U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT 01-431
PLATE 2

90° 00′

14° 10′

Parramos
Nepaja
Río Cocoyá
Quebrada Siguamuche
Quebrada Seca
Acatenango
Río El Carraco
Quebrada Yguanyá
Río El Arco
Finca Concepcion Calderas
Río Blanco
San Miguel Duenas
Pochuta
Río Xajá
Río Cucuya
Crater de Yepocapa
Río Guacalate
Yepocapa
Pico Mayor
Volcán de Acatenango
Río Madre Vieja
Río San Pedro
Río Quisayá
Río de la Plata
Zunjón Barrana Seca
Meseta
Quebrada San José
Alotenango
Volcán de Fuego
Carretera 14
Quebrada Barranca Honda
Quebrada de La Loja
Río Pantaleón
Río Quiscaid
Quebrada Barranca Seca
Quebrada Las Lajas
Río Tempisque
Río Tamilva
Río Ceniza
Río Platanares
Río Achiguate
Quebrada Las Cañas
Finca Monterrey
Río Agua Blanca
El Rodeo
Río Coyolate
Río Pojoyá
Río Obispo
Finca los Diamantes
Guadelupe
Río El Jute
Río Coyal
Finca El Baul
Finca San Andrés Osuna
Carretera 2
Río Aguna
Montaña El Nispero
Montaña El Zapote
Río Chisme
Río Cristóbal

EXPLANATION

Proximal Lahar-Hazard Zone

Areas that could be affected by slope failures, avalanches, and lahars from Acatenango volcano. During any single rainfall event or earthquake, some drainages may be affected by slope failures and lahars, while others may be completely unaffected. Debris avalanches and lahars originate within the proximal hazard zone, but are likely to move farther down stream beyond the flanks of the volcano and beyond the limit of this zone.

Distal Lahar-Hazard Zone

Channels that head on Acatenango volcano are subject to lahars generated by debris avalanches, torrential rains, earthquakes. Distal hazard zones are subdivided into four zones on the basis of a range of hypothetical lahar volumes [4].

Area that could be inundated by a lahar having a volume of 500,000 cubic meters. Highest probability.

Area that could be inundated by a lahar having a volume of 1 million cubic meters.

Area that could be inundated by a lahar having a volume of 2 million cubic meters.

Area that could be inundated by a lahar having a volume of 4 million cubic meters. Lowest probability.

Location Map

NOTE: Although the map shows sharp boundaries for hazard zones, the degree of hazard does not change abruptly at these boundaries. Rather, the hazard decreases gradually as distance from the volcano increases (small volume events are more common than large volume events). In addition, for lahars, the hazard decreases rapidly as elevation above the valley floor increases. Areas immediately beyond outer hazard zones should not be regarded as hazard-free, because the boundaries of hazard zones can be located only approximately, especially in areas of low relief. Many uncertainties about the source, size, and mobility of future events preclude locating the boundaries of zero-hazard zones precisely.

Numerals in brackets refer to end notes in the report.

Base maps from Guatemala 1:50,000 scale series; Chimaltenango quadrangle, (2059 IV); Ciudad de Guatemala quadrangle, (2059 I); Alotenango quadrangle, (2059 III); Amatitlán quadrangle, (2058II) digital data courtesy of Instituto Geográfico Nacional, Guatemala. Escuintla: 1985 (2058 IV); Guanagazapa 1982 (2058 I) from best available sources. Digital Bases Maps from Titan Aventar, Inc. Universal Transverse Mercator projection, Zone 15, Horizontal Datum North American 1927, Vertical Datum Mean Sea Level, Spheroid Clarke 1866.

Scale 1:50,000

0 1 2 3 4 MILES
0 1 2 3 4 KILOMETERS

Contour Interval 20 Meters

N

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic Code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Lahar Hazards of Acatenango Volcano, Guatemala

by

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