Developing input for Tsunami Modeling and Earthquake scenarios using Seismic Network Data

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Haiti, 07 / 2013
Tsunami Problem

Island Gradually Sinking

Oceanic plate

Continental plate

YEARS
0 100 200

Tectonics Observatory

Oceanic plate

Continental plate
How Are Tsunamis Generated?

1. Earthquake
2. Waves are generated
3. Waves slow and compressed
4. Waves grow taller as they come ashore

- GPS
- SISMOMETROS/ACELEROMETROS
- RADAR HF/SATELITES/DART
- TIDE GAUGES
Saving lives and property depends on how well the community is prepared.
Tsunami Modeling

Condición inicial para la falla R5 como consecuencia de su temblor asociado.
Figure 1. (a) Geological places in the PRVI region. Green triangles represent the PRSN stations and orange lines denote major fault zones. The small panel shows tectonics in the PRVI region. Base map is the topography map compiled by (Smith and Sandwell, 1997). The red rectangle encloses our study area, which is the record area of the PRSN. (b) Seismicity between 1986 and 2008 recorded by the PRSN stations.
PR-TWMP Numerical Data Base

RESULTS - B

PUERTO RICO REGION

Faults: 102
Segments: 268
Maximum M (Faults): 7.6
Maximum M (Segments): 7.2
Seismic Catalogue: 10031
Waveform Catalogue: 3518
Quakes used: 4422
Depth: ≤ 50 km
Offshore Seismicity
Completeness: 3.2 Ml (Outside)