

and Deformation Regime in San Salvador, El Salvador, from Inversion of Focal Mechanisms and GNSS Data

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El Salvador is located in northern Central America, along the Pacific Ocean margin. San Salvador is located in a region with a high rate of seismic activity, as it is part of the El Salvador Fault Zone (ESFZ). Currently, there is no detailed information on the stress and deformation regime in San Salvador. In this sense, the present project is oriented to the analysis of the local seismotectonic characteristics, which are intended to be essential inputs for the analysis of the seismic hazard and risk in the capital of the country. It is proposed to elaborate stress and deformation maps based on inversion of focal mechanisms and data from the Global Navigation Satellite System (GNSS), to carry out a statistical analysis of the seismicity recorded from 1984 to 2021 and to correlate macroseismic data with the stress regime. With the inversion of the focal mechanisms, we seek to obtain the main stress axes in the area and calculate the shape factor, which is a measure of the relative magnitude of the predominant stresses. Finally, the classification and inversion of focal mechanisms in the study area will allow a better understanding of the seismic source, whether volcanic, tectonic or anthropogenic.

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Promotional text

San Salvador, the main city in El Salvador, is an important element to consider when evaluating the seismic hazard, and it is essential to have studies and information on the active tectonics of the area.

Oral preference format

in-person

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