



# **Antigua and Barbuda**

## **Earthquake**

**16 April 2023**

## **Preliminary Event Briefing**

**17 April 2023**

## 1 INTRODUCTION

A magnitude 5.2 earthquake occurred at 09:49:51 (UTC) on 16 April 2023, 39.1 km (24.3 mi) SWS of Codrington, Barbuda, Antigua and Barbuda; 83.5 km (51.9 mi) SSW of Saint John, Antigua and Barbuda and 140.8 km (87.5 mi) WSW of Saint George Basseterre, Saint Kitts and Nevis. Initial estimates from the United States Geological Survey (USGS) located the epicentre of the event at 17.800°N, 61.508°W, and at a depth of 25.8 km (16.03 mi) – Figure 1.



**Figure 1** Information from the Earthquake Hazards Program of the United States Geological Survey regarding the earthquake event on 16 April 2023 at 09:49:51 (UTC). Source: USGS<sup>1</sup>

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 this country and therefore no payout is due under the earthquake policy.

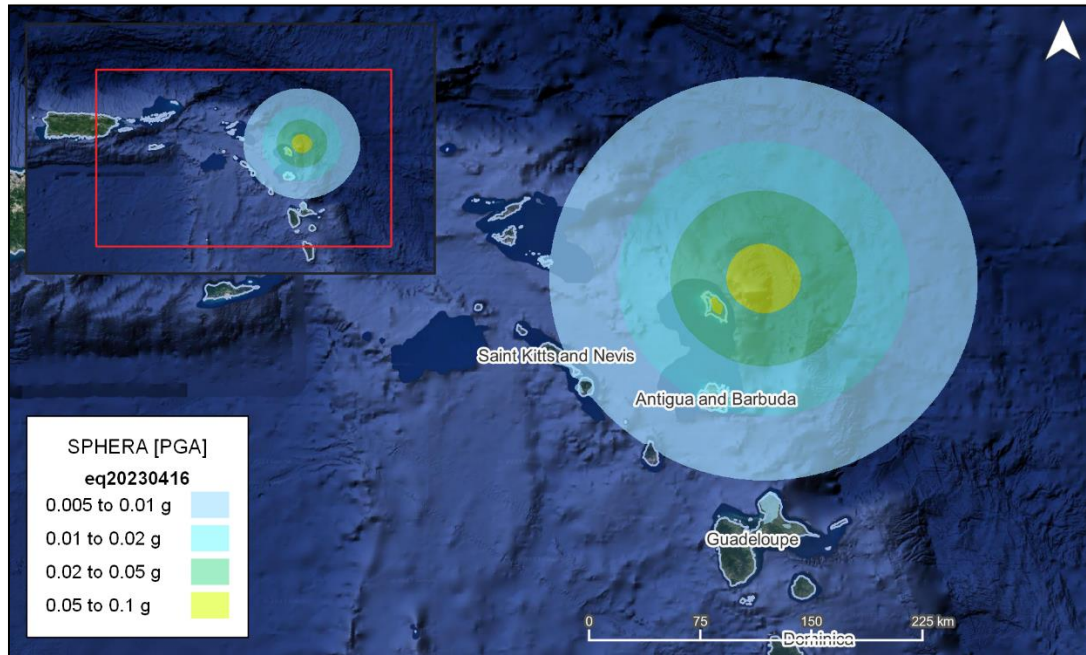
## 2 CCRIF MODEL OUTPUTS

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 0.02 g was estimated in Antigua and Barbuda (Figure 2), but under the SPHERA model, the earthquake generated a loss estimation of zero.

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<sup>1</sup> Download Event KML, United States Geological Survey, review date: 16 April 2023, available at: <https://earthquake.usgs.gov/earthquakes/feed/v1.0/detail/us6000k4vb.kml>

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**Figure 2** Map showing the peak ground acceleration in Antigua and Barbuda computed using the SPHERA model following the magnitude 5.2 earthquake<sup>2</sup> on 16 April 2023 at 09:49:51 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.

According to the USGS “Did You Feel It?” online tool, 7 persons in Antigua and Barbuda within a radius of 95 km (59.03 mi) from epicentre reported the earthquake as being a “weak shake with no damage” (Mercalli intensity: II-III); 12 persons in Saint Kitts and Nevis in a distance greater than 135km (83.88 mi) from epicentre reported the earthquake also as “weak shake with no damage” (Mercalli intensity: II-III).

### 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 is due under this country’s earthquake policy.

For additional information, please contact CCRIF SPC at: [pr@ccrif.org](mailto:pr@ccrif.org)

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<sup>2</sup> United States Geological Survey (USGS), review date: 16 April 2023, available at: <https://earthquake.usgs.gov/earthquakes/eventpage/us6000k4vb/executive>

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