



# **Cayman Islands**

## **Earthquake**

**16 October 2021**

### **Preliminary Event Briefing**

**17 October 2021**

## 1 INTRODUCTION

A magnitude 5.3 earthquake occurred at 18:27:29 UTC on 16 October 2021, 75.0 km (46.6 mi) SSW of George Town, Cayman Islands; 80.9 km (50.3 mi) SSW of West Bay, Cayman Islands and 81.1 km (50.4 mi) SW of Bodden Town, Cayman Islands. Initial estimates from the United States Geological Survey (USGS) located the epicentre of the event at 18.701°N, 81.727°W, and at a depth of 10.0 km (6.2 mi – Figure 1). Cayman Islands was the only CCRIF member country where peak ground acceleration, computed with the CCRIF System for Probabilistic Hazard Evaluation and Risk Assessment (SPHERA) model, was greater than 0.01 g for this earthquake.

Preliminary runs of CCRIF’s loss model estimated no government losses for the Cayman Islands and therefore no payout under the country’s earthquake policy is due.



**Figure 1** Information from the Earthquake Hazards Program of the United States Geological Survey regarding the earthquake event on 16 October 2021 at 18:27:29 UTC. Source: USGS<sup>1</sup>

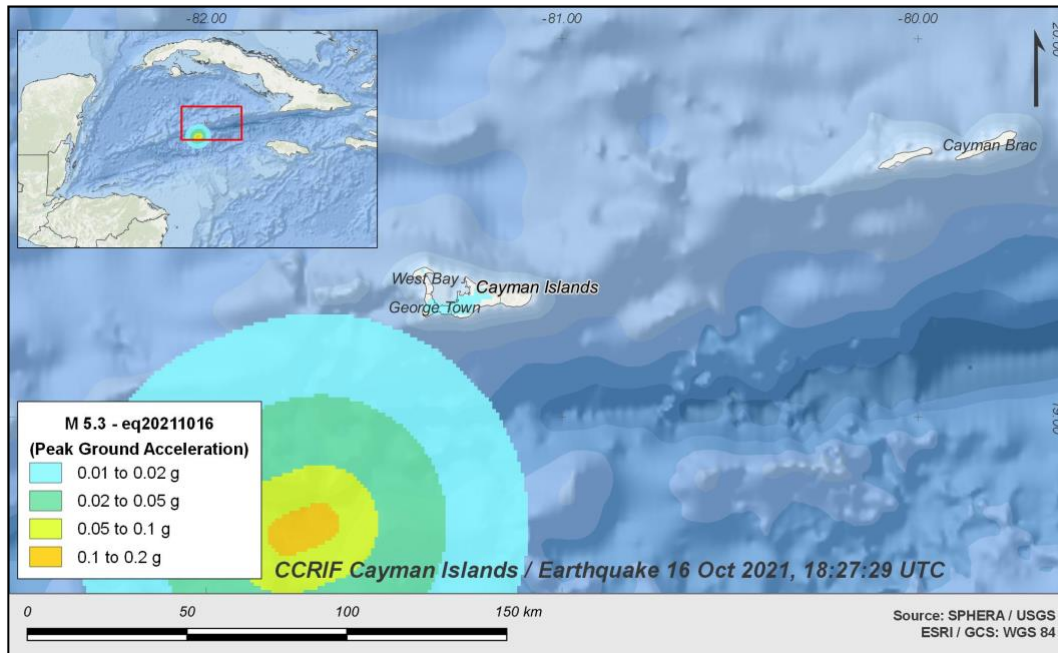
## 2 CCRIF MODEL OUTPUTS

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 0.013 g was estimated in the Cayman Islands (Figure 2), but under SPHERA, 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 October 2021, available at: <https://earthquake.usgs.gov/earthquakes/eventpage/us6000fv9g/executive>

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**Figure 2** Map showing the peak ground acceleration in the Cayman Islands computed using SPHERA model following the magnitude 5.3 earthquake on 16 October at 18:27:29 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 the Cayman Islands due to this earthquake.

According to the USGS “*Did You Feel It?*” online tool<sup>2</sup>, 9 persons in the Cayman Islands within a radius of 82 km (51 mi) from the epicentre reported the earthquake as being a “weak shake with no damage” (Mercalli intensity: II - III).

### 4 TRIGGER POTENTIAL

Preliminary runs of CCRIF’s loss model generated no government losses for the Cayman Islands for this earthquake and therefore no payout is due under the country’s CCRIF earthquake policy.

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

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<sup>2</sup> Did You Feel It?, United States Geological Survey, review date: 17 October 2021, available at: <https://earthquake.usgs.gov/earthquakes/eventpage/us6000fv9g/dyfi/responses>