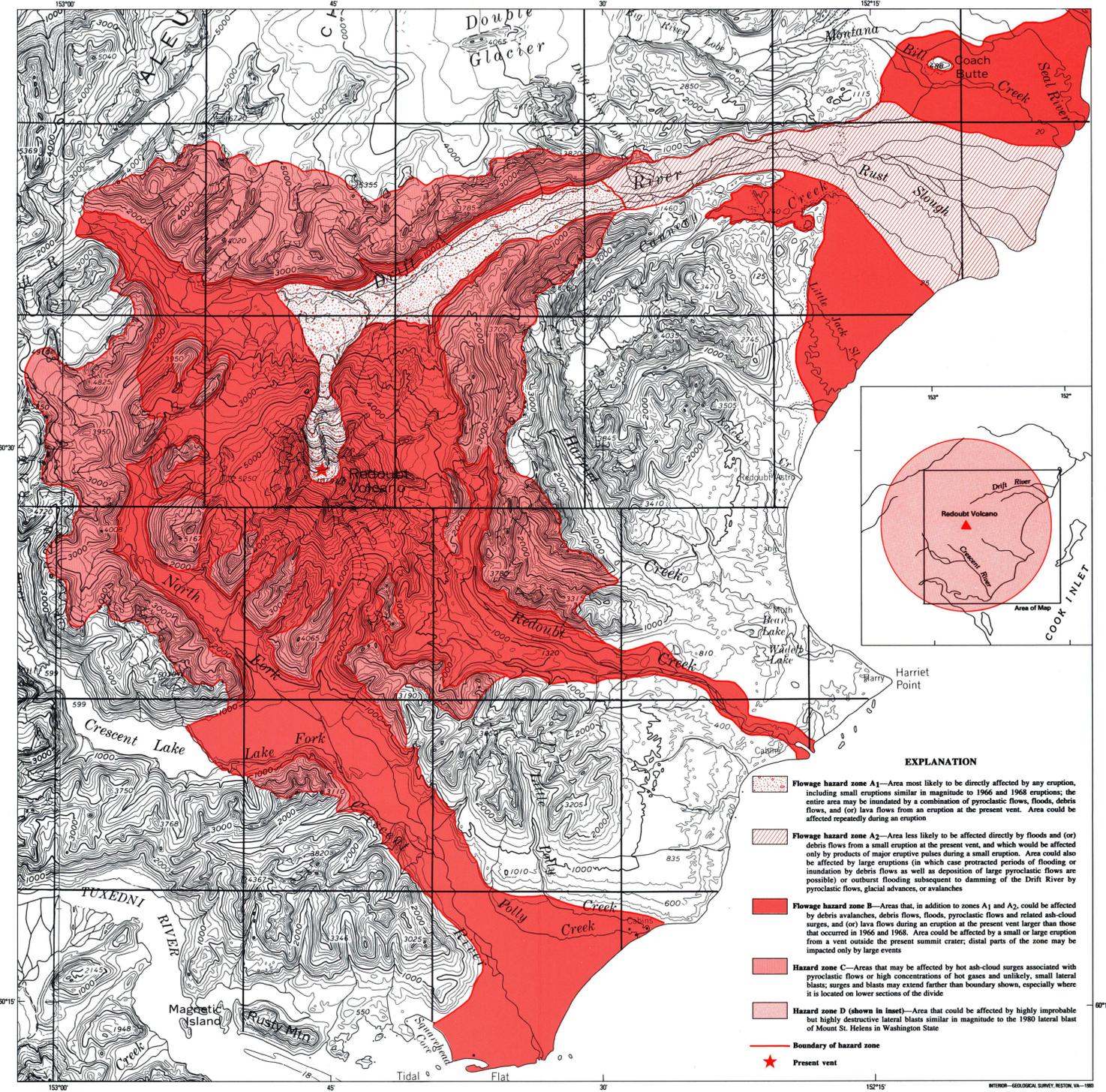


Base from U.S. Geological Survey, 1:250,000
Lake Clark, 1958; Kani, 1958
Universal Transverse Mercator projection

Geology mapped in 1980-81 by A.B. Till and M.E. Yount;
by A.B. Till, M.E. Yount, and J.R. Riehle in 1981

MAP A—GENERALIZED GEOLOGY



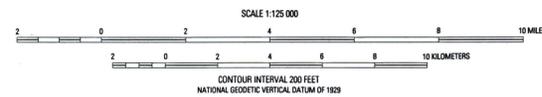
Base from U.S. Geological Survey, 1:250,000
Lake Clark, 1958; Kani, 1958
Universal Transverse Mercator projection

Hazard zones drawn by A. Till, M.E. Yount,
and J.R. Riehle, 1988

MAP B—POTENTIAL HAZARD ZONES

- EXPLANATION**
- Stream-channel deposits (Quaternary)
 - Fan deposits (Quaternary)—Alluvial fan deposits of Crescent River valley
 - Debris flow deposits (Quaternary)—Debris flow deposits of Crescent River valley. Area includes several small deposits in the upper valley and the 3,500-year-old debris flow in the lower valley
 - Volcanic rocks of Redoubt Volcano (Quaternary)
 - Glacial deposits (Quaternary) and volcanic and plutonic rocks (Tertiary to Jurassic), undivided
 - Areas in Drift River valley subjected to flood scour or deposition by 1966 floods
 - Drift River Delta—Diagonal lines denote areas subjected to flood scour and (or) deposition within the several decades before 1966
 - Contact
 - Area of hydrothermally altered material
 - Crater rim
 - Lake deposits—See text for discussion
 - Area of permanent snow and ice
 - Present vent

- EXPLANATION**
- Flowage hazard zone A1—Area most likely to be directly affected by any eruption, including small eruptions similar in magnitude to 1966 and 1968 eruptions; the entire area may be inundated by a combination of pyroclastic flows, floods, debris flows, and (or) lava flows from an eruption at the present vent. Area could be affected repeatedly during an eruption
 - Flowage hazard zone A2—Area less likely to be affected directly by floods and (or) debris flows from a small eruption at the present vent, and which would be affected only by products of major eruptive pulses during a small eruption. Area could also be affected by large eruptions (in which case protracted periods of flooding or inundation by debris flows as well as deposition of large pyroclastic flows are possible) or outburst flooding subsequent to damming of the Drift River by pyroclastic flows, glacial advances, or avalanches
 - Flowage hazard zone B—Areas that, in addition to zones A1 and A2, could be affected by debris avalanches, debris flows, floods, pyroclastic flows and related ash-cloud surges, and (or) lava flows during an eruption at the present vent larger than those that occurred in 1966 and 1968. Area could be affected by a small or large eruption from a vent outside the present summit crater; distal parts of the zone may be impacted only by large events
 - Hazard zone C—Areas that may be affected by hot ash-cloud surges associated with pyroclastic flows or high concentrations of hot gases and unlikely, small lateral blasts; surges and blasts may extend farther than boundary shown, especially where it is located on lower sections of the divide
 - Hazard zone D (shown in inset)—Area that could be affected by highly improbable but highly destructive lateral blast similar in magnitude to the 1980 lateral blast of Mount St. Helens in Washington State
 - Boundary of hazard zone
 - Present vent



GENERALIZED GEOLOGY AND POTENTIAL HAZARDS FROM REDOUBT VOLCANO, SOUTHERN ALASKA, BASED ON ERUPTIVE ACTIVITY THROUGH 1968

By
Alison B. Till, M. Elizabeth Yount, and J.R. Riehle
1993