



Nicaragua

Earthquake

1 November 2019

Final Event Briefing

1 November 2019

1 INTRODUCTION

A magnitude 5.3 earthquake occurred at 15:24:12 UTC on 1 November 2019, 38.6 km (24 mi) NE of Masachapa, Nicaragua; 68.1 km (42.3 mi) ENE of Diriamba, Nicaragua and 49.3 km (30.6 mi) NE of San Rafael del Sur, Nicaragua. Initial estimates from the United States Geological Survey (USGS) located the epicentre of the event (Figure 1) at 11.571°N, 86.791°W, and at a depth of 50 km (31 mi). Nicaragua was the only CCRIF member country where peak ground acceleration, computed with the SPHERA model, was greater than 0.01g for this earthquake.

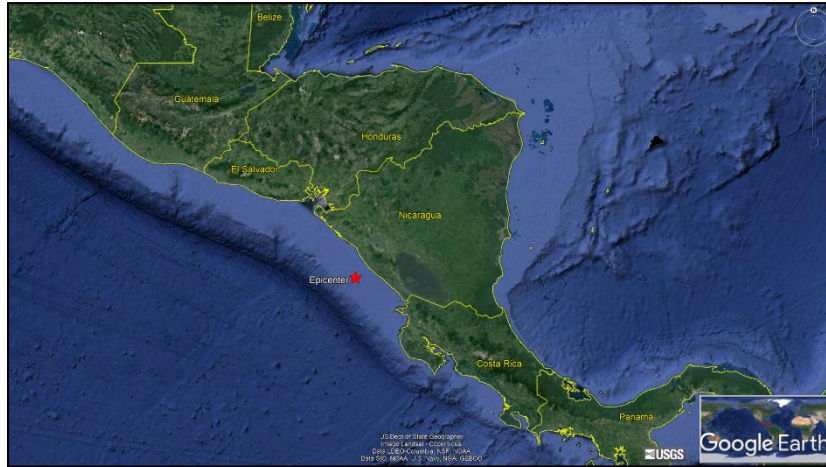


Figure 1 Information from the Earthquake Hazards Program of the United States Geological Survey, regarding the earthquake event on 1 November 2019 at 15:24:12 UTC. Source: USGS (<https://earthquake.usgs.gov>).

The earthquake was reported also by the Seismology Department of the Nicaraguan Institute of Territorial Studies (in Spanish: Dirección de Sismología del Instituto Nicaragüense de Estudios Territoriales), with epicentre coordinates 11.407°N and 86.920°W, magnitude 5.6 and depth of 21 km (13 mi).

This event briefing is designed to review the model outputs for affected CCRIF member countries using the seismic parameters reported by the USGS.

Final runs of CCRIF's loss model estimated no government losses for Nicaragua and therefore no payout is due.

2 CCRIF MODEL OUTPUTS

Under CCRIF's loss calculation protocol, a CCRIF System for Probabilistic Hazard Evaluation and Risk Assessment (SPHERA) report is required for any earthquake with a magnitude of greater than or equal to 5.0 that occurs within the region monitored by CCRIF and which generates a peak ground acceleration of at least 0.01 g in one or more grid cells of at least one member country. Based on the SPHERA footprint for this earthquake, peak ground acceleration between 0.005g and 0.05g was estimated in the territory of Nicaragua (Figure 2), for which the SPHERA loss estimation was zero.

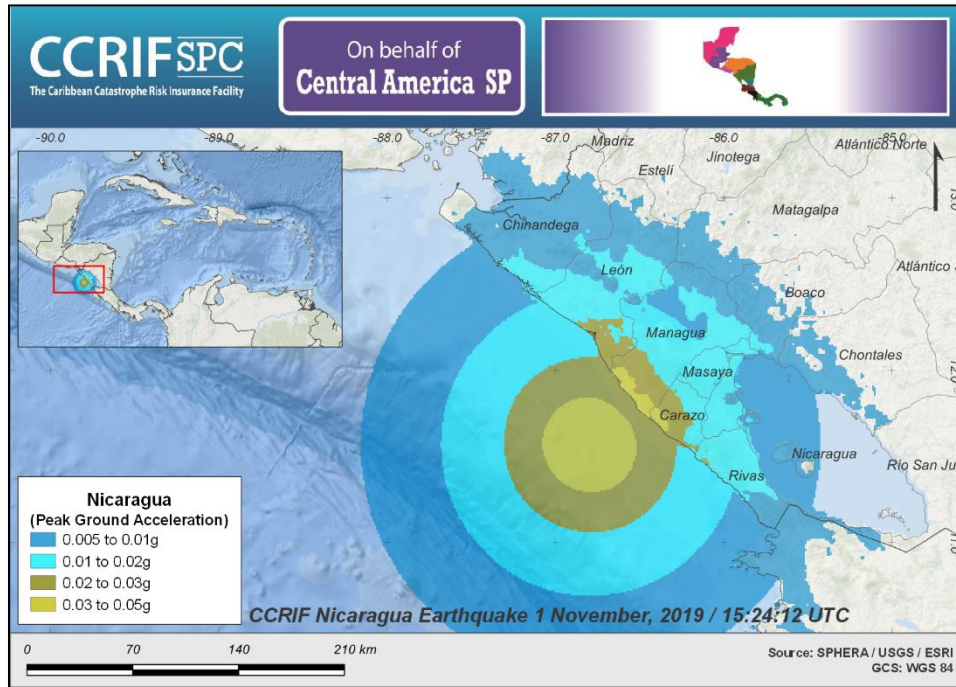


Figure 2 Map showing the peak ground acceleration computed using SPHERA model in Nicaragua following the magnitude 5.3 earthquake on 1 November 2019 at 15:24:12 UTC. Source: *USGS & CCRIF SPHERA EQ Model*.

3 IMPACTS

Vice-President Rosario Murillo reported that this earthquake was felt by the population but no injuries or damage to infrastructure were reported due to this earthquake.

According to the USGS “Did You Feel It?” online tool¹, in Nicaragua within a radius of 124 km (77 mi) from the epicentre, 6 persons reported the earthquake as a “no shake with no damage” to “weak shake with no damage” (Mercalli intensities: I to III).

4 TRIGGER POTENTIAL

The lack of impact reports corroborates final runs of CCRIF’s loss model that generated no government losses for Nicaragua, and therefore no payout is due.

For further information, please contact ERN-RED, the CCRIF SPC Risk Management Specialist.

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¹ Did You Feel It?, United States Geological Survey, review date: 11 November 2019, available at: <https://earthquake.usgs.gov/earthquakes/eventpage/us7000620i/dyfi/intensity>