



Leeward Islands

Earthquake

1 November 2021

Final Event Briefing

11 November 2021

1 INTRODUCTION

A magnitude 5.0 earthquake occurred at 22:08:17 UTC on 1 November 2021, 79.4 km (49.3 mi) ENE of The Valley, Anguilla; 83.1 km (51.7 mi) ENE of Sandy Ground Village, Anguilla and 154.9 km (96.2 mi) NNW of Saint John's, Antigua and Barbuda. Estimates from the United States Geological Survey (USGS) located the epicentre of the event at 18.434°N, 62.332°W, and at a depth of 31.8 km (19.7 mi) – Figure 1. Anguilla, Sint Maarten and Antigua and Barbuda were the CCRIF member countries where peak ground acceleration, computed with the CCRIF SPHERA EQ model, was greater than 0.01 g following the magnitude 5.0 earthquake.

Final runs of the CCRIF loss model for peak ground acceleration produced no government losses for Anguilla, Sint Maarten or Antigua and Barbuda. Therefore no payouts under these countries' earthquake policies are due.

This event briefing is designed to review the modelled losses due to peak ground acceleration from the magnitude 5.0 earthquake event calculated by CCRIF's SPHERA EQ model for affected CCRIF member countries, to be analyzed with respect to members' earthquake policies.

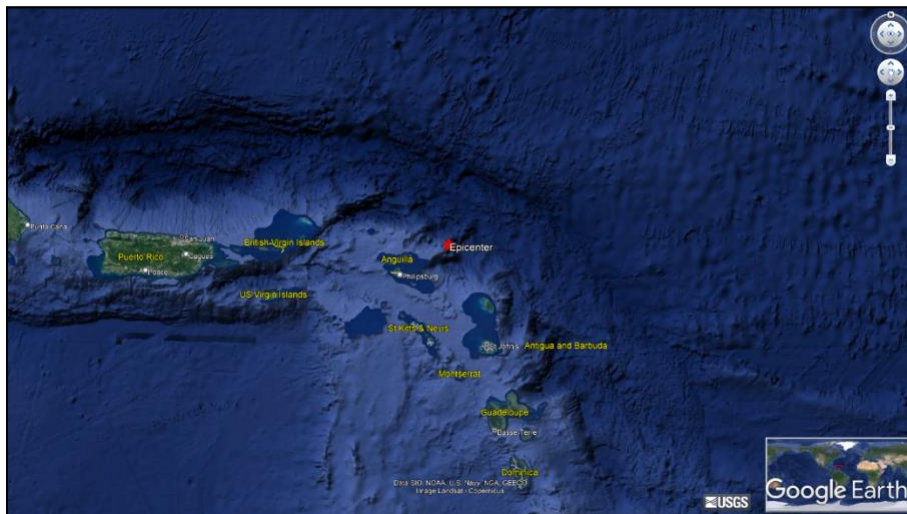


Figure 1 Information from the Earthquake Hazards Program of the United States Geological Survey regarding the magnitude 5.0 earthquake event on 1 November 2021 at 22:08:17 UTC. Source: USGS¹

2 CCRIF MODEL OUTPUTS

Under CCRIF's loss calculation protocol, a report using the CCRIF SPHERA model is produced for any earthquake with a magnitude 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 CCRIF member country.

¹ Download Event KML, United States Geological Survey, review date: 11 November 2021, available at: <https://earthquake.usgs.gov/earthquakes/eventpage/us7000fjmqp/executive>

The peak ground acceleration (PGA) footprint is the output from the CCRIF SPHERA EQ model. Based on the SPHERA footprint for the magnitude 5.0 earthquake, a PGA of up to 0.023 g was estimated in Anguilla (Figure 2), in Sint Maarten a PGA of up to 0.014 g was estimated (Figure 3), and a PGA of up to 0.012 g was estimated in Antigua and Barbuda (Figure 4). However, under SPHERA, the earthquake generated a loss estimation of zero for these member countries.

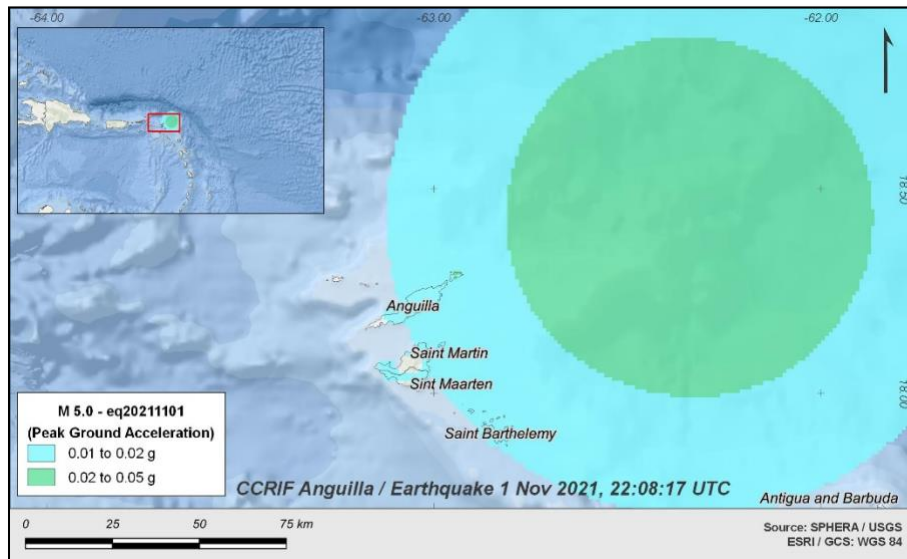


Figure 2 Map showing the peak ground acceleration in Anguilla computed using SPHERA model following the magnitude 5.0 earthquake² on 1 November, 2021, at 22:08:17 UTC. Source: *USGS & CCRIF SPHERA EQ Model*.

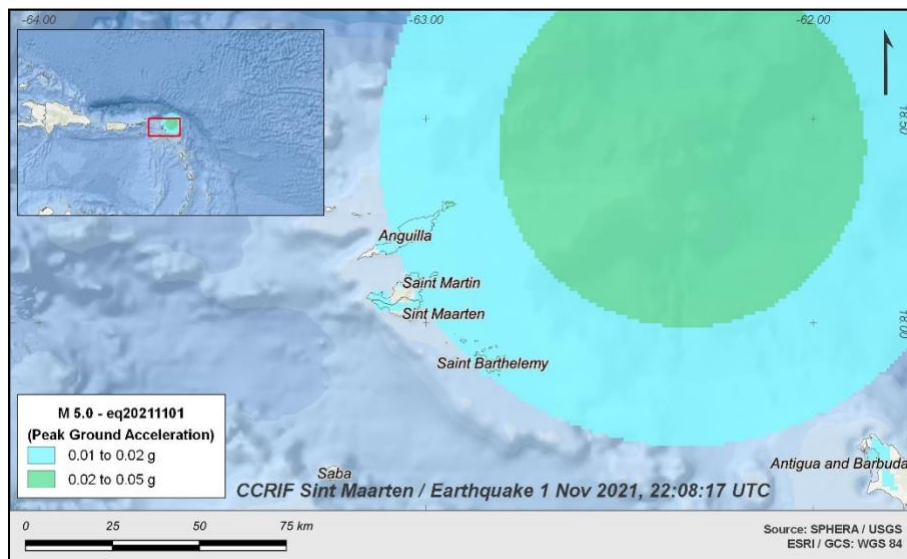


Figure 3 Map showing the peak ground acceleration in Sint Maarten computed using SPHERA model following the magnitude 5.0 earthquake on 1 November, 2021, at 22:08:17 UTC. Source: *USGS & CCRIF SPHERA EQ Model*.

² USGS, review date: 11 November 2021, available at: [‘M 5.0 - 79 km ENE of The Valley, Anguilla’](#)

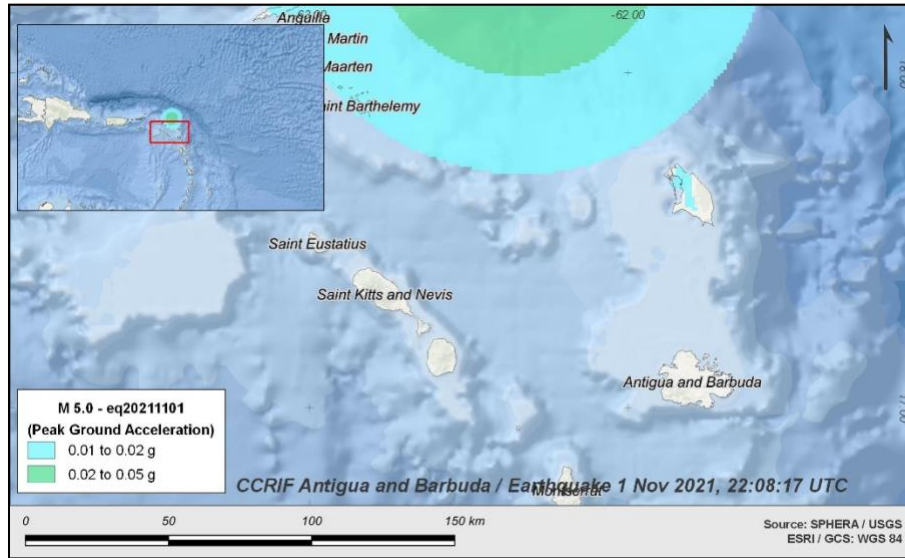


Figure 4 Map showing the peak ground acceleration in Antigua and Barbuda computed using SPHERA model following the magnitude 5.0 earthquake on 1 November, 2021, at 22:08:17 UTC.
Source: *USGS & CCRIF SPHERA EQ Model.*

3 IMPACTS

Ten days after the earthquake’s occurrence, no information was available related to damages or loss in Anguilla, Sint Maarten or Antigua and Barbuda due to this earthquake.

According to the USGS “*Did You Feel It?*” online tool³, 2 persons in Anguilla within a radius of 84 km (52.2 mi) from the epicentre reported the earthquake as being a “weak shake with no damage” (Mercalli intensity: II - III). In Sint Maarten, within a radius of 98 km (60.9 mi) from the epicentre, 14 persons reported the earthquake as being a “weak shake with no damage” to “light shake with no damage” (Mercalli intensities: II - IV). In Antigua and Barbuda, within a radius of 158 km (98.2 mi) from the epicentre, 2 persons reported the earthquake as being a “weak shake with no damage” (Mercalli intensity: II - III).

4 TRIGGER POTENTIAL

Final runs of the CCRIF loss model for peak ground acceleration produced no government losses for Anguilla, Sint Maarten or Antigua and Barbuda. Therefore no payouts under these countries’ earthquake policies are due.

For additional information, please contact CCRIF SPC at: pr@ccrif.org

³ Did You Feel It?, United States Geological Survey, review date: 11 November 2021, available at: <https://earthquake.usgs.gov/earthquakes/eventpage/us7000fqmp/dyfi/responses>
