

of the Auxiliary Seismic Station APG (AS-037) for the Analysis of a Seismic Sequence in the North Region of Guatemala

Tuesday 20 June 2023 09:41 (1 minute)

On January 4, 2018, two earthquakes reported by the population were recorded in the northern region of Guatemala. These were characterized with the National Seismological Network (RSN), however another thirty-nine earthquakes of smaller magnitude could only be recorded by the Auxiliary Seismic Station APG (AS-037) due to the high standards that its facility meets for its use in monitoring of possible nuclear explosions.

This paper describes the use of APG (AS-037) for the characterization of these earthquakes (arrival times seismic waves, epicentral distances, magnitude and possible location) and their possible association with local geological faults, using techniques for the description of a seismic sequence using a single seismic station. These results provided important information for the subsequent proposal to improve the RSN in the region. Currently, Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología (INSIVUMEH) has expanded its network of seismological stations, of which APG has been integrated into the permanent monitoring routines, being one of those with the highest detectability of both local, regional and distant earthquakes. In addition, it has the cooperation of seismological networks of neighboring countries. Consequently, the seismic catalog in has increased the number of recorded earthquakes, with a better quality of information and knowledge of seismic hazard.

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Promotional text

This work demonstrates the use of data from the International Monitoring System (IMS) through the auxiliary seismic station APG (AS-037), for scientific applications for disaster risk reduction in Guatemala.

Oral preference format

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Session Classification: Lightning talks: P1.3, P1.4, P5.2

Track Classification: Theme 5. CTBT in a Global Context: T5.2 Synergies with Global Challenges