



## **Seismic Monitoring Capabilities of the Caribbean and Adjacent Regions Tsunami Warning System**

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Over 75 tsunamis have been documented in the Caribbean and Adjacent Regions during the past 500 years. Since 1500, at least 4484 people are reported to have perished in these killer waves. Hundreds of thousands are currently threatened along the Caribbean coastlines. In 2005 the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE EWS) was established. It recommended the following minimum seismic performance standards for the detection and analysis of earthquakes: 1) Earthquake detection within 1 minute, 2) Minimum magnitude threshold = M4.5, and 3) Initial hypocenter error of <30 km. The implementation plan of the CARIBE EWS currently includes 115 seismic stations in the Caribbean and Adjacent Regions. The NOAA National Weather Service Caribbean Tsunami Warning Program prepares and distributes monthly reports on real time and archived seismic data availability of the contributing stations at the US Tsunami Warning Centers, the Puerto Rico Seismic Network and IRIS. As of early 2014, 99 of the proposed stations are being contributed by national, regional and international seismological institutions. Recent network additions (Nicaragua, Colombia, Mexico, Cayman Islands, and Venezuela) have reduced detection threshold, time and location error throughout much of the Caribbean region and Central America. Specifically, earthquakes (>M4.0) can be detected within 1 minute throughout much of the Caribbean. The remaining exceptions to this standard for detection are portions of northern South America and Mexico. Another performance criterion is 90% data availability. Currently 60-70% of the stations meet this standard. The presentation will further report on the status of the CARIBE EWS seismic capability for the timely and accurate detection and analysis of earthquakes for tsunami warning purposes for the Caribbean and Adjacent Regions.