



THE UNIVERSITY OF THE WEST INDIES
ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES
SEISMIC RESEARCH CENTRE

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Why Monitor And Install Strong Motion Instruments ?

Monitoring of strong ground motion helps in assessing the risk of earthquake damage to structures. Often there is requirement for information concerning;

- Type of structure and its response to strong ground motion and other seismic hazards,
- Location of the structure in relation to earthquake faults,
- Type of faulting, and
- Overall distribution of strong ground shaking and its local modification by specific site geology.

Seismic monitoring systems are recommended to be installed in multiple-story buildings especially key structures such as hospitals, schools Power generation houses. Strong motion measurements are valuable to building owners in determining how their building performed during a strong seismic event.

Data indicating the actual motions experienced by the building during the earthquake shaking can be downloaded and compared to the design thresholds for the building. Building officials and owners can make informed decisions about occupancy and business resumption using actual measured motions, and referring to threshold levels previously developed, quickly make decisions after an earthquake.

Using strong motion data, earth scientists hope to gain a better understanding of:

- 1) Ground response near fault ruptures of large earthquakes
- 2) Effects of severe shaking on different subsurface structures and geologic materials.
- 3) Ground response in areas that undergo liquefaction.

Are there Strong Motion Instruments Installed in Trinidad and Tobago?

Currently there are four functional Strong motion seismometers installed in Trinidad at, Point Cumana, West moorings, Brigand Hill and Point Fortin. However this array is much too sparse to fully monitor earthquake effects on an earthquake area with a high earthquake vulnerability such as Trinidad.

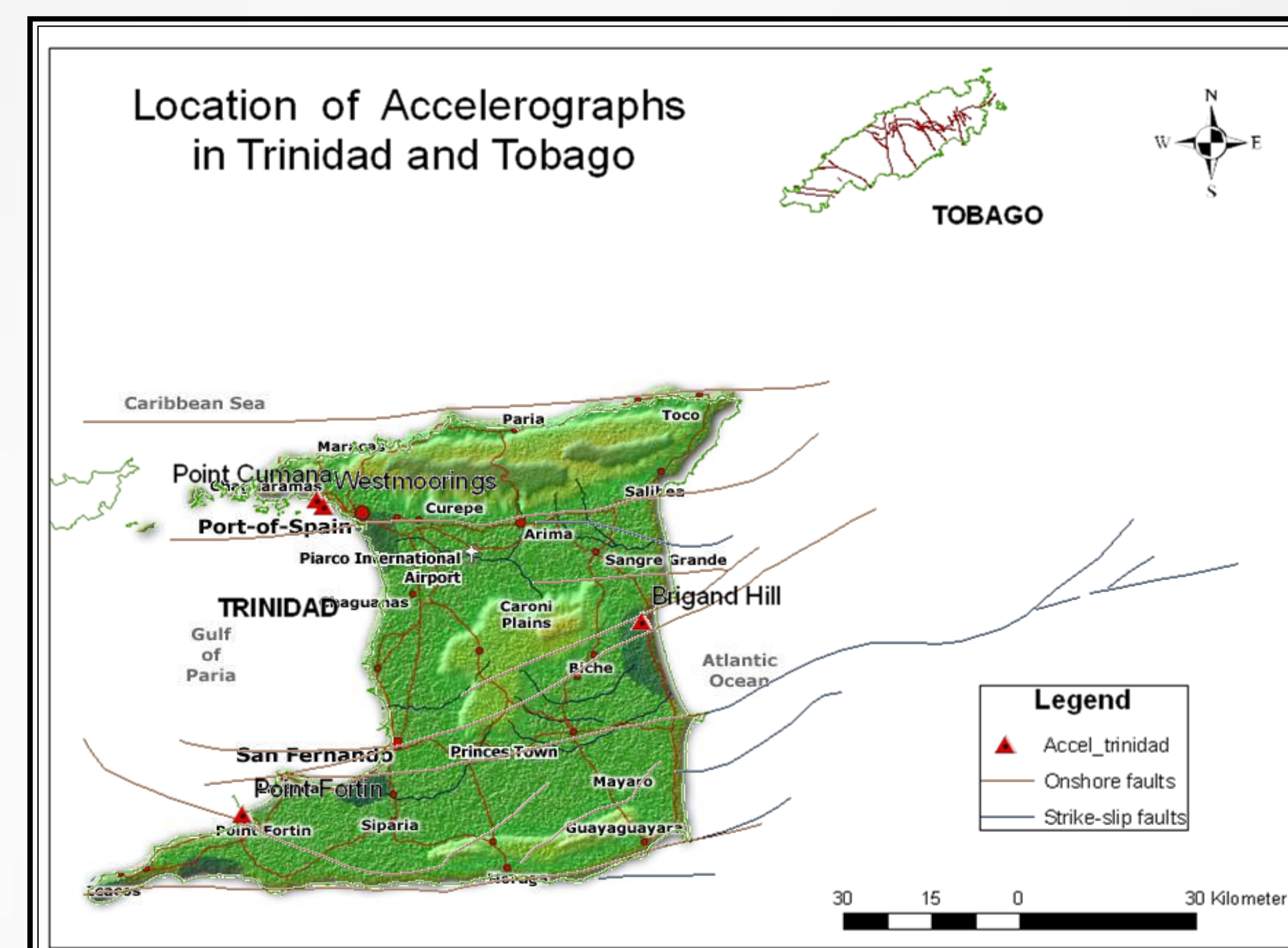


Figure 1 - Locations of Accelerographs in Trinidad and Tobago.

Pictures A,B, C and D --Examples of current buildings in Trinidad which are best suited to be outfitted with the Strong Motion Instruments.



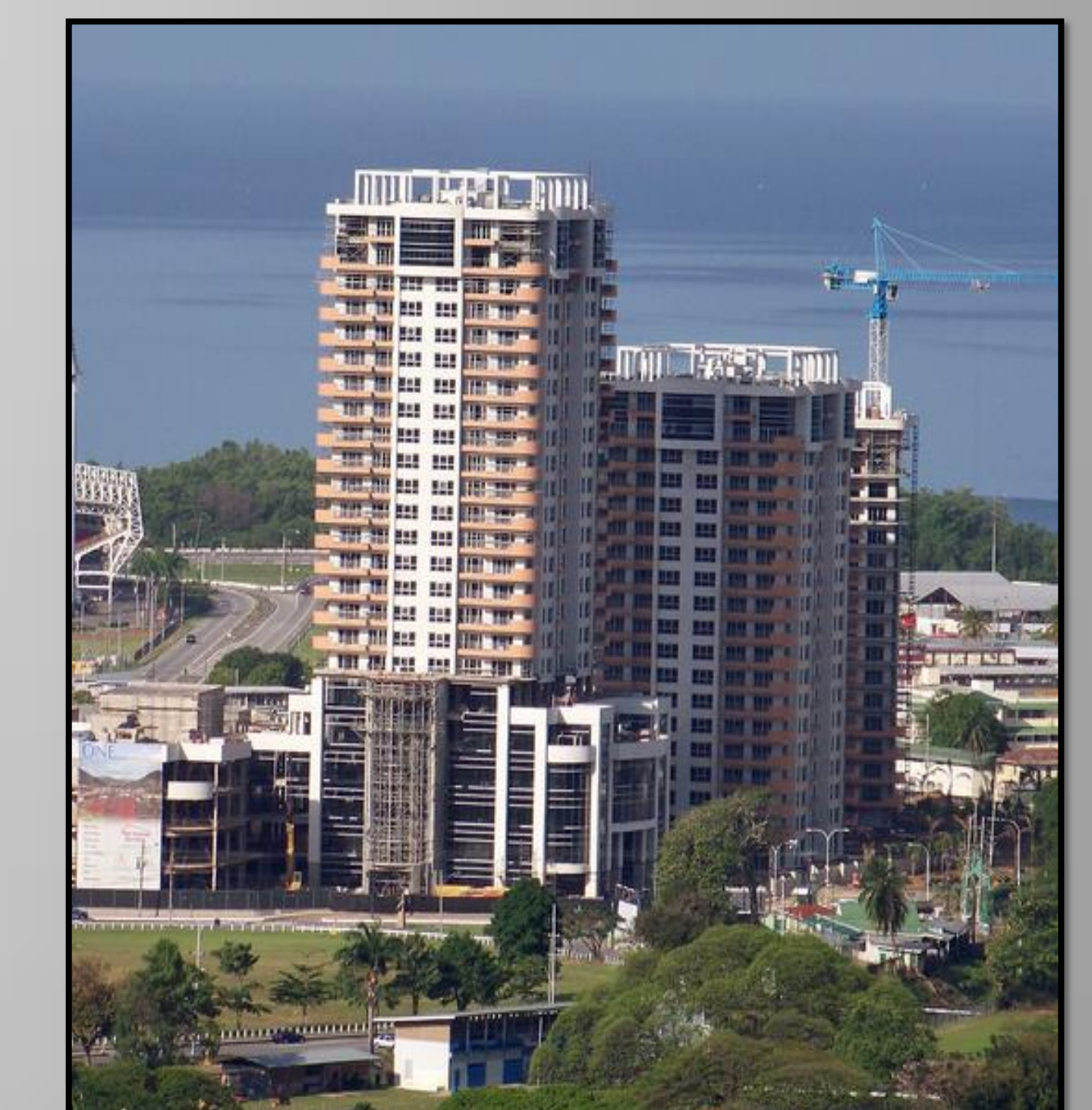
A. National Academy for the Performing Arts, South



B. Chancery Lane Complex, South



C. Water front, Port of Spain



D. One Woodbrook Place, Port of Spain

The University of the West Indies Seismic Research Center Services Available

- Assisting land owners, architects, and structural engineers in determining the most appropriate installation locations,
- Supplying and commissioning of Strong motion recording instrumentation
- Installation and monitoring of seismic equipment,
- Training on the use and maintenance of the system.