After Indonesia, Central America is Earth's most active volcanic region. In Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama, eighty Holocene volcanic centers are identified and at least twenty-seven of these have exhibited historic activity. Large stratovolcanoes, silicic calderas, cinder cones, complex volcanoes and several back arc volcanic fields account for a wide range of volcanic activity from quiet extrusion of basaltic lavas to large explosive eruptions. In the last two millennia, two eruptions have an estimated VEI of 6: the eruption of Guatemala's Santa Maria volcano in 1902 and Ilopango caldera eruption in 401AD. Currently, the most frequent volcanic hazards developed in Central America are lahars, strombolian to vulcanian explosions, lava flows, and gas emissions. Based on the style of volcanism present in the region, however, high magnitude phreatomagmatic and plinian eruptions, and other types of cataclysmic eruptions can be expected in the future.

Important factors to consider in the assessment of volcanic threat posed by Central American volcanoes are the exposure and vulnerability of the people living in the region. Exposure is particularly high due to the proximity of large cities and infrastructure to the active volcanoes and high population density. Vulnerability is elevated by the limited level of development of the countries in Central America, where lack of resources prevents the rise of volcanic hazards assessments as a priority. Our evaluation of volcanic threat builds upon the work of Ewert et al. (2005) as part of the Framework for a National Volcano Early Warning System in the US, NVEWS (USGS open-file report 2005-1164). This assessment shows a ranking of volcanoes based on threat scores and includes comparison with the threat scores of some US volcanoes. Detailed analysis reveals the hazards and exposure factors that contribute most to the volcanic threat posed by individual volcanoes. One clear result of our analysis shows that it is very important to improve the volcanological record of past eruptions with new field mapping, ages and complete historic records.