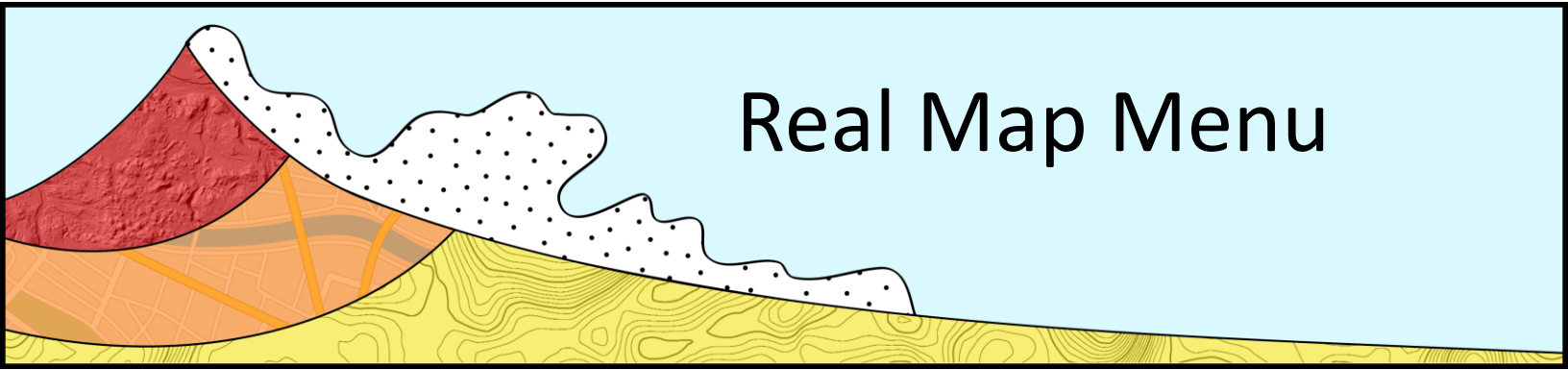
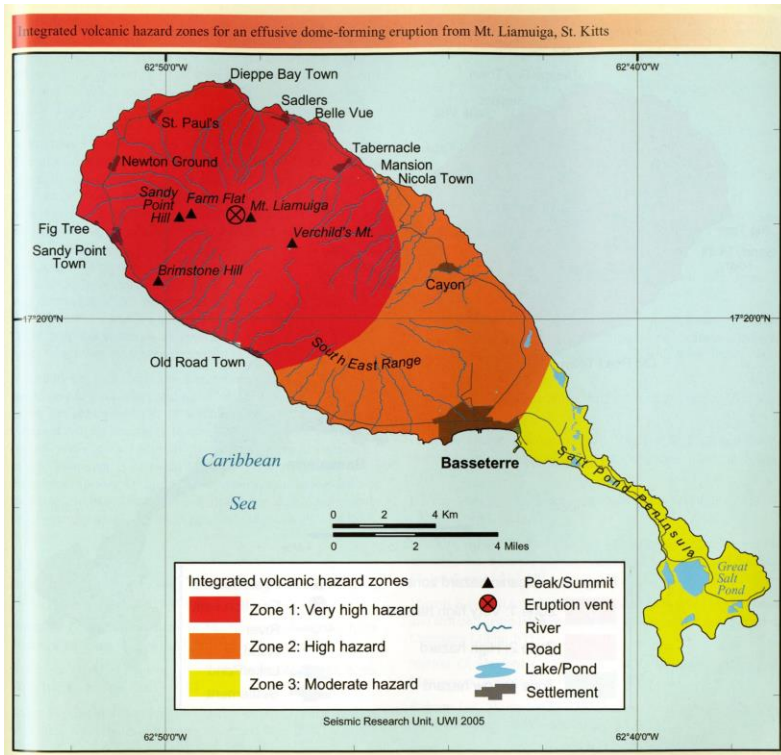


Real Map Menu



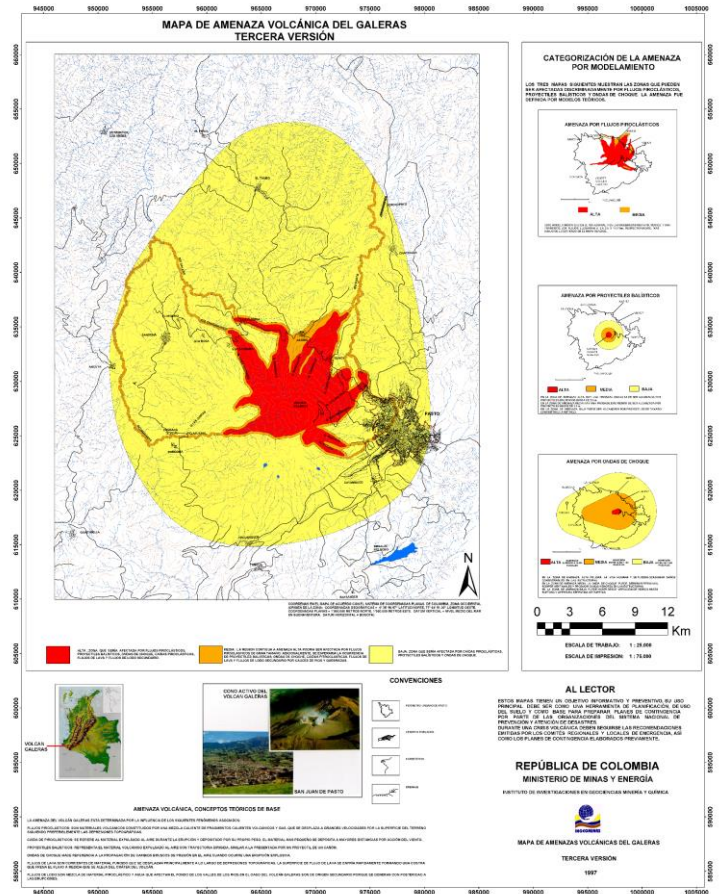
Hazard Zone Presentation

Hazard level-focused (integrated)



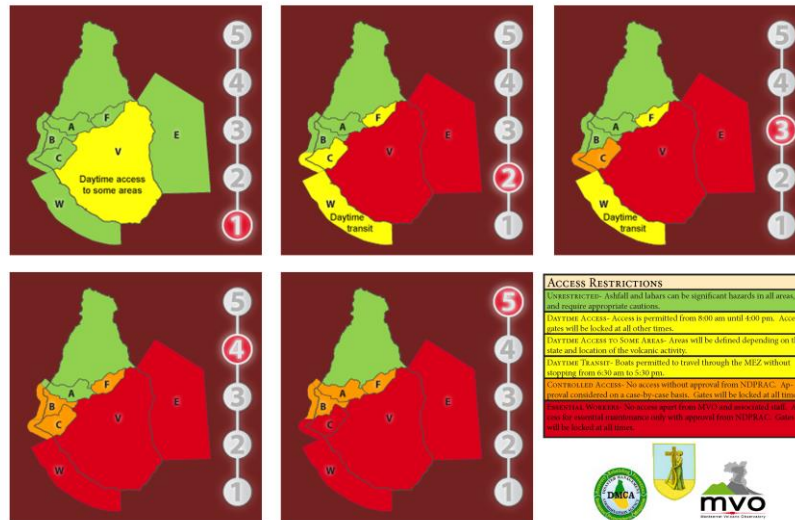
Liamuiga, Saint Kitts and Nevis
(Robertson, 2005)

Hazard level-focused with single process insets



Galeras, Colombia
(Instituto Colombiano de Geología y Minería
(INGEOMINAS), 1997)

Hazard level-focused (administrative)



Soufrière Hills, Montserrat
(Montserrat Volcano Observatory (MVO))

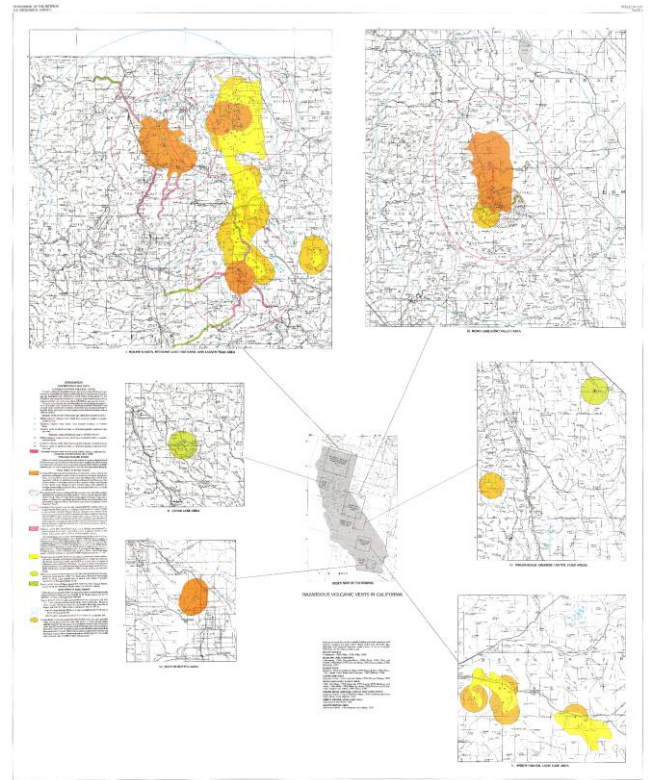
Hazard Zone Presentation

Hazard process-focused (separated)



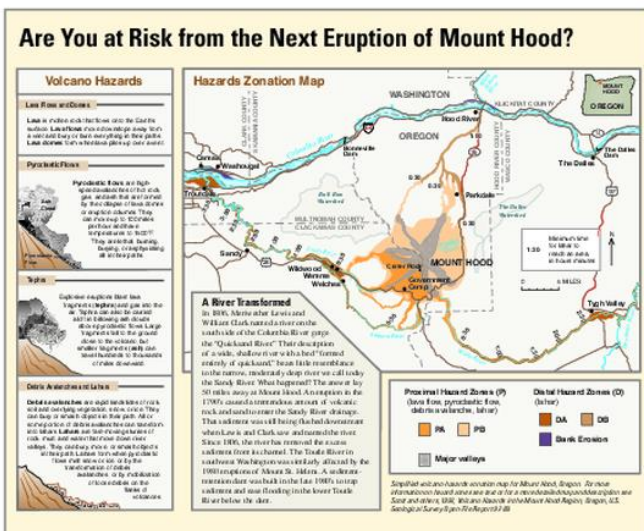
Liamuiga, Saint Kitts and Nevis (Robertson, 2005)

Hazard process-focused (grouped by process type)



California (regional), United States (Miller, 1989)

Hazard process-focused (grouped by location)



Hood, United States (cropped) (Gardner et al. 2000)

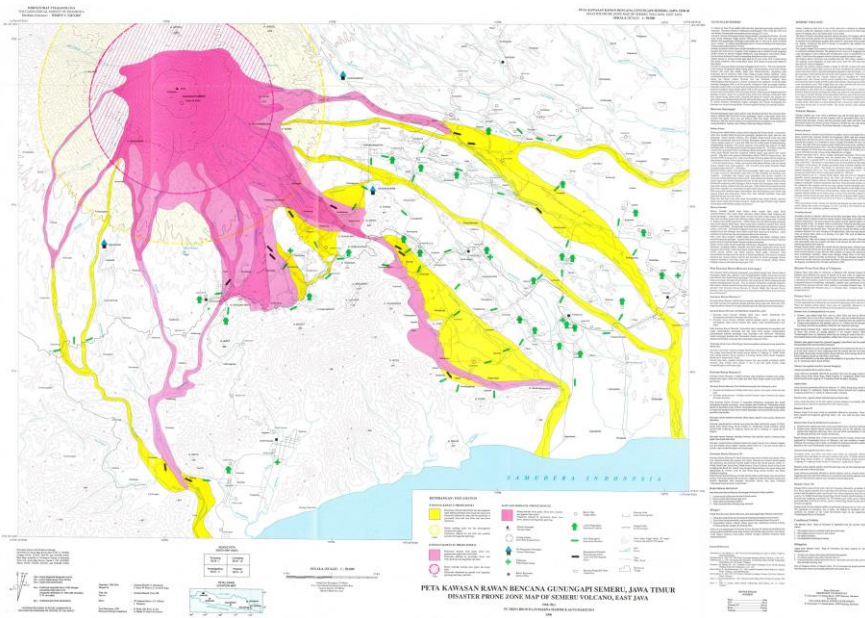
Hazard process-focused (single hazard process)



Popocatepetl, Mexico (cropped) (Instituto de Geofísica Universidad Nacional Autónoma de México (IG-UNAM), Centro Nacional de Prevención de Desastres (CENAPRED), Secretaría de Gobernación (SEGOB), 2016)

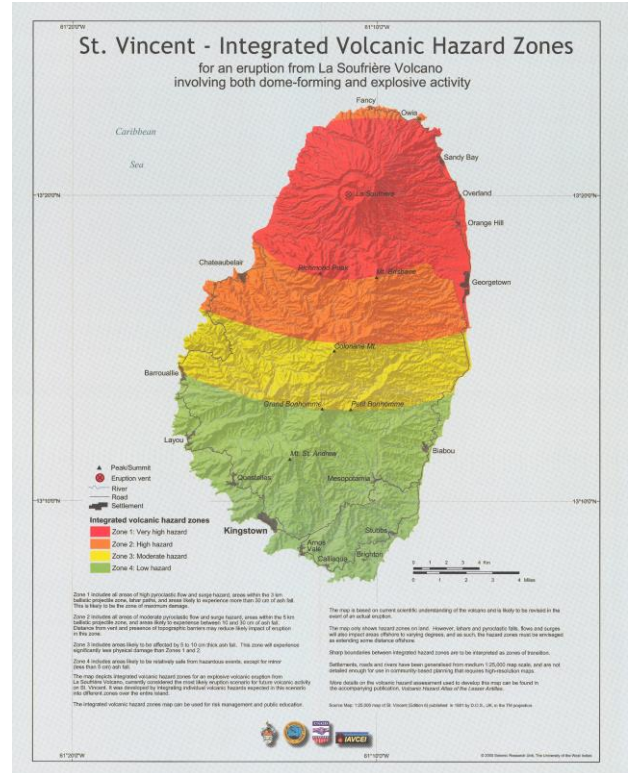
Spatial Scale

Volcano-scale



Semeru, Indonesia
 (Bronto et al. 1996)

Entire island/Island-scale



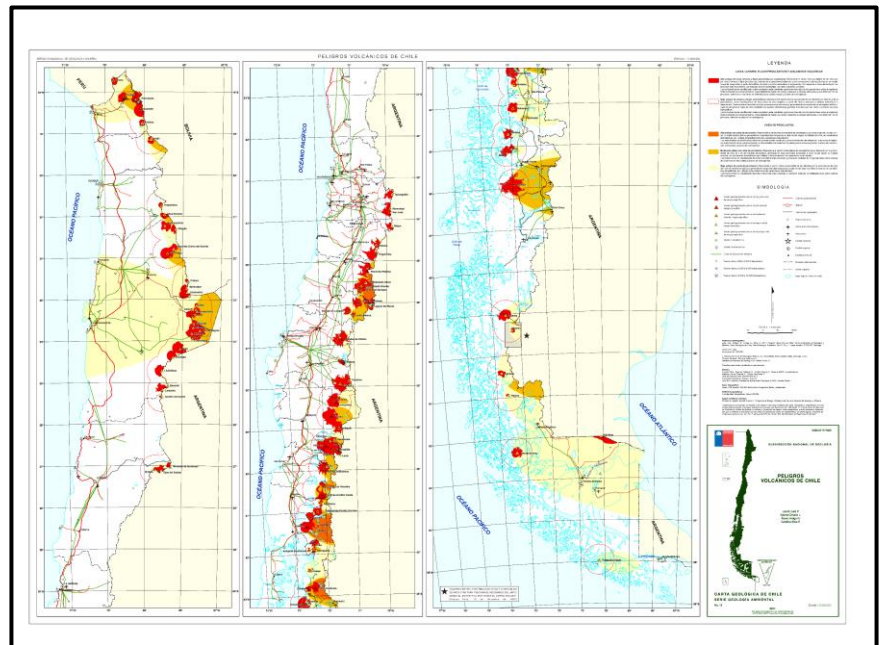
Soufrière St. Vincent, Saint Vincent and the Grenadines
 (Robertson, 2005)

Flank or drainage-scale



Ruapehu, New Zealand
 (GNS Science (compiler), 2019)

Regional-scale



Chile (regional)
 (Lara et al., 2011)

Basemap Type

DEM

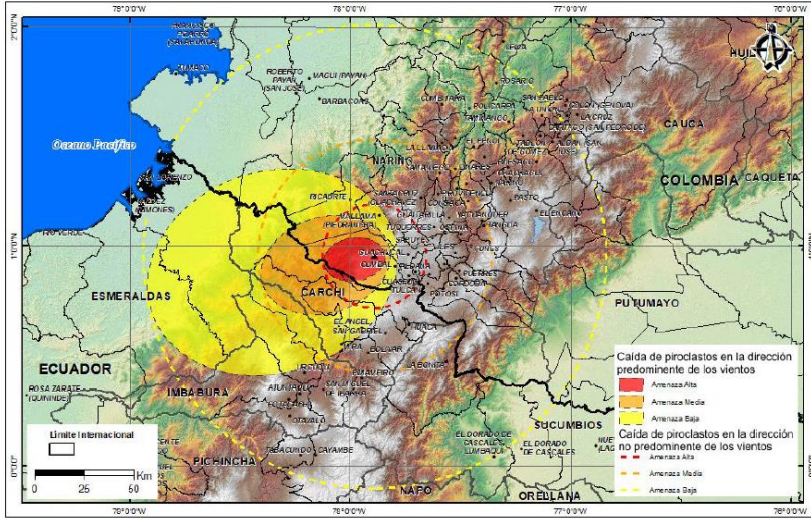
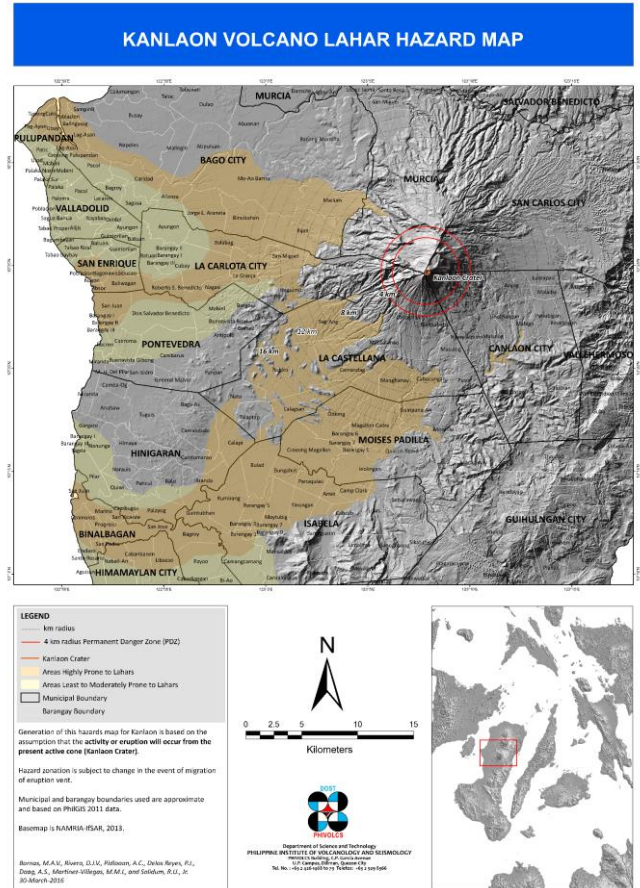


Figura 14. Amenaza por caída de piroclastos transportados eólicamente.

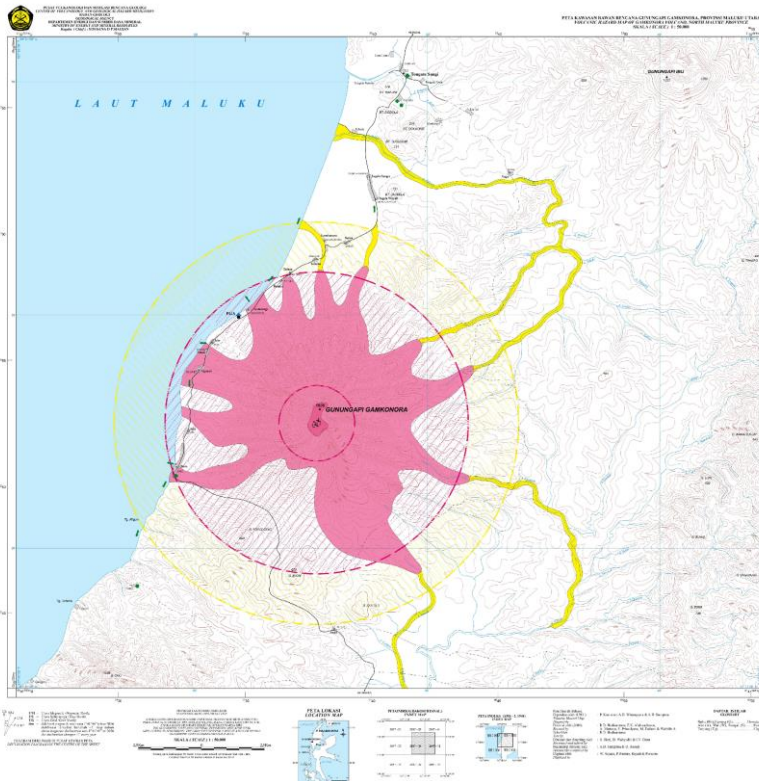
Cumbal, Colombia
(Méndez et al., 2014)

Hillshade DEM



Kanlaon, Philippines
(Bornas et al., 2016)

Contour Lines



Gamkonora, Indonesia (cropped)
(Hadisantono et al., 2006)

Dimensionality or Map View Type

Plan/map/2D view



Liamuiga, Saint Kitts and Nevis
(Robertson, 2005)

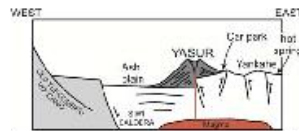
Oblique/3D view

Volcano Fact Sheet

Yasur Volcano – Yenkahe Caldera

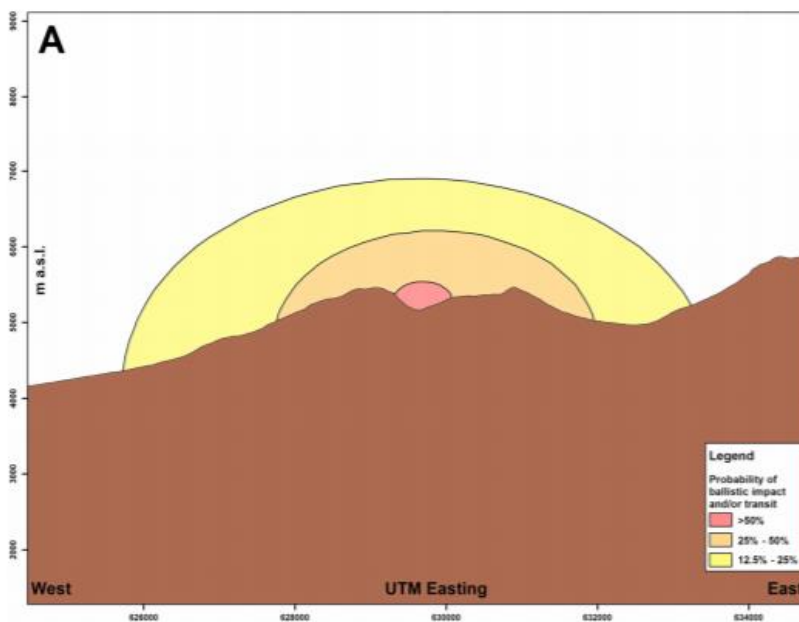
Description

- Yasur, located at the SE tip of Tanna Island, is a mostly unvegetated 361-m-high scoria cone with a nearly circular, 400-m-wide summit crater.
 - Yasur is the most frequently visited of the Vanuatu volcanoes.
 - It has been in more-or-less continuous activity since Captain Cook observed ash eruptions in 1774.
 - This style of activity may have continued for the past 800 years.
- (www.volcano.si.edu)



Yasur, Vanuatu (cropped)
(Vanuatu Meteorology & Geo-Hazards Department)

Cross-sectional view

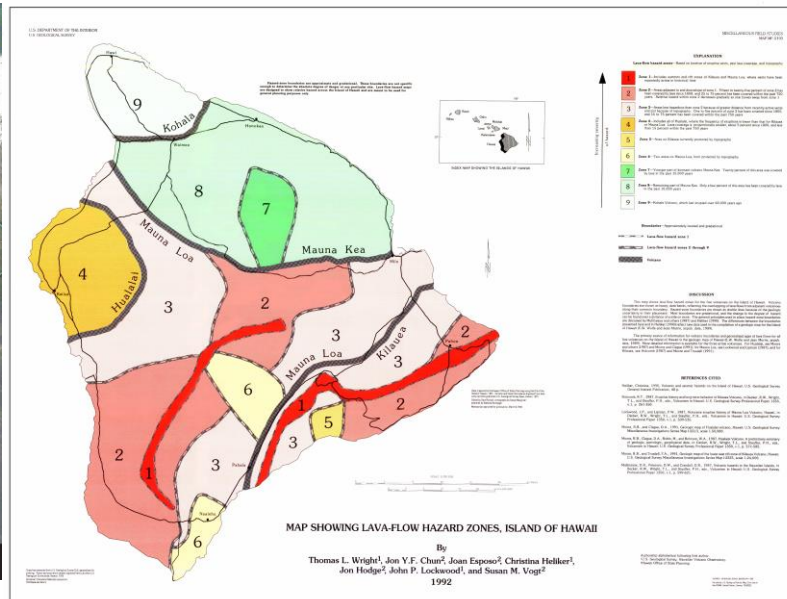
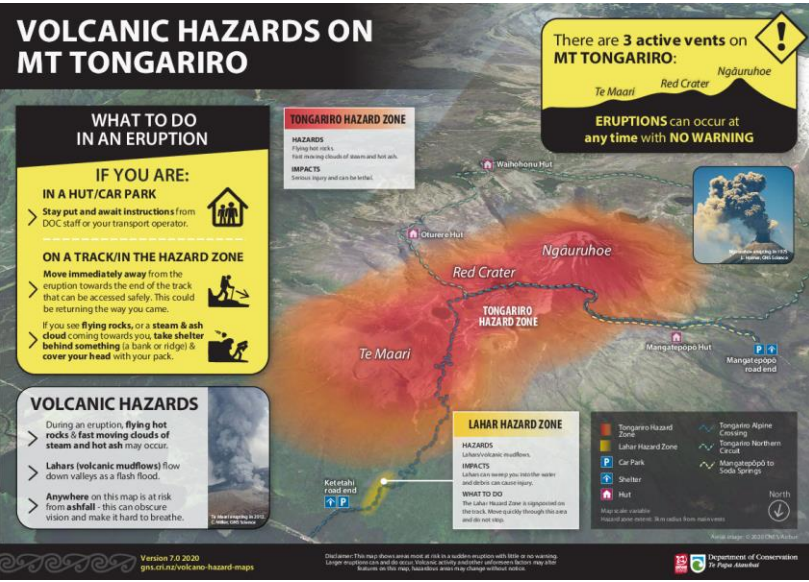


Lascar, Chile
(Bertin, 2017)

Uncertainty Visualization

Fuzzy boundaries or gradational colors

Boundary symbology



Tongariro, New Zealand
(GNS Science (compiler), 2020)

Hawai'i (regional), United States
(Wright et al., 1992)

Buffer zones

Confidence intervals

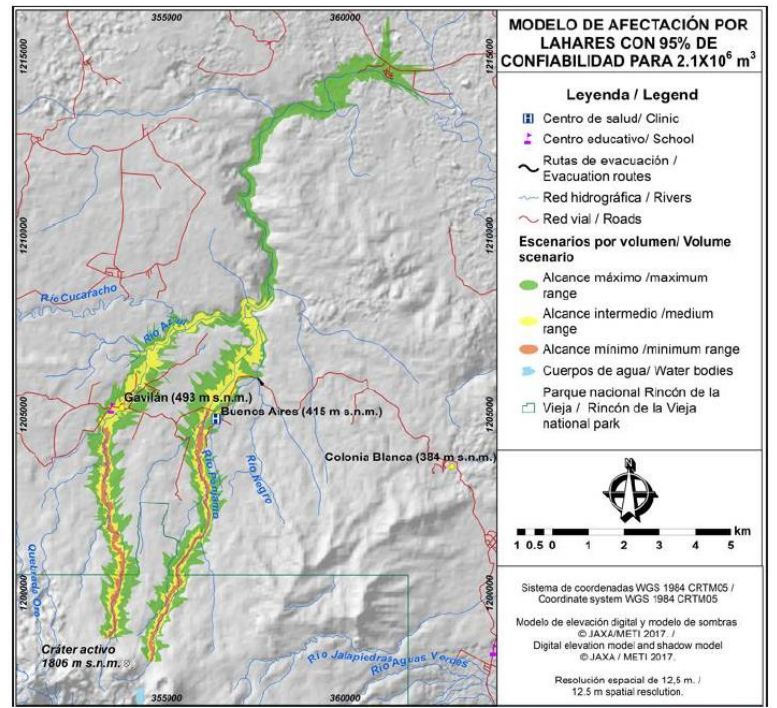
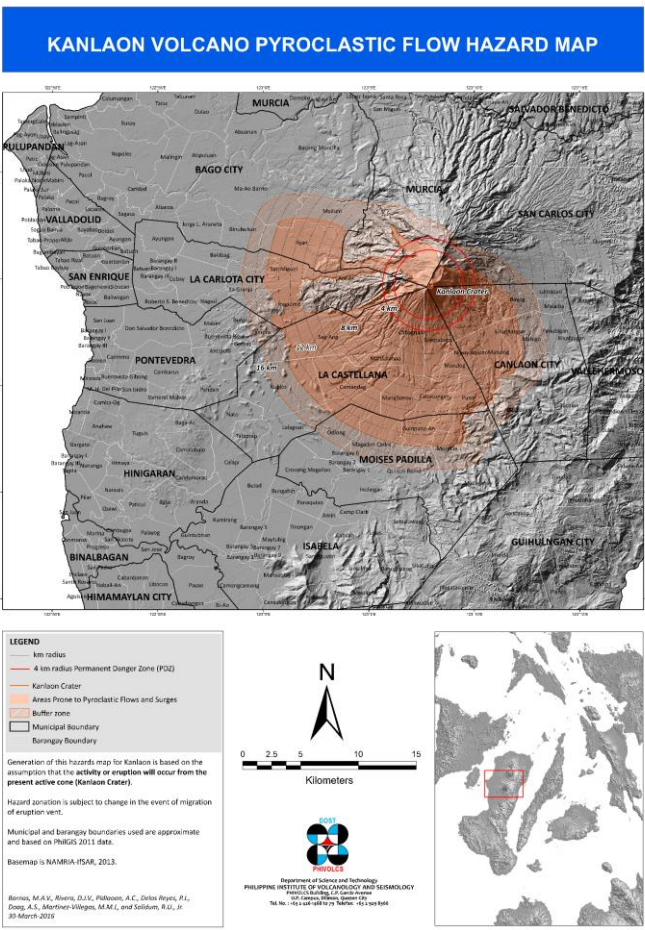


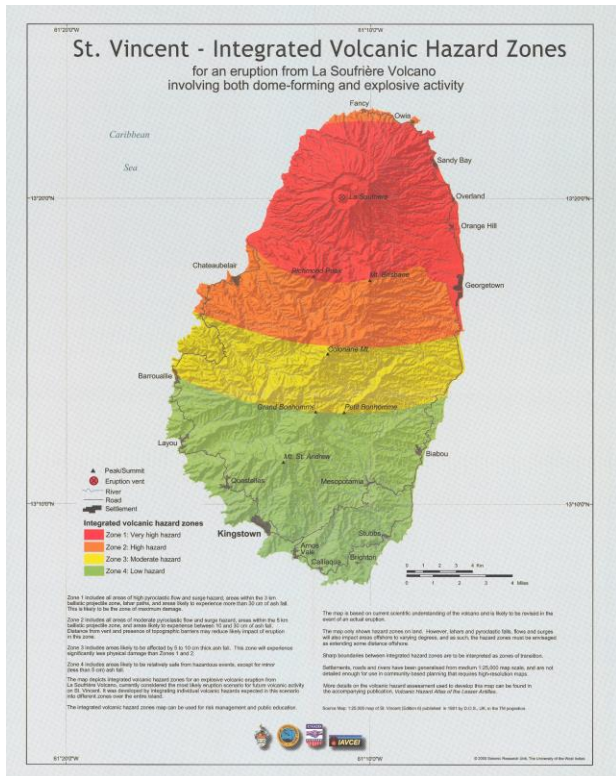
Fig. 6.45: Modelo de lahares con volumen de $2.1 \times 10^6 \text{ m}^3$ con 95 % de confiabilidad (modificado de Alpizar, 2018).

Rincón de la Vieja, Costa Rica
(Alvarado et al. 2022)

Kanlaon, Philippines
(Bornas et al., 2016)

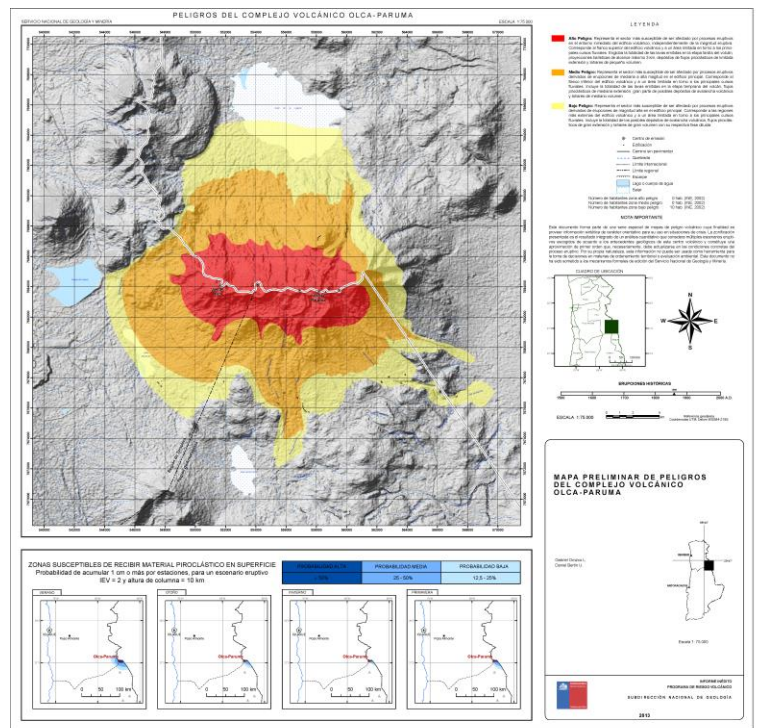
Color Scheme

Red to Green



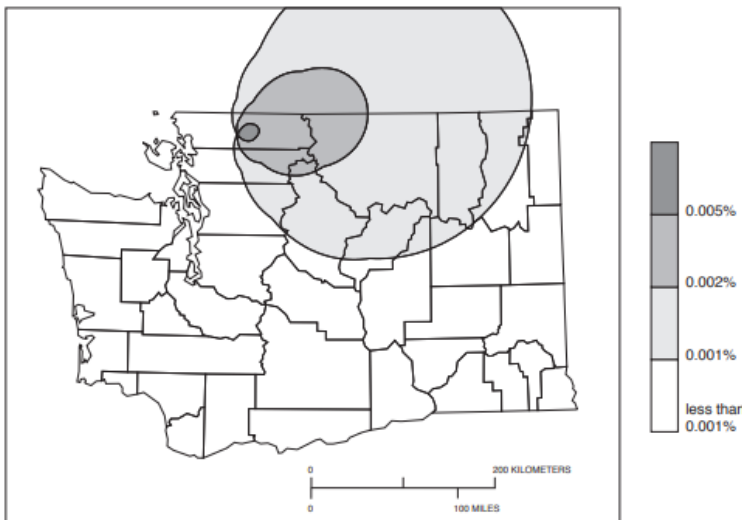
Soufrière St. Vincent, Saint Vincent and the Grenadines
(Robertson, 2005)

Red to Yellow



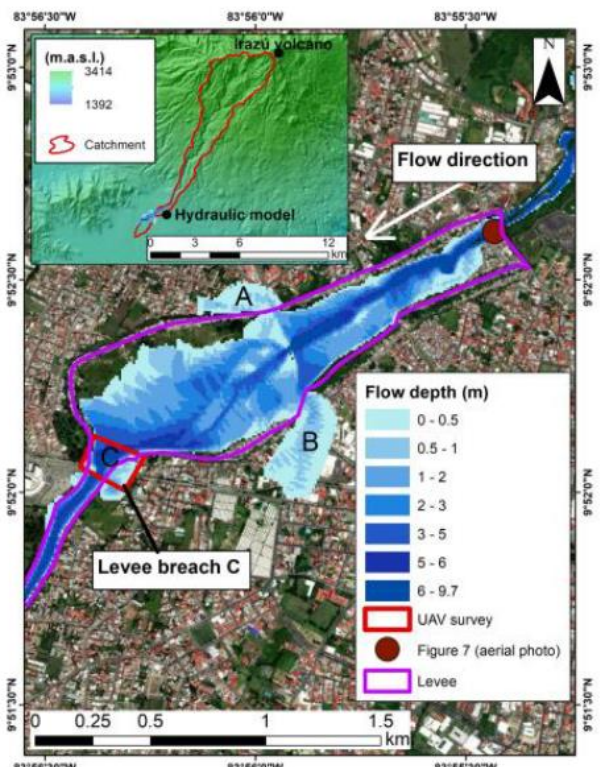
Mentolat, Chile
(Kraus, 2012)

Light to dark (grayscale)



Baker, United States
(Gardner et al. 1995)

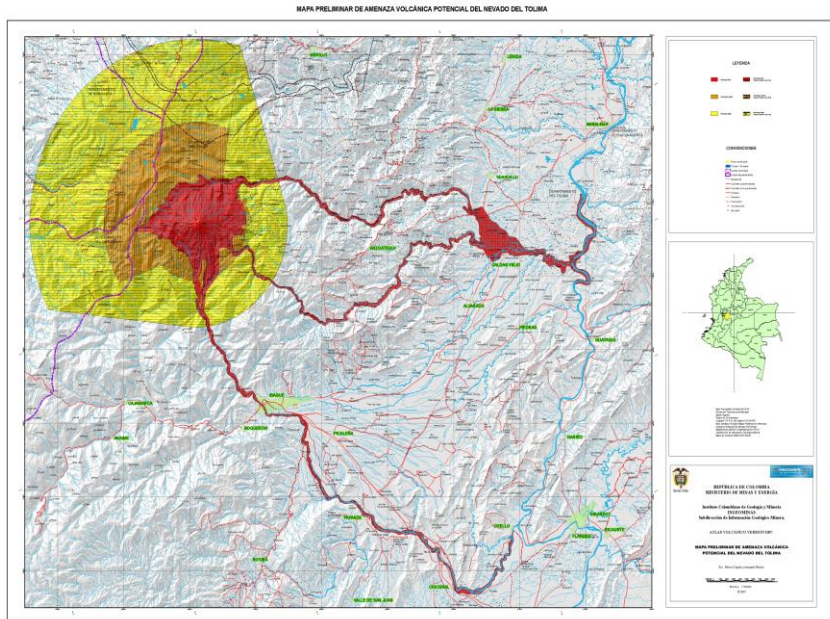
Light to dark (color)



Irazú, Costa Rica
(Alvarado et al. 2021)

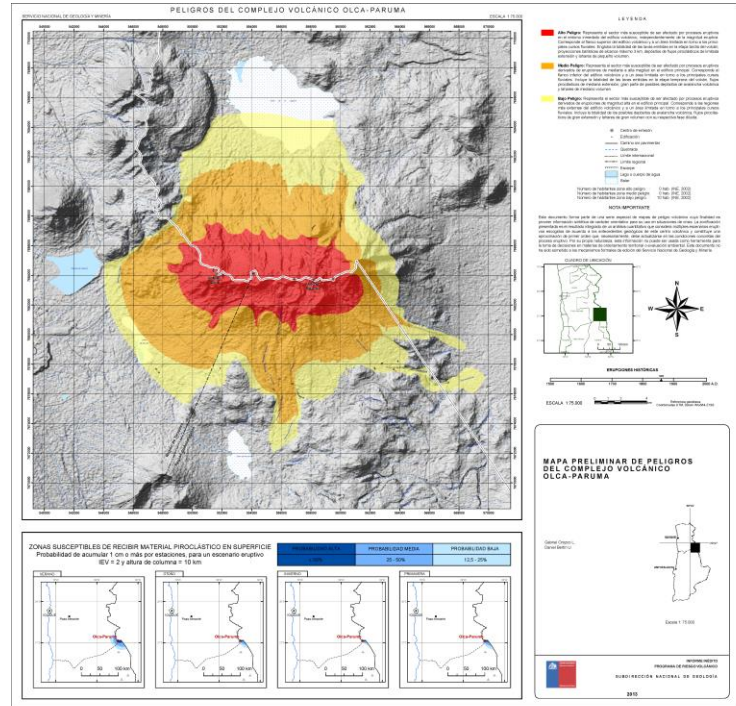
Map Layout

Main Map Panel



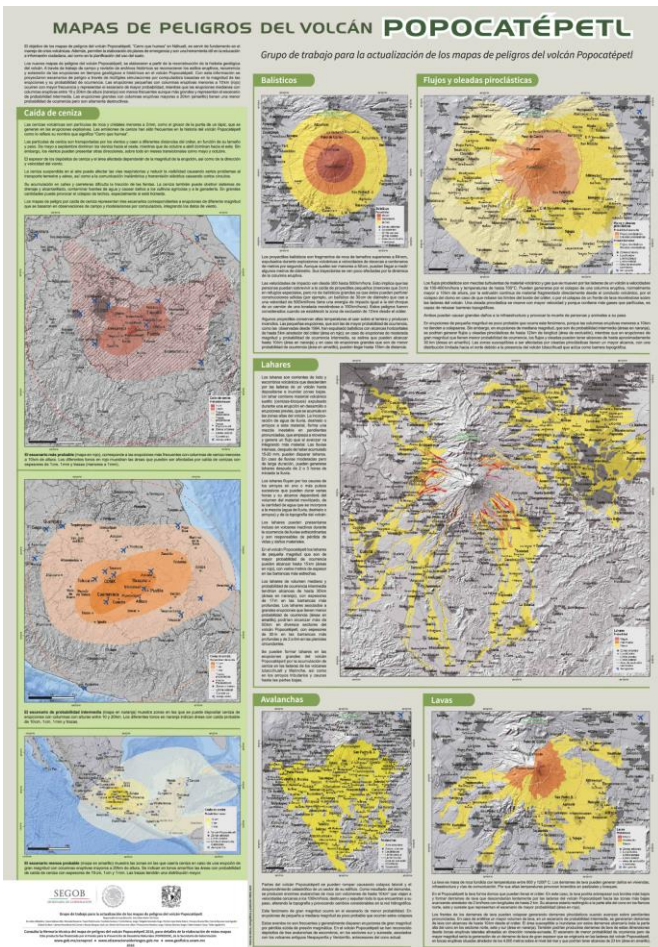
Nevado del Tolima, Colombia
(Cepeda & Murcia, 2007)

Main Map with Insets



Mentolat, Chile
(Kraus, 2012)

Series of Small Panels



Popocatepetl, Mexico
(Martin Del Pozzo et al., 2016)

Map element	Description
action	The map describes what to do during unrest or eruption
alert level scheme	The alert level scheme for the volcano is described
area map	An area map is included that shows the regional context
audience and/or purpose	The intended audience or purpose is described
cartographic legend	A legend is provided for cartographic symbols (e.g. roads, lakes)
color scheme order	Color scheme is in order (e.g. red = high hazard)
conditional validity	The conditions under which the map is valid are described (e.g. VEI < 5, central vent eruptions)
coordinates	Geographic coordinates are shown
eruptive history	The eruptive history of the volcano is described
evacuation route	Evacuation routes are visually depicted on the map
expiration	The conditions that will trigger map revision are described (e.g. summit changes, a time limit, new information)
glossary of terms	Geological terms are defined in a glossary section
hazard details	Hazard processes are defined or described
hazard travel time	Hazard process arrival times or velocities are depicted or described
hazard zone description	Hazard zones have accompanying descriptions beyond labels
hazard zone legend	A legend is provided for the hazard zones
impact details	Impact details (e.g. roof collapse, crop damage) are described
impact locations	Specific towns or drainages are named or listed
insets	Insets containing non-map information are included
methods	Hazard zonation methods are described in the text
more information source	Sources for additional information are given
north arrow	A north arrow is included
oblique image included	Oblique (3D) inset images of the terrain or hazard zones are shown
other volcanoes	Hazard zones from nearby volcanoes are also shown on the map
past deposits	Deposits from previous eruptions are shown visually
person hours	The amount of time required to make the map is stated
photos	Photos of the volcano, deposits, impacts, etc. are shown
population information	Population information (e.g. numbers of inhabitants in towns or hazard zones) is depicted or described
references	Reference literature is cited
safe areas	Safe areas, including shelters or muster points, are depicted
scale bar	A scale bar is included
version number	Version numbers or a revision history is provided
wind rose diagram	A wind rose diagram of either wind directions or tephra dispersal directions is provided

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