Earthquake Transfer for Caribbean

Overview

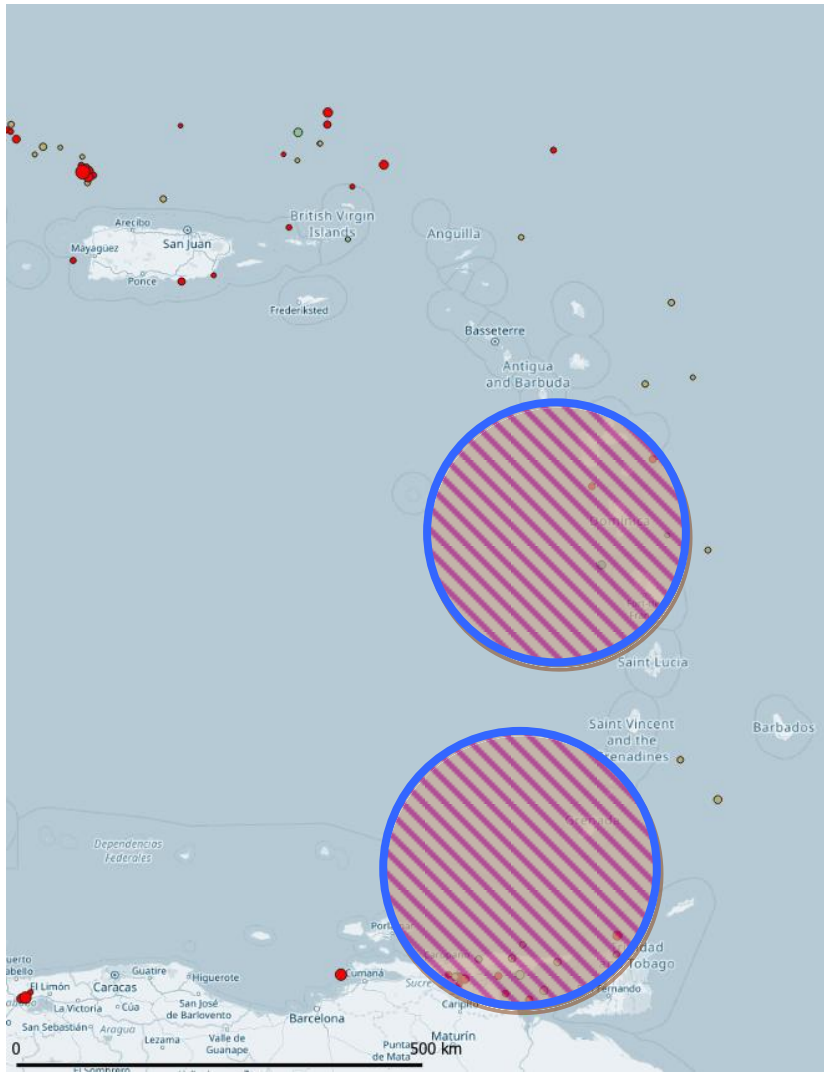

Figure 71. Hashed circles represent current Earling undercover regions.

After having severe earthquakes in the region since 1600, no earthquake in this intensity is reported while the vulnerability of all islands to major earthquakes increased enormously because of continuous population growth and changes in building and land-use practices. Most of the earthquakes occurring in the Eastern Caribbean are either tectonic or volcanic in origin. Tectonic earthquakes are generated when plates move as accumulated energy is released. Volcanic earthquakes are generated by the movement of magma within the lithosphere. Earling continuously monitors ground shaking through analyzing millions of recorded earthquake pre-indicator data through artificial intelligence. This method of data analysis provided new opportunities for public usage and authorities to being acknowledged before the next major events happen.

Since July 2018, Earling issued alerts before 2 events rocked the region. All of the Commonwealth Caribbean countries, with the exceptions of Bahamas and Guyana, lie close to the known tectonic plate boundaries. One of the latest major earthquakes that rocked the region is the M7.3 Depth 154km, 45 km from Carúpano, Sucre, Venezuela, on August 21, 2018. Earling monitors ground shaking around Grenada and some of the other Caribbean islands like Barbados, Martinique, and Dominica and issued several preparedness alerts for the region in which two of them were related to the Grenada region. One of the latest alerts that issued for the vicinity area of Grenada followed by an M5.5 in the expected radius, near Martinique on Friday, September 28, 2018 - 12:38 in the day 8 after alert issued for the region.

Caribbean recent major earthquakes

Region	Date	Magnitude	Severity
Venezuela, Trinidad	21-Aug-18	7.3	VII
Martinique	29-Nov-07	7.4	VI–VII
Guadeloupe, Dominica	21-Nov-04	6.3	VII
Dominican Republic	22-Sep-03	6.4	VII

EPA Effect on Dominican Probable Maximum Loss

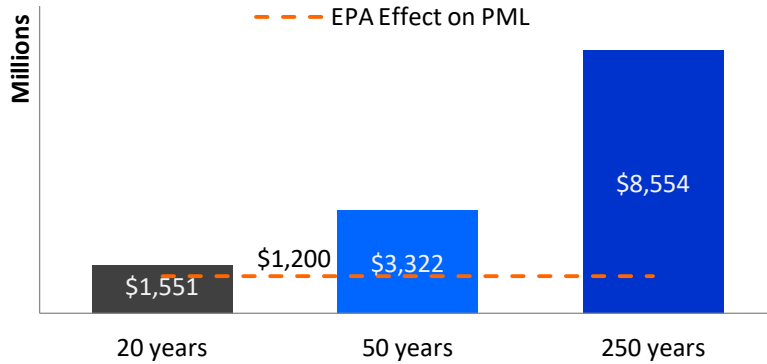

Figure 72. PML - Mean return period in years. EPA can help to extend the earthquake insurance penetration rate. Dominican earthquake Average Annual Loss is $363.85 million (Dominican Republic Disaster & Risk Profile, 2014).

EPA Effect on Martinique Probable Maximum Loss

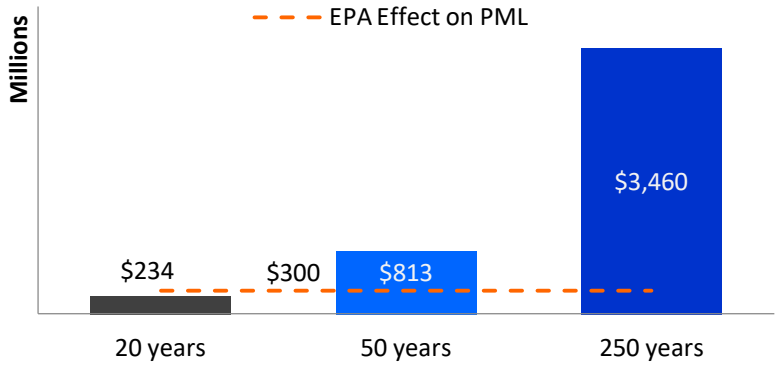

Figure 73. PML - Mean return period in years. EPA can help to extend the earthquake insurance penetration rate. Martinique earthquake Average Annual Loss is $78.91 million (Martinique Disaster & Risk Profile, 2014).

Martinique Documented EPAs

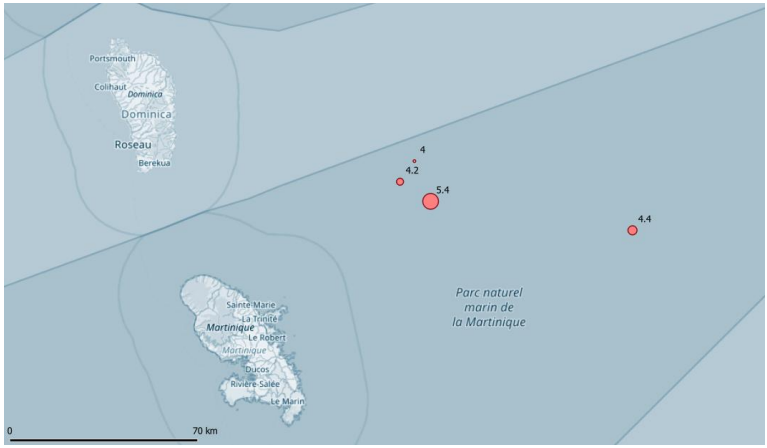

Figure 74. Martinique Island experienced 4 shallow earthquakes > 4 magnitudes in 2018. Earling was able to issue accurate EPA for the region since July 2018.

EPA issued date	Earthquake	Mag	Status	Average Annual Loss AAL (Million)
Jul 18, 2018[32]	Jul 26, 2018[33]	4.2	Hit	$78

Table 9. EPAs that issued for North and Center of Japan in 2018.

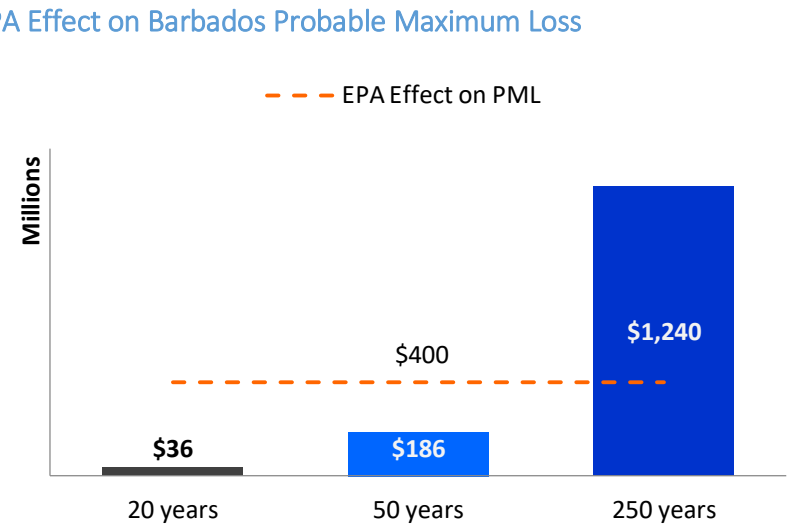

Figure 75. Probable Maximum Loss (PML) - Mean return period in years. EPA can help to extend the earthquake insurance penetration rate. Barbados earthquake Average Annual Loss is $22.82 million (Barbados Disaster & Risk Profile, 2014).

[32] https://www.instagram.com/p/BlYD_Wilcq-/
[33] https://earthquake.usgs.gov/earthquakes/eventpage/us2000ge22

EPA Effect on Guadeloupe Probable Maximum Loss

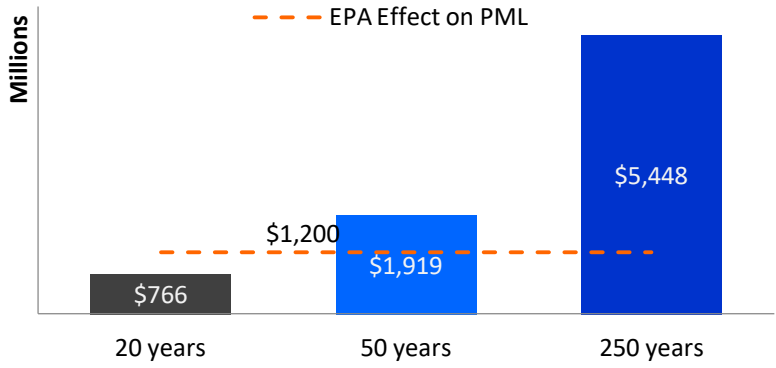

Figure 76. PML - Mean return period in years. EPA can help to extend the earthquake insurance penetration rate. Guadeloupe earthquake Average Annual Loss is $179.8 million (Guadeloupe Disaster & Risk Profile, 2014).

EPA Effect on Puerto Rico Probable Maximum Loss

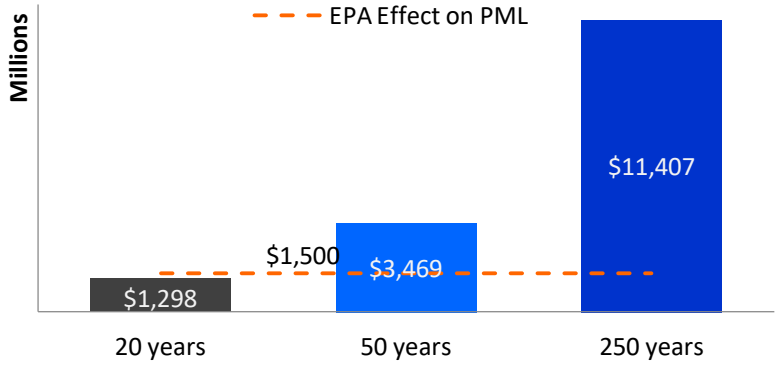

Figure 77. PML - Mean return period in years. EPA can help to extend the earthquake insurance penetration rate. Puerto Rico earthquake Average Annual Loss is $354 million (Puerto Rico Disaster & Risk Profile, 2014).

EPA Effect on Dominica Probable Maximum Loss

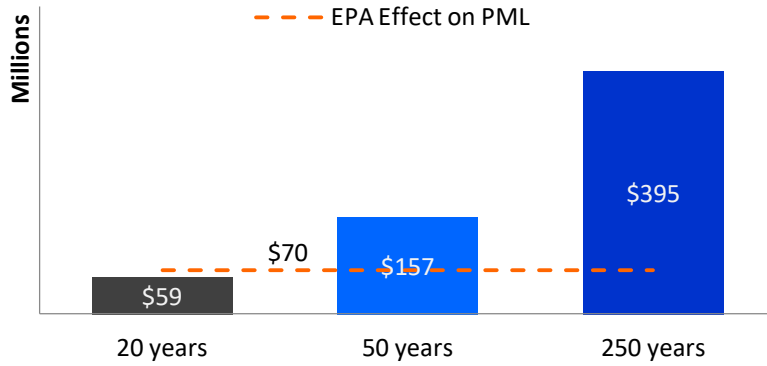

Figure 78. Probable Maximum Loss (PML) - Mean return period in years. EPA can help to extend the earthquake insurance penetration rate. Dominica earthquake Average Annual Loss is $13 million (Dominica Disaster & Risk Profile, 2014).