POPOCATEPETL • Lava

The new danger maps for the Popocatepetl are prepared based on the geological history of the volcano. Through field work and historical archives research, eruptive styles, recurrence, and extent during geological and historical periods were identified. With this information, danger scenarios were projected by means of computer simulation. These scenarios are based on eruption magnitude and probability of occurrence

Small size eruptions with eruptive columns under 10 km are more frequent, while medium size eruptions with eruptive columns from 10 to 20 km height are less frequent although larger. Large eruptions with eruptive columns over 20 km (yellow) are less probable, but they are highly destructive

What is it?

Lava is molten rock having temperatures ranging from 800 to 1200 °C, that create crater domes. It may flow slowly along the volcano's slopes trying to find low areas, and moving at an approximate rate of 2 km/hour

Signage



Volcano

Urban areas

Small towns

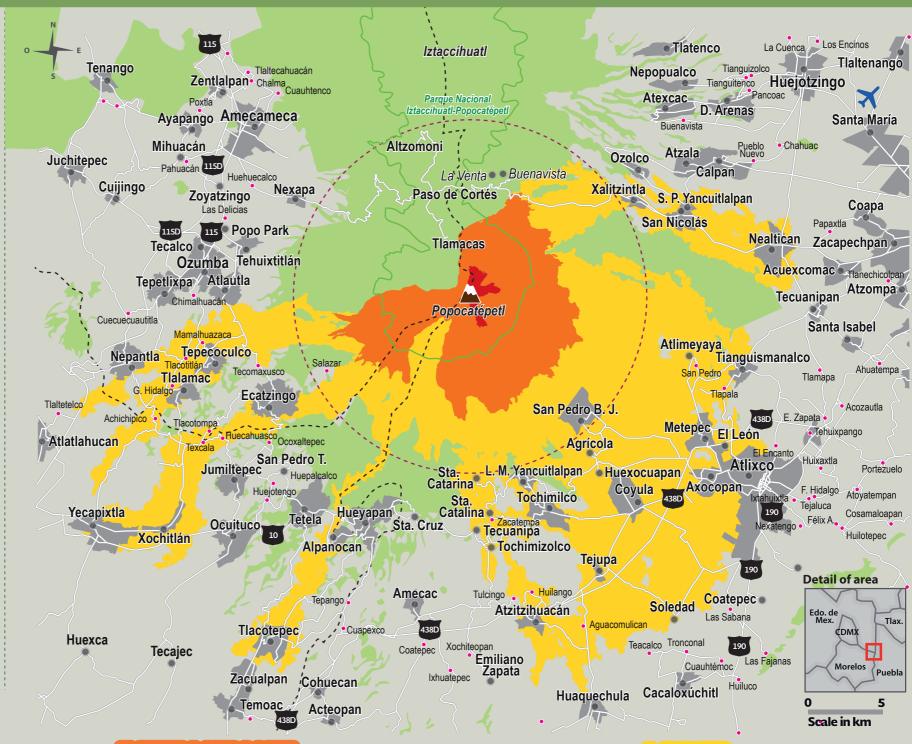


---- State border

--- Exclusion area

X

Airpor



HIGHER probability

Should the crater fill up, lava may surpass the lower borders and produce lava spills. They may be 2 km long, and their spill would be restricted to the upper section of the cone on the north, east, and southeast areas

INTERMEDIATE probability

Should a larger lava volume be erupted, spills may reach 10 km from the crater. Area susceptible to be flooded by these spills would cover the top section of the cone over the north, east, and south areas. Lava spills of this size could also be produced through lateral eruptive fissures with northeast and southeast directions

LOWER Probability

Significantly thick lava spills could be produced along the volcanic slopes, through eruptive fissures located around 4,000 m above sea level, and these could have a flow reaching 23 km long







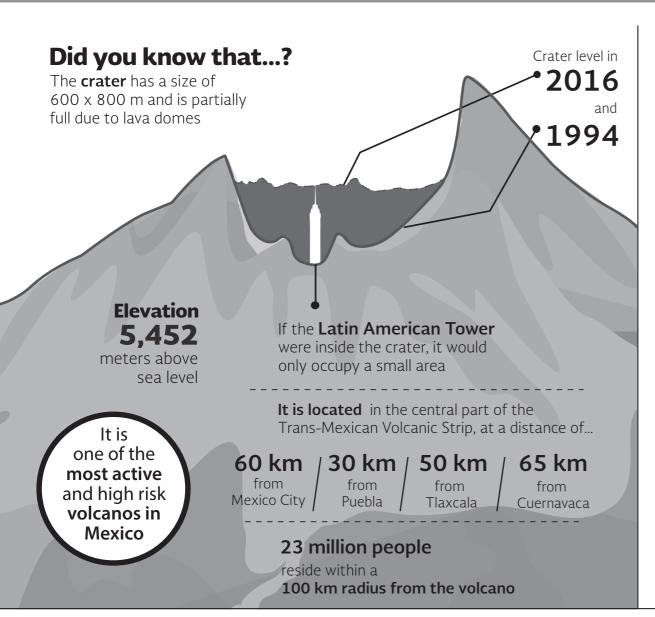




Additional information at:

Centro Nacional de Prevención de Desastres www.gob.mx/cenapred Atlas Nacional de Riesgos www.atlasnacionalderiesgos.gob.mx Instituto de Geofísica, UNAM www.geofisica.unam.mx

Popocatepetl volcano: Lava spills



Efects



Lava spills may damage homes, infrastructure, and means of communication. Due to their high temperature, lava spills may ignite grassland and forest fires



According to the chemical composition, lava may have different temperature, density, and viscosity characteristics



Lava with higher viscosity has a slower flow, and depending on the speed of emission, it may accumulate around the emitting center creating a dome



When the crater is filled with lava, there may be lava spills through the lower borders and produce pyroclastic flows

Suggestions Before



Keep informed, do not spread rumors, and follow instructions given by authorities



Prepare a civil protection family plan, and your emergency back-pack



Identify evacuation routes and temporary shelters



Learn how to protect your cattle and your pets



If you are on the volcano, don't walk through the ravines



With your family, go to a safe area that has previously been identified



Shut off the power, water, and gas mains



Cover your nose, eyes, and mouth with a face mask or a moist handkerchief

After



Continue staying informed, and follow instructions by authorities



Avoid areas affected by volcanic eruptions because rocks, lava, and ashes are hot for a long time



Check your home's conditions