



Antigua and Barbuda

Earthquake

20 December 2022

Preliminary Event Briefing

21 December 2022

1 INTRODUCTION

A magnitude 5.1 earthquake occurred at 06:33:23 (UTC) on 20 December 2022, 95.5 km (59.4 mi) W of Codrington, Antigua and Barbuda; 120 km (74.8) SW of Saint John, Antigua and Barbuda and 166.8 km (103.7 mi) SSW of Le Moule, Guadeloupe. Initial estimates from the United States Geological Survey (USGS) located the epicentre of the event at 17.781°N, 60.946°W, and at a depth of 15.4 km (9.56 mi) – Figure 1.

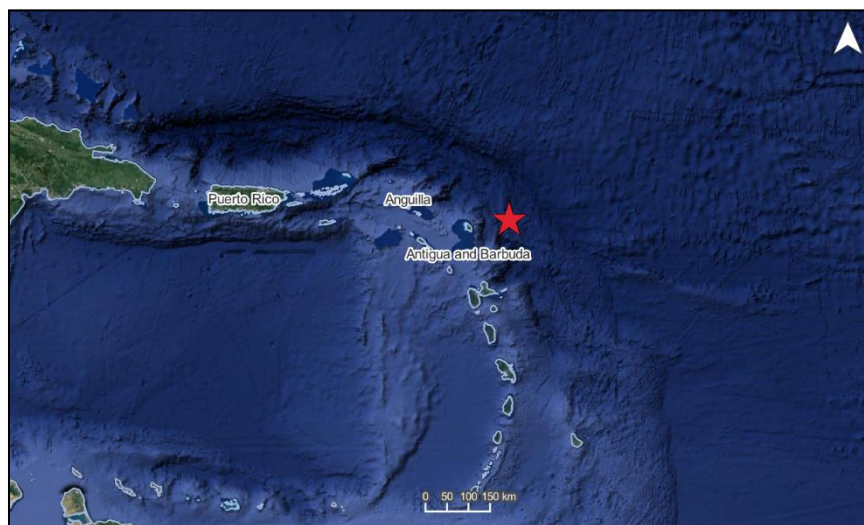


Figure 1 Information from the Earthquake Hazards Program of the United States Geological Survey regarding the earthquake event on 20 December 2022 at 06:33:23 (UTC). Source: USGS¹

Antigua and Barbuda was the only CCRIF member country where peak ground acceleration, computed with the SPHERA model, was greater than 0.01 g for this earthquake.

Preliminary runs of CCRIF's loss model estimated no government losses for Antigua and Barbuda and therefore no payout under the country's earthquake policy is due.

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. Based on the SPHERA footprint for this earthquake, peak ground acceleration of up to 0.020 g was estimated in Antigua and Barbuda (Figure 2), but under SPHERA, the earthquake generated a loss estimation of zero.

¹ Download Event KML, United States Geological Survey, review date: 20 December 2022, available at: <https://earthquake.usgs.gov/earthquakes/feed/v1.0/detail/us6000jagb.kml>

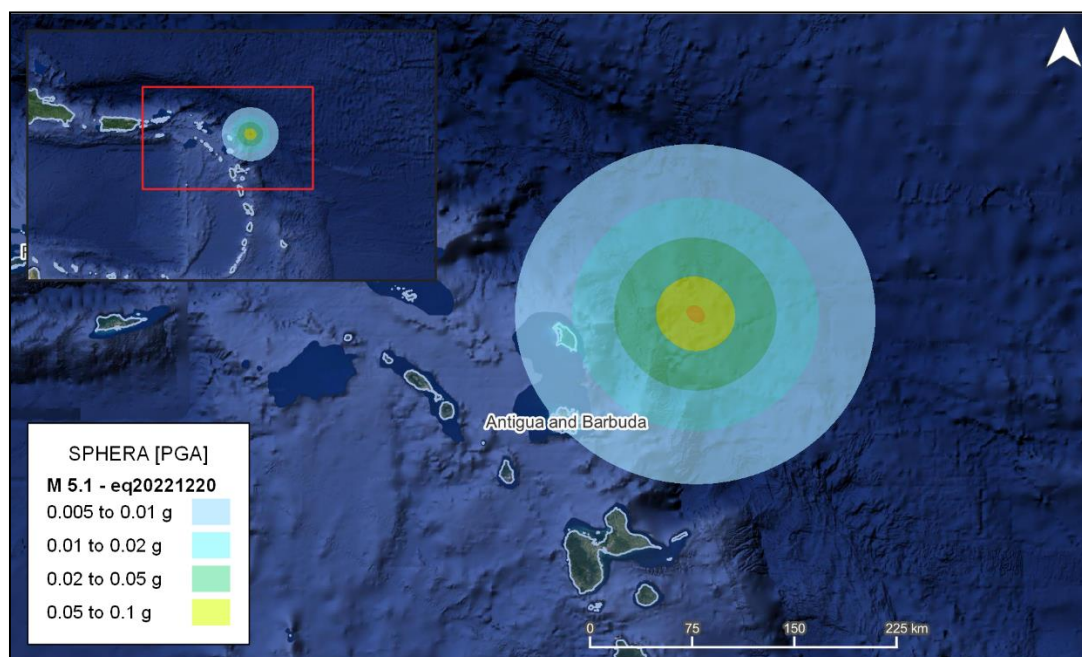


Figure 2 Map showing the peak ground acceleration in Antigua and Barbuda computed using SPHERA model following the magnitude 5.1 earthquake² on 20 December at 06:33:23 UTC
Source: USGS & CCRIF SPHERA EQ Model.

3 IMPACTS

At the time of writing this report, there was no available information on damage or loss in Antigua and Barbuda due to this earthquake.

4 TRIGGER POTENTIAL

Preliminary runs of the CCRIF loss model for peak ground acceleration produced no government losses for Antigua and Barbuda. Therefore, no payout under this country's earthquake policy is due.

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

² United States Geological Survey (USGS), review date: 20 December 2022, available at: [M 5.1 - 95 km E of Codrington, Antigua and Barbuda \(usgs.gov\)](https://www.usgs.gov/locations/cara/earthquake-alert-response/pager/M-5.1-95-km-E-of-Codrington-Antigua-and-Barbuda)
