El Gran ShakeOut de Puerto Rico

¡PREPÁRESE PARA EL SHAKEOUT!

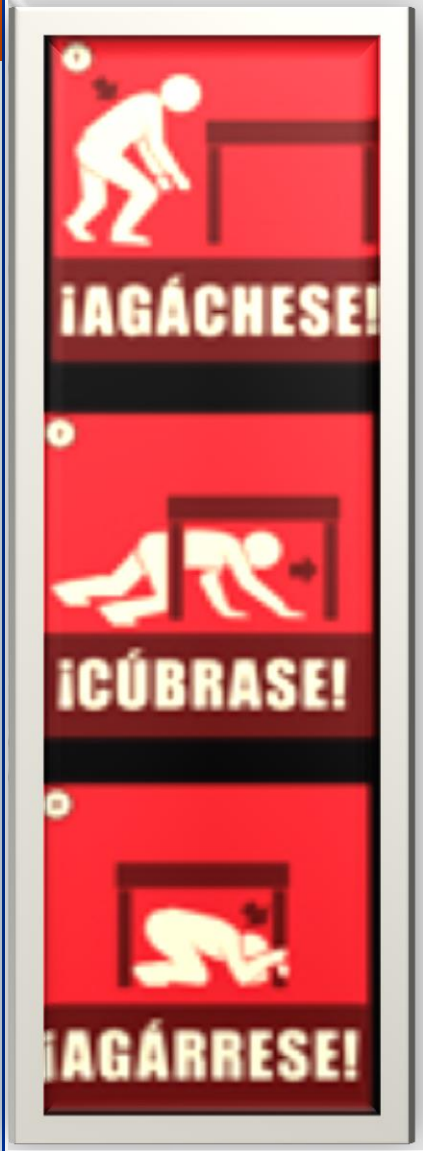
Le invitamos a unirse a miles de personas que van a "Agacharse, Cubrirse y Agarrarse" el 17 de octubre de 2013, a las 10:17 a.m.* en *¡El Gran "ShakeOut" de Puerto Rico!*

Más de 19,4 millones de personas se registraron para participar en varios simulacros del ShakeOut en 2012. Participar es una buena manera de lograr que su familia u organización esté mejor preparada para sobrevivir y recuperarse rápidamente después de un terremoto grande.

Si usted participó, no es demasiado tarde para registrarse para ser contado!

*Usted puede practicar el simulacro en cualquier momento dentro de las dos semanas antes del 17 de octubre.

http://shakeout.org/puertorico



THE PUERTO RICO SEISMIC NETWORK:
Fault Systems, Tsunami Maps, Monitoring and Information

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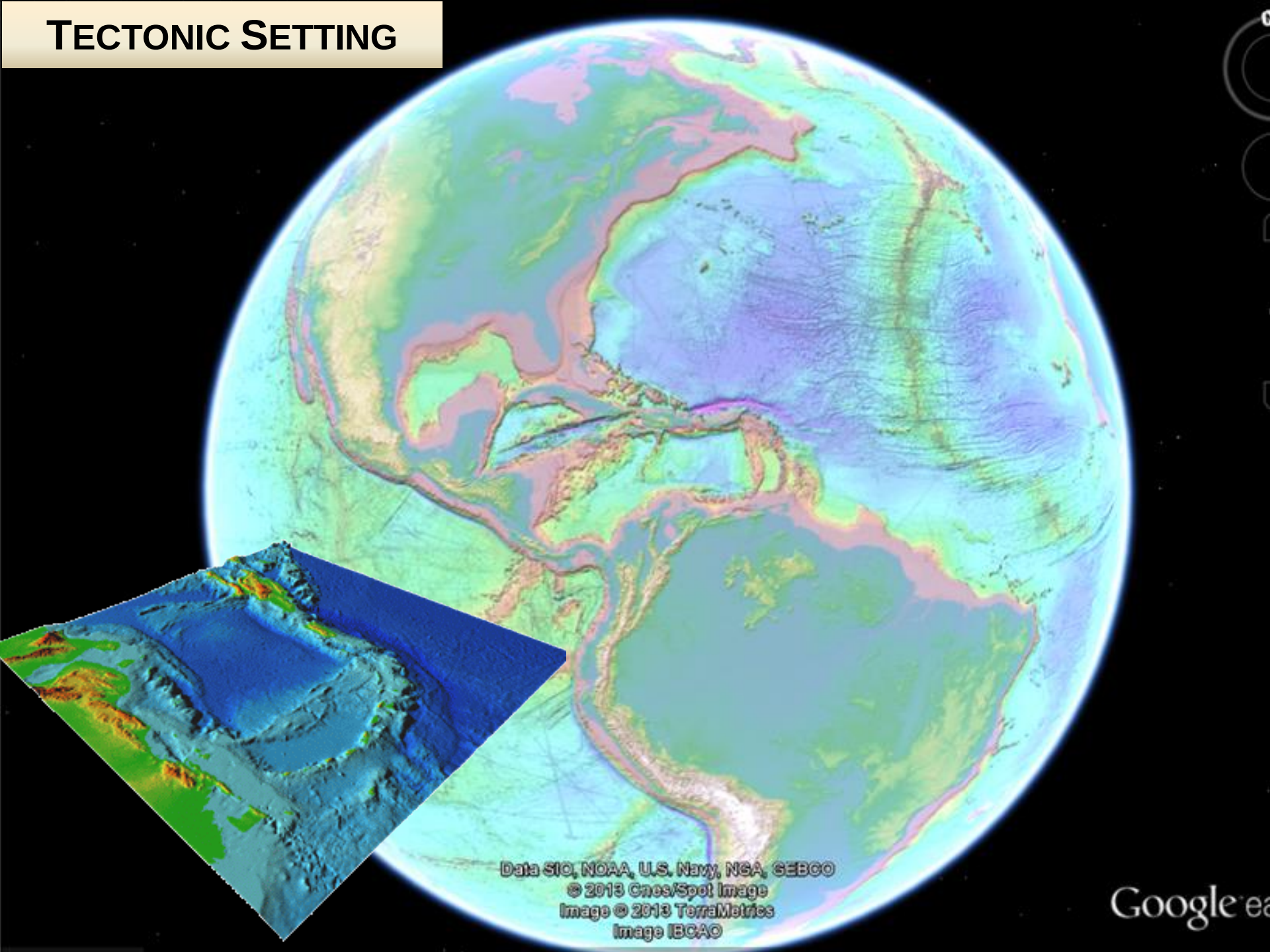
MAYAGUEZ CAMPUS
GEOLOGY DEPARTMENT

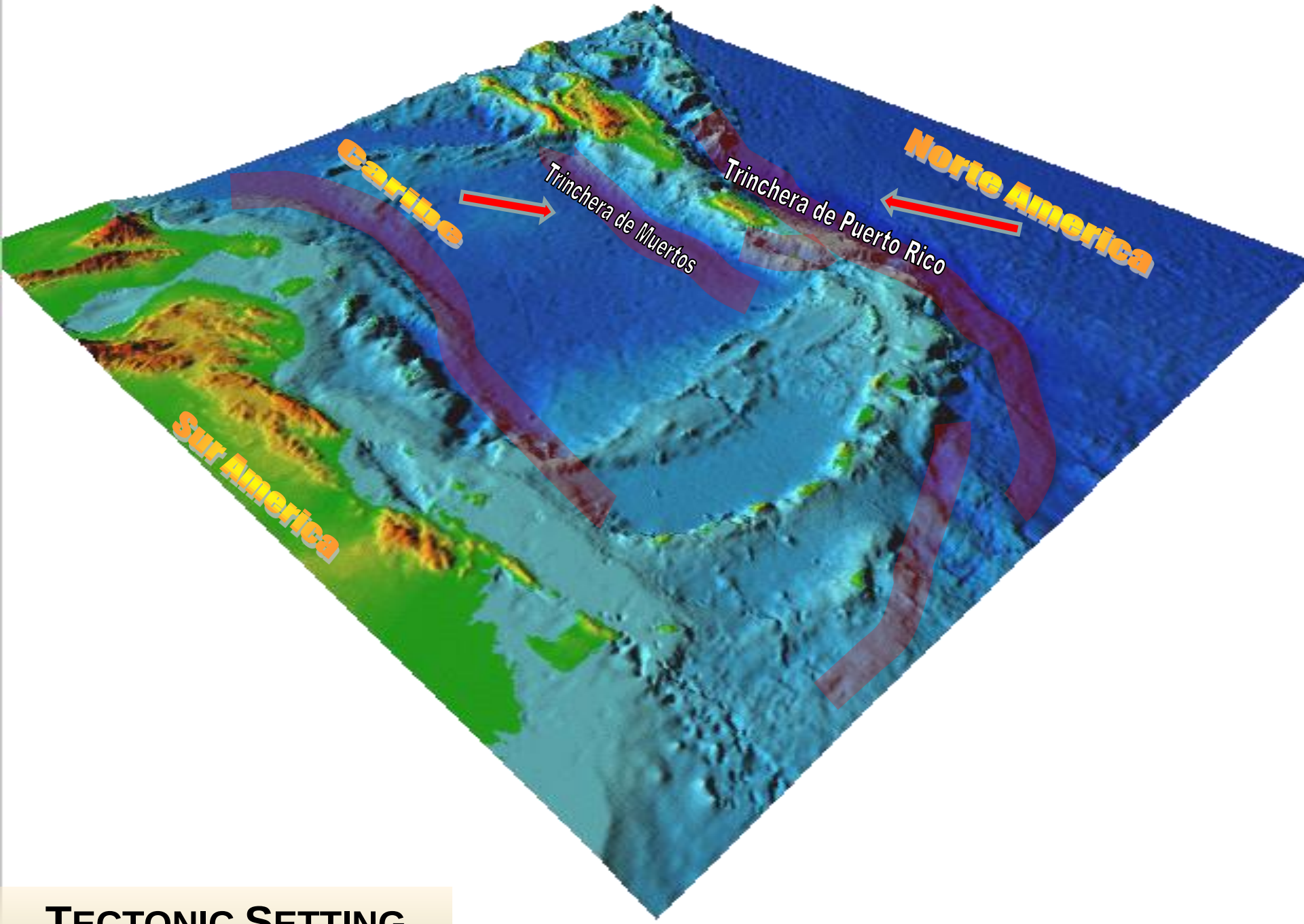
May 29 / 2013

PRSN MISSION

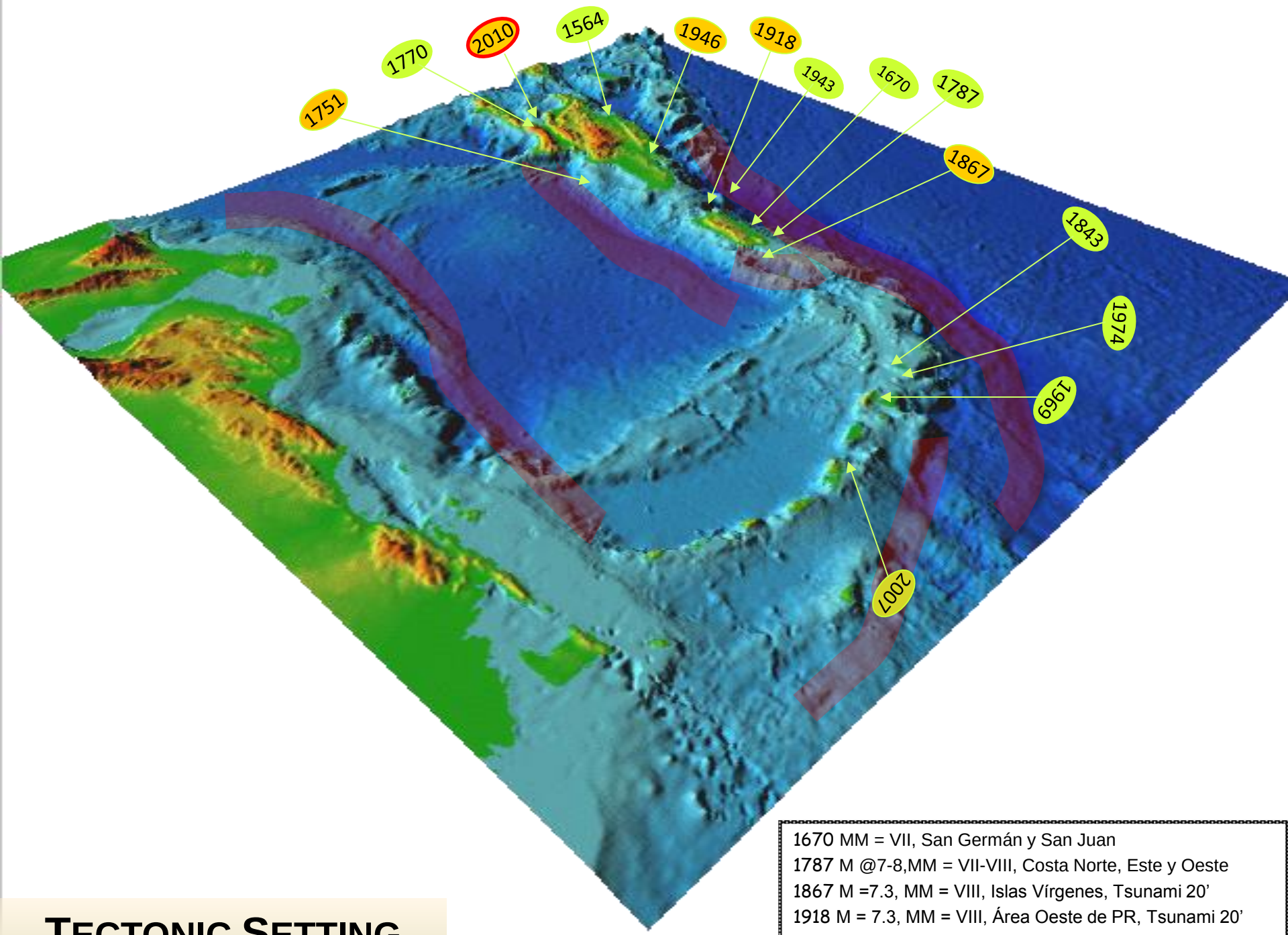
The mission of the Puerto Rico Seismic Network (PRSN) is to monitor and rapidly determine the location and size of all earthquakes and the alert level of tsunamis in the Area of Responsibility (AOR) and to immediately disseminate this information to concerned agencies, scientists, and the general public. The PRSN compiles and maintains an extensive seismic database of earthquake parameters, continuous waveforms (earthquakes, GPS and sea level) and their effects which serve as a solid foundation for basic and applied earth science/oceanography research in Puerto Rico and the Caribbean.

TECTONIC SETTING





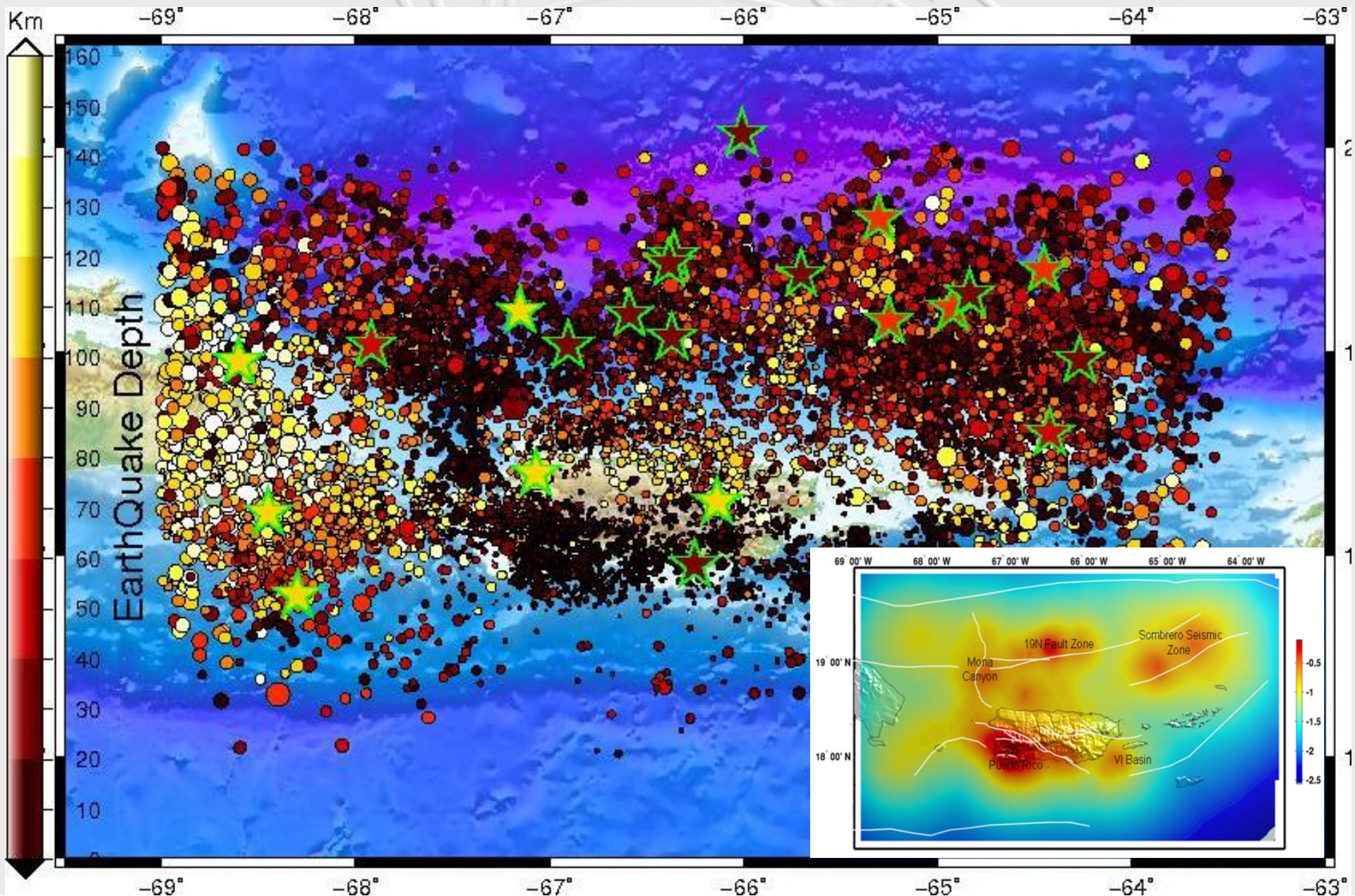
TECTONIC SETTING



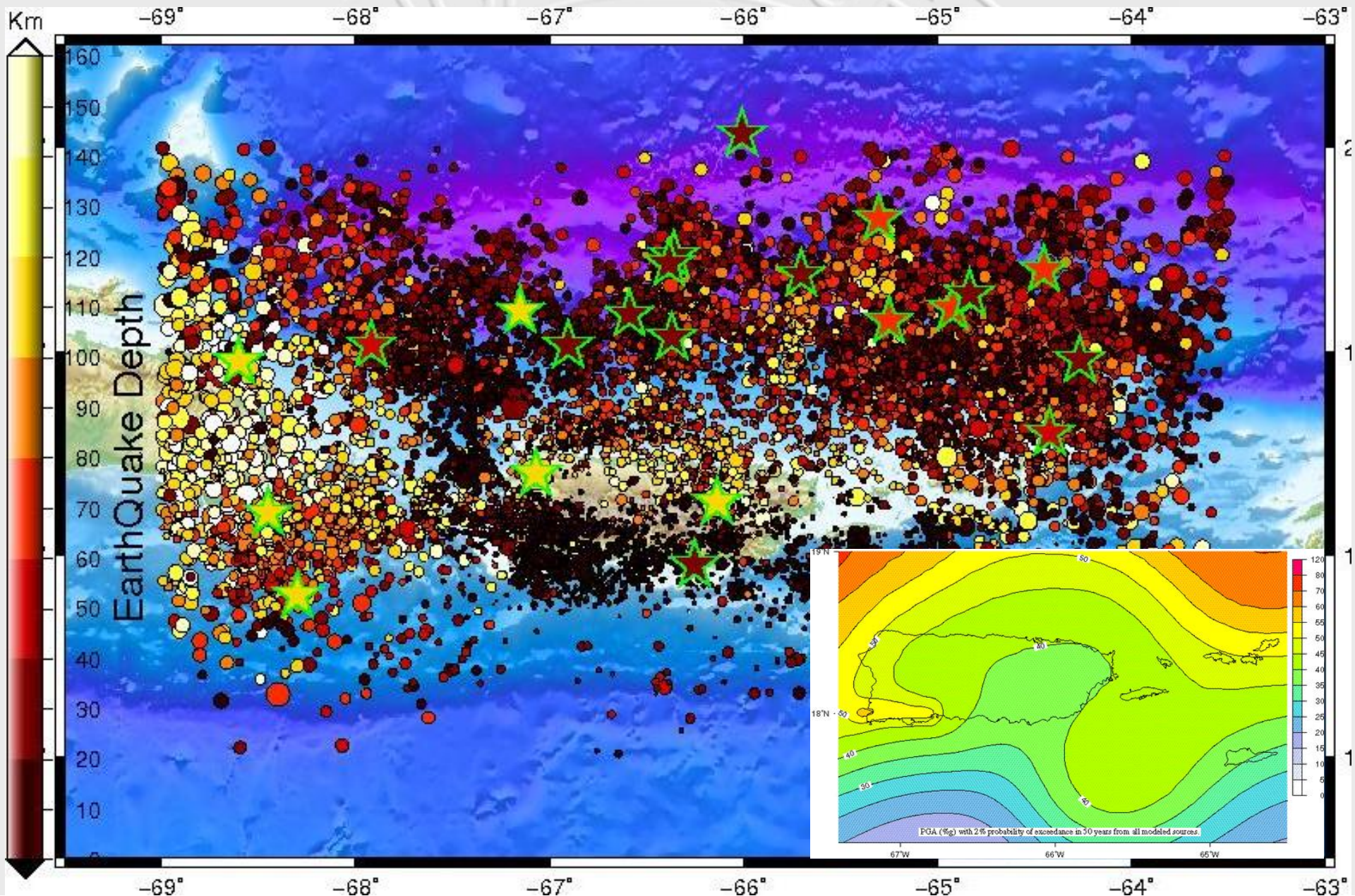
1670 MM = VII, San Germán y San Juan
1787 M @7-8,MM = VII-VIII, Costa Norte, Este y Oeste
1867 M =7.3, MM = VIII, Islas Vírgenes, Tsunami 20'
1918 M = 7.3, MM = VIII, Área Oeste de PR, Tsunami 20'
1943 M = 7.5, MM = V, Noreste de Puerto Rico

TECTONIC SETTING

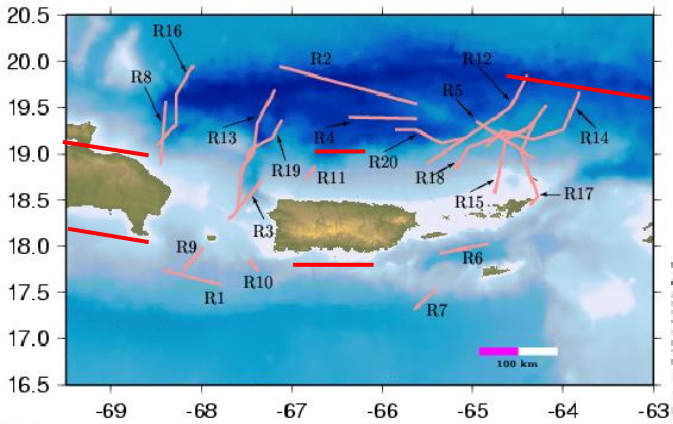
PRSN SEISMIC CATALOGUE (AOR)

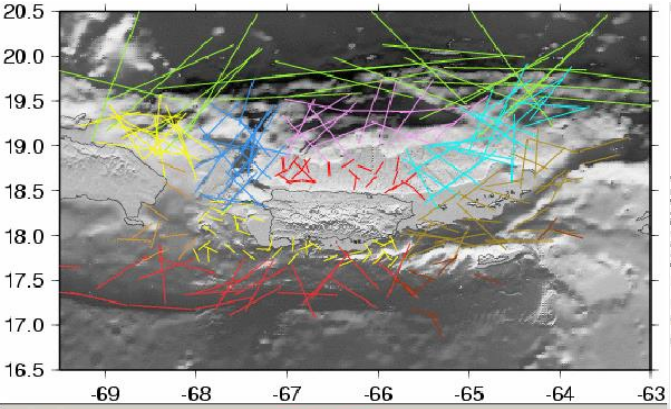


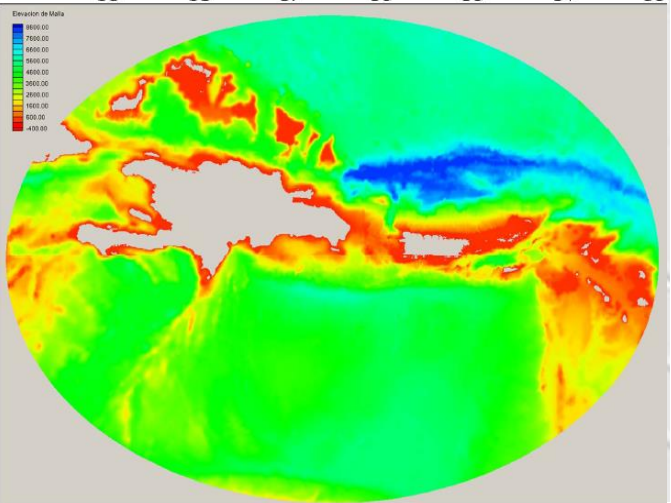
PRSN SEISMIC CATALOGUE (AOR)

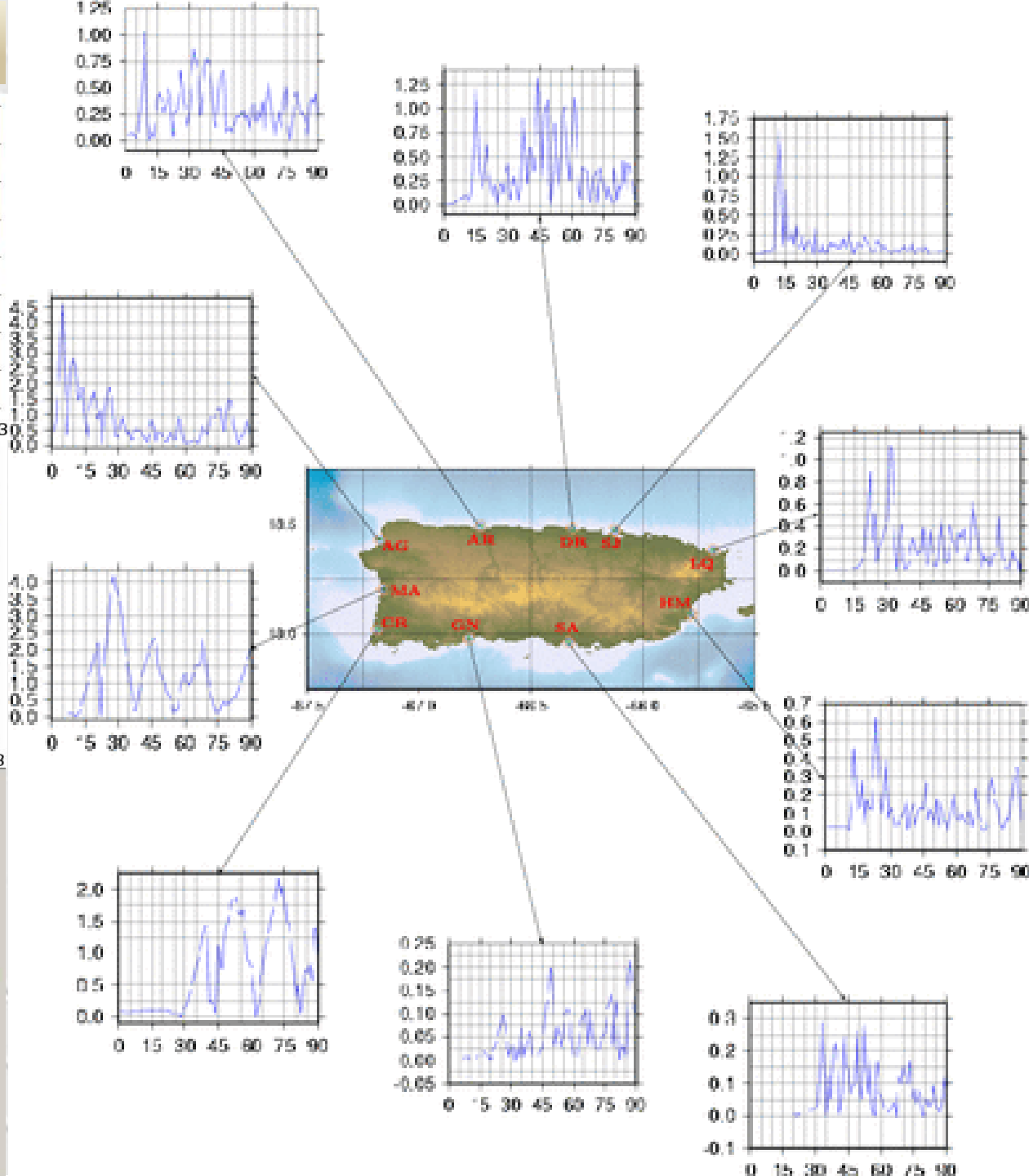


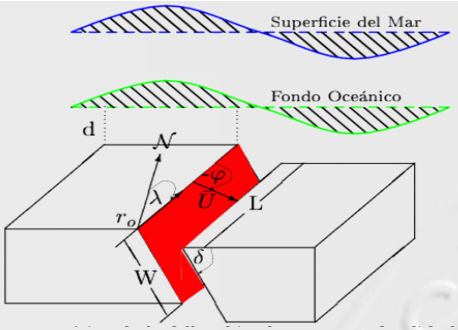
TSUNAMI PROBLEM









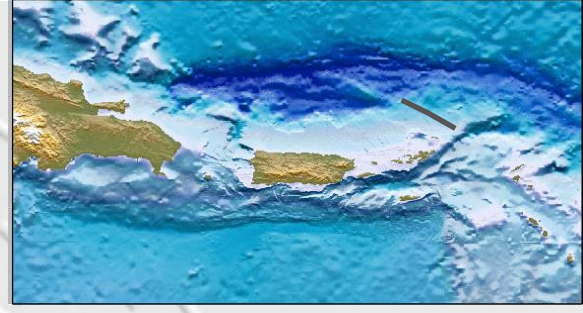


Mo = F(U,A)

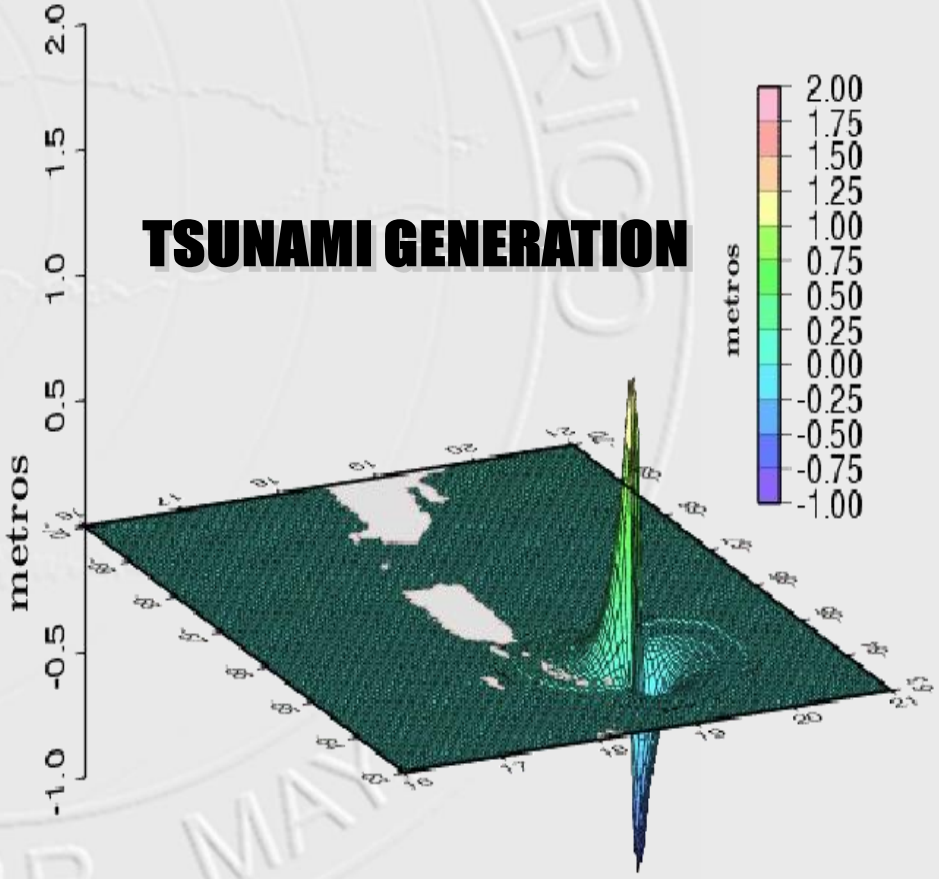
Geometry

Size…….

R5:
Strike = 122
Dip = 80
Rake = 90
Mw = 7.7

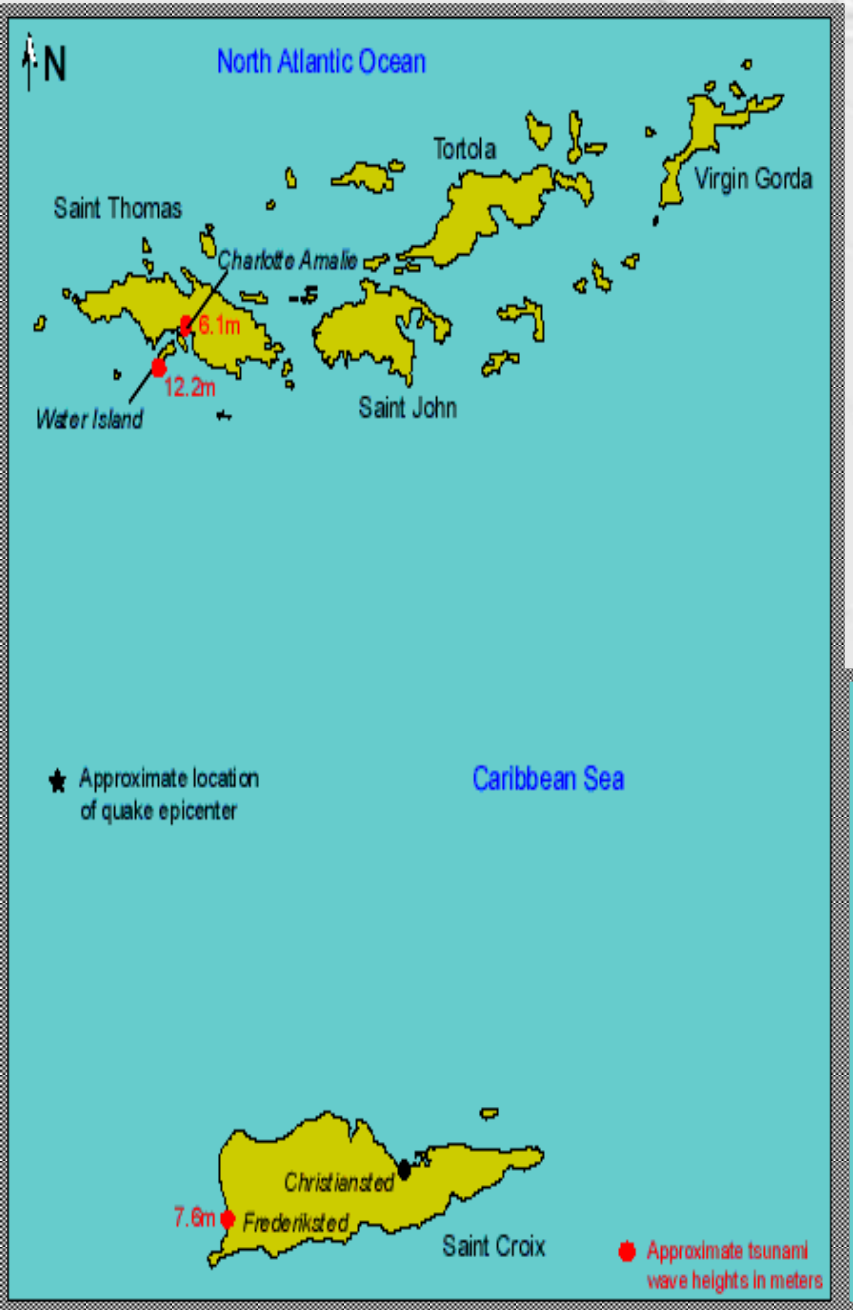


TSUNAMI GENERATION



Condición inicial para la falla R5 como consecuencia de su temblor asociado.

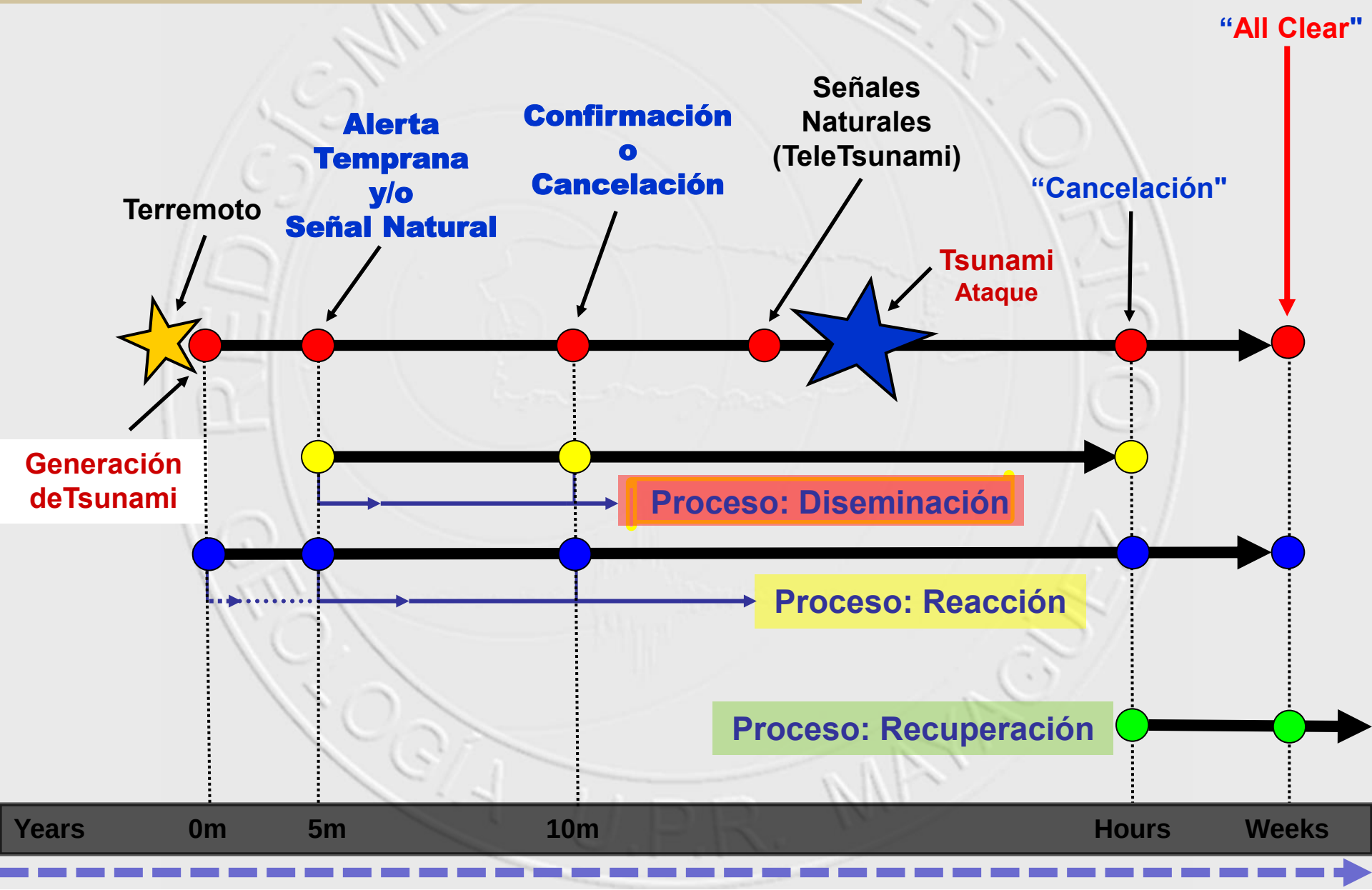
TSUNAMI HISTORY OF PUERTO RICO



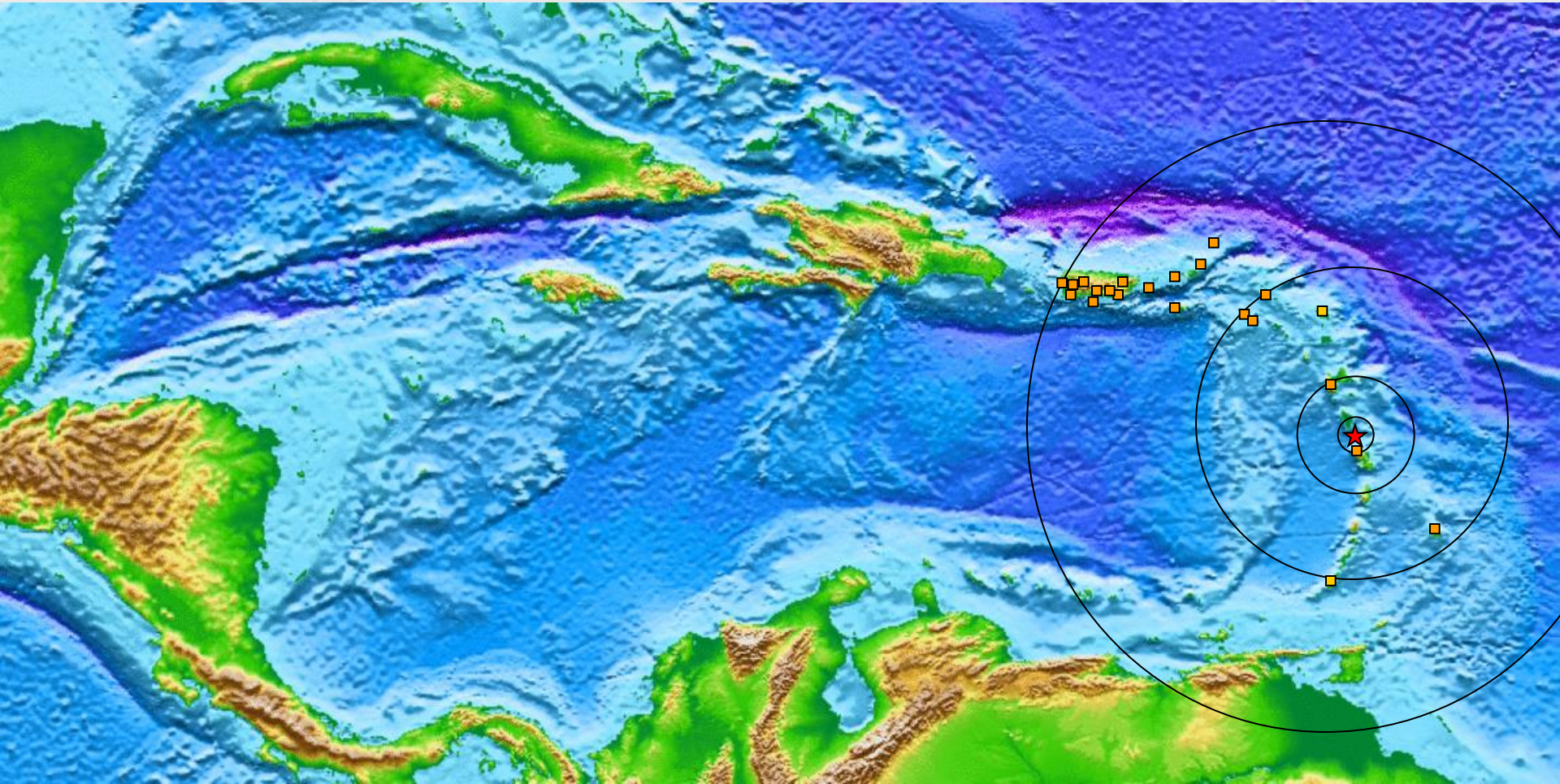
I.	No felt
II.	Scarcely Felt
III.	Weak
IV.	Largely Observed
V.	Strong
VI.	Slightly Damaging
VII.	Damaging
VIII.	Heavily Damaging
IX.	Destructive
X.	Very destructive
XI.	Devastating
XII.	Completely Devastating

Intensity	H (m)
I-V	< 1.0
VI	2.0
VII-VIII	4.0
IX-X	8.0
XI	16.0
XII	32.0

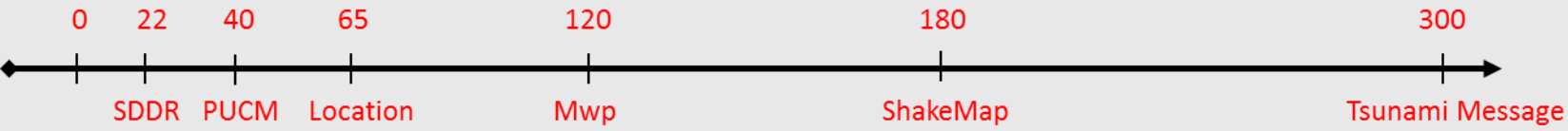
Sistema de Alerta de Tsunamis: Lineas de Tiempo

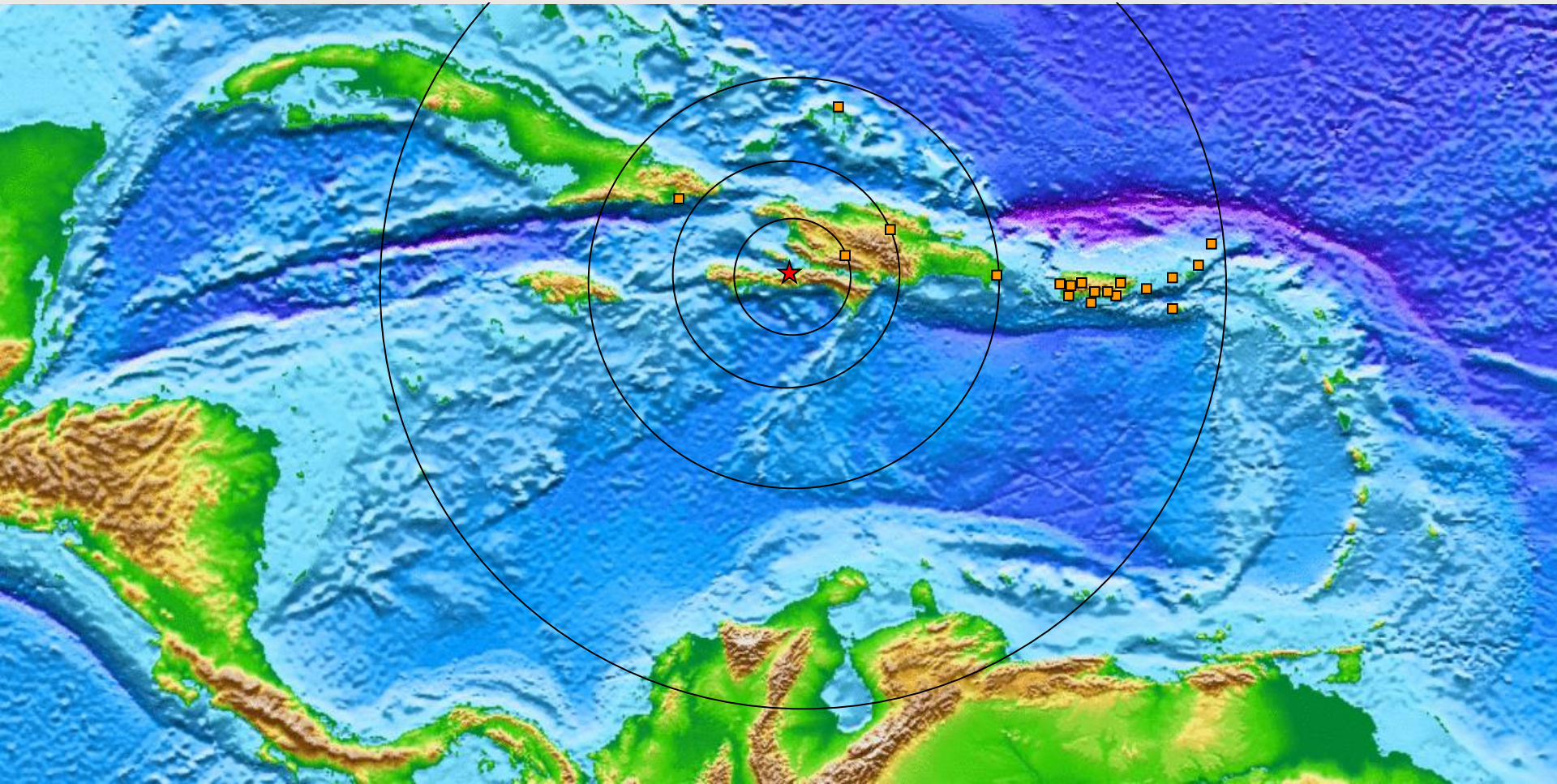


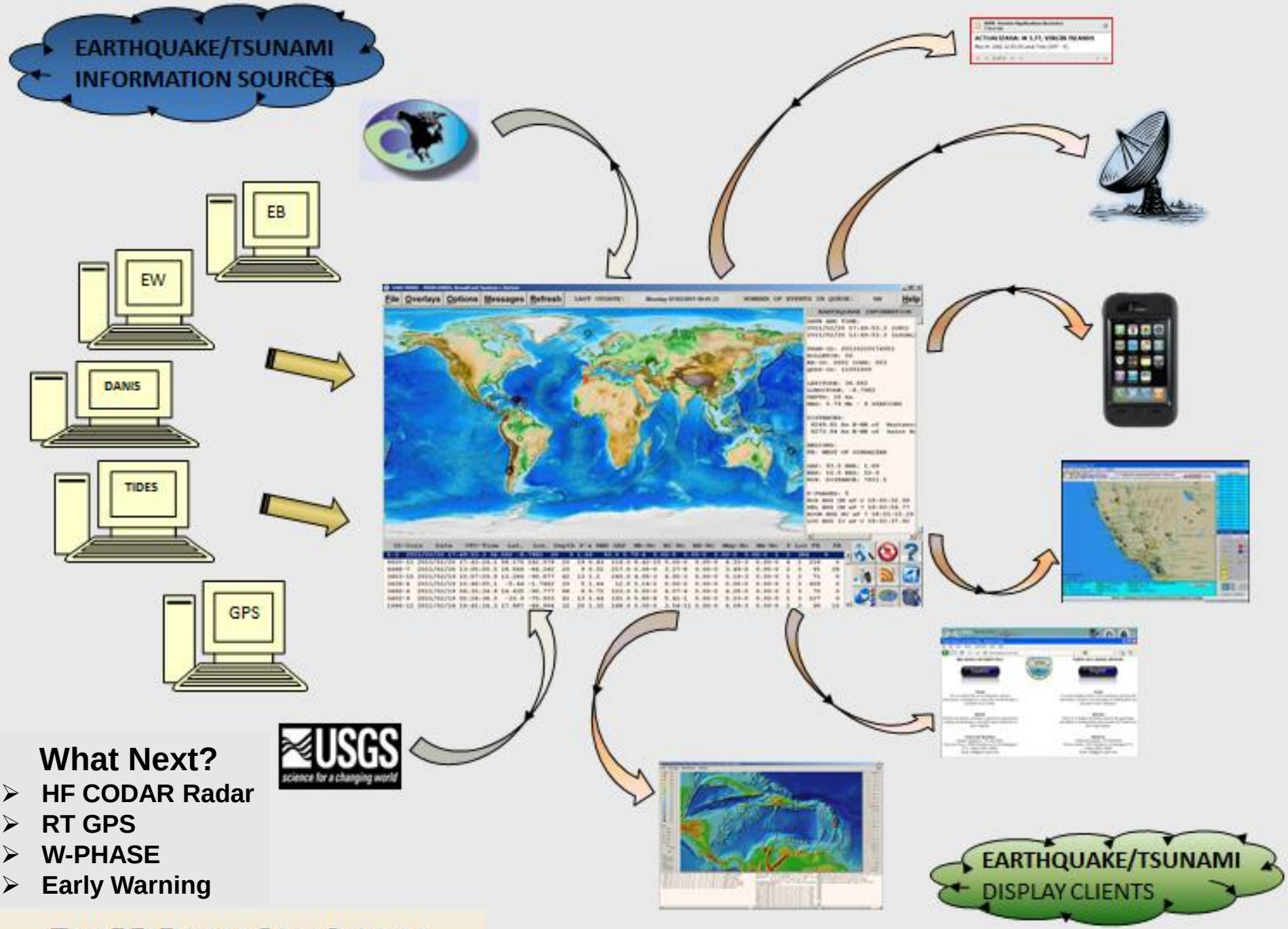
Magnitude 7.4 - MARTINIQUE REGION WINDWARD ISLANDS
Thursday, November 29, 2007 at 19:00:19 UTC



Magnitude 7.0 - HAITI REGION
Tuesday, January 12, 2010 at 21:53:09 UTC

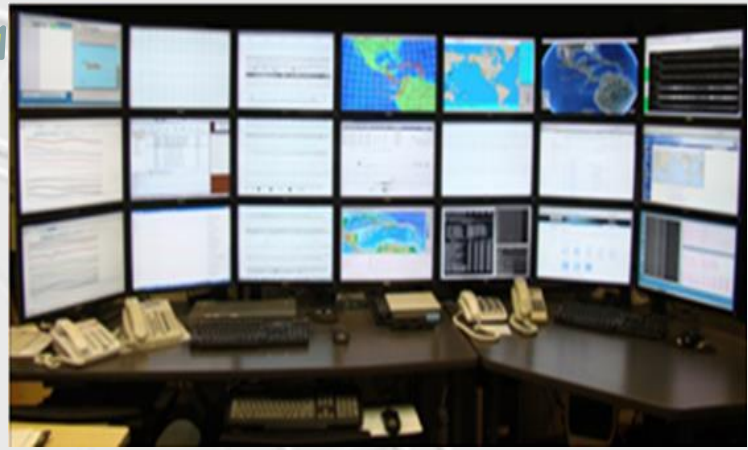






What Next?

- HF CODAR Radar
- RT GPS
- W-PHASE
- Early Warning

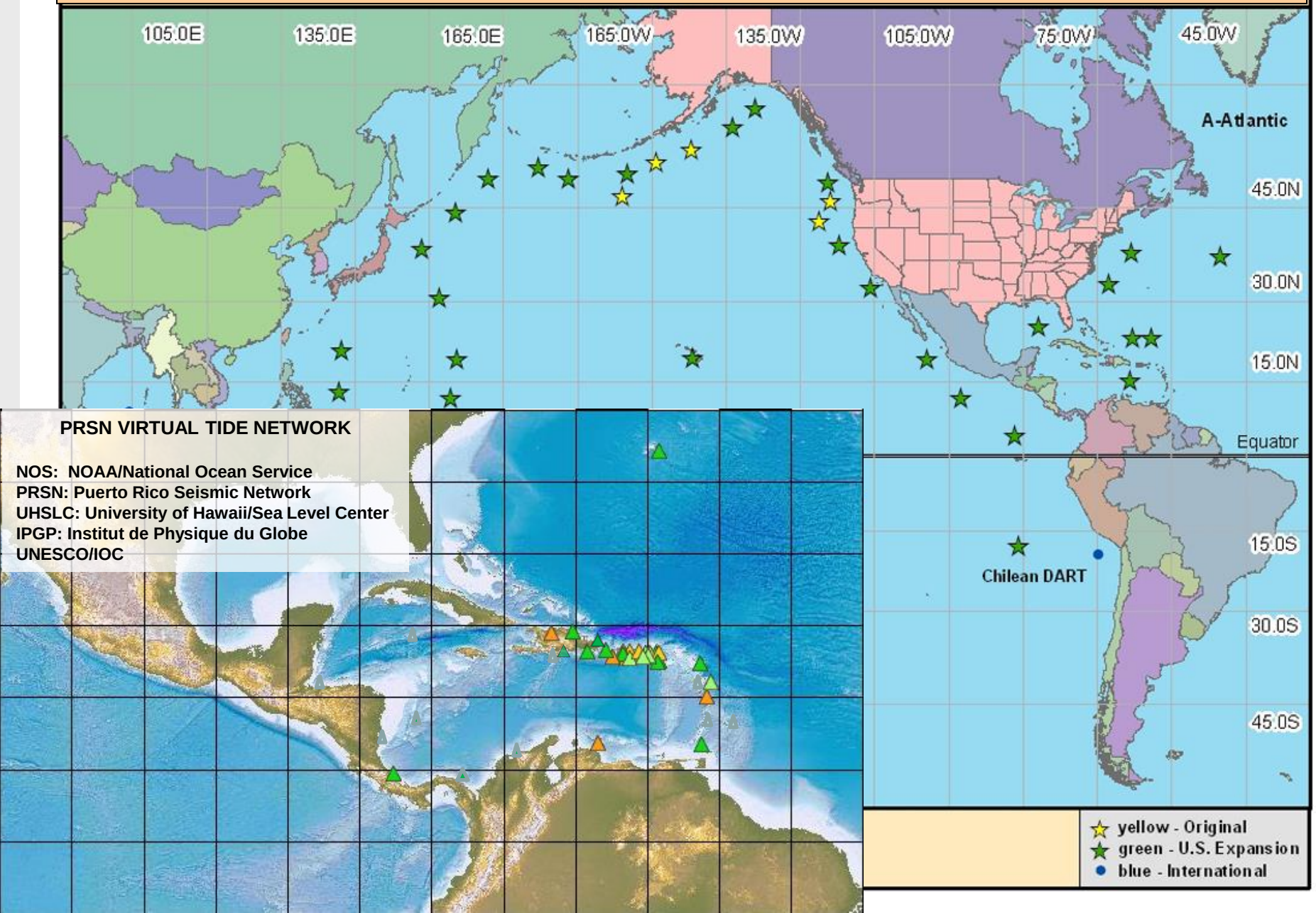


PRSN VIRTUAL SEISMIC NETWORK

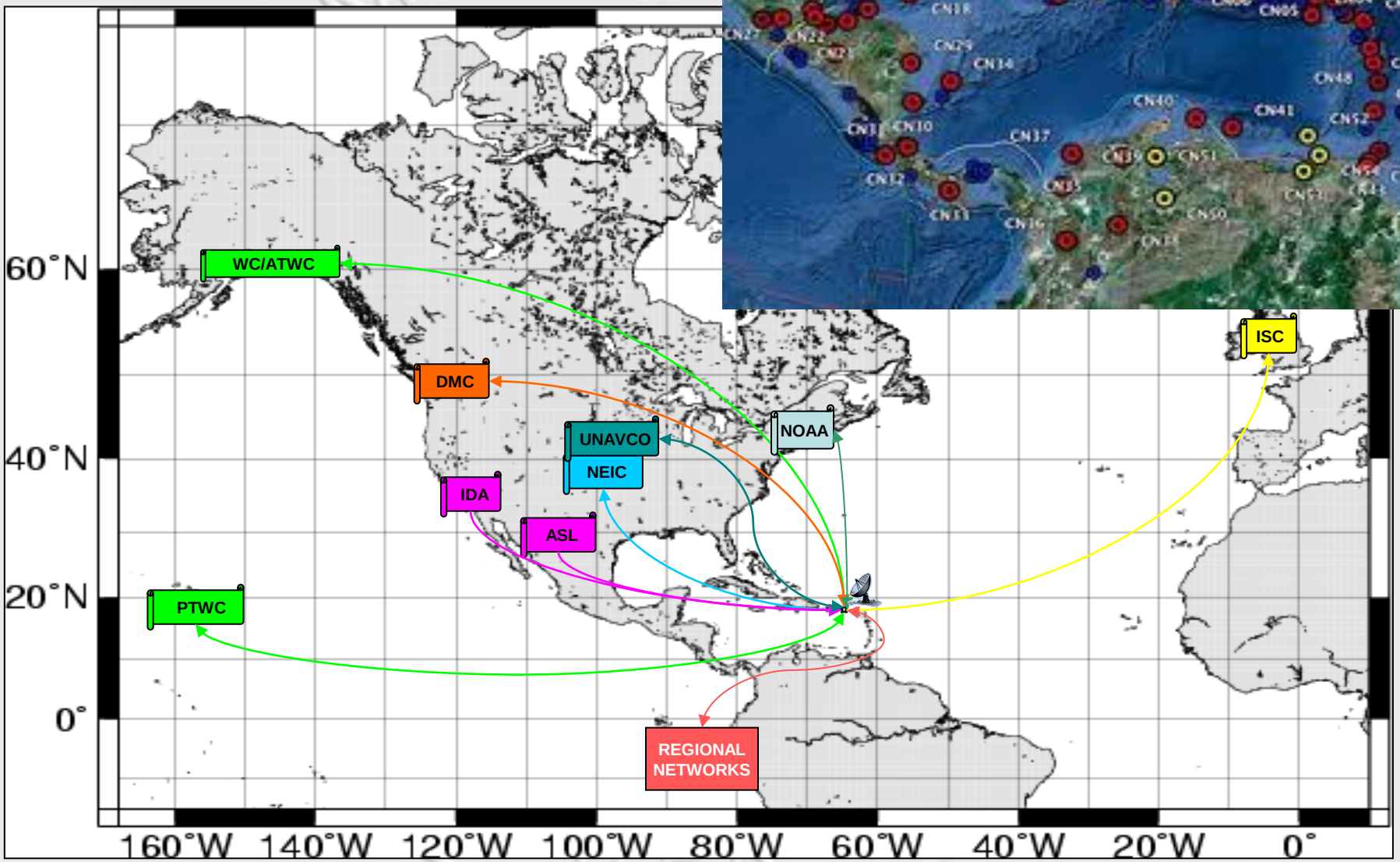
IU: IRIS/USGS
II : IRIS/IDA
CU: USGS Caribbean
PR: PRSN/PRSM, Puerto Rico
UA: Aruba Meteorological Agency
G : Geoscope
GE: Geofone
GT: Global Telemetered Seismic Network
WI: French West Indies
MO: Montserrat Volcano Observatory
NA: KMNI Antilles
DR: ISU Dominican Republic, UT
UC: Colima University, Mexico
US: United States Seismic Network
SV: SNET, El Salvador
NU: INETER, Nicaragua
OV: OVSICORI, Costa Rica
PA: Volcan Baru Network, Panama
TR: West Indies Seismic Research Center
CM: Colombian National Seismological Network
CN: Canadian Seismic Network (Haiti)
BL : Brazil Seismic Network
MG: National Seismological Service of Mexico
CY: Cayman Island
VE: FUNVISIS, Venezuela

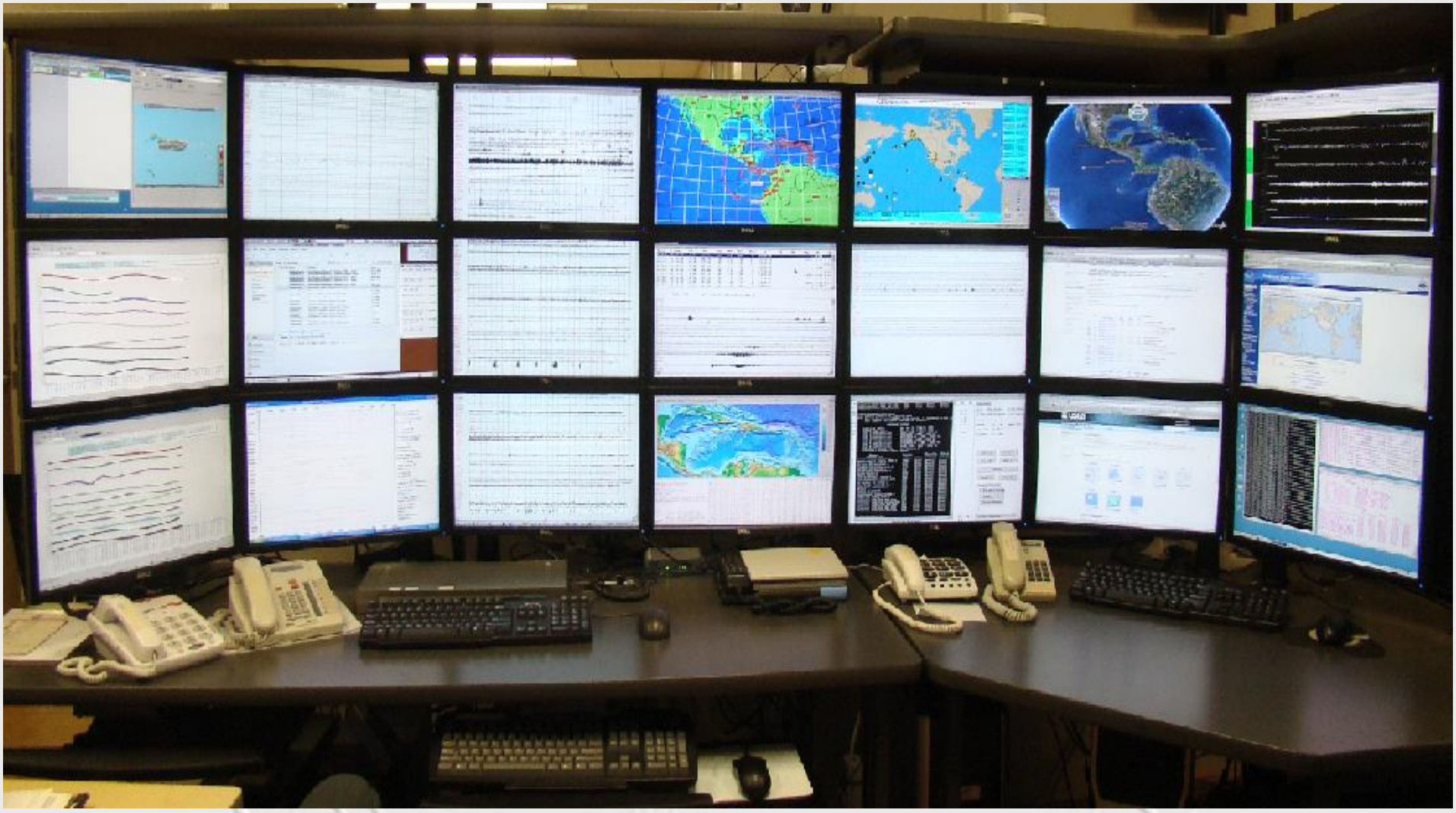
CURRENT CARIBBEAN RT EARTHQUAKE MONITORING

Current real time Sea Level/tsunami monitoring



Current Real Time Data sharing

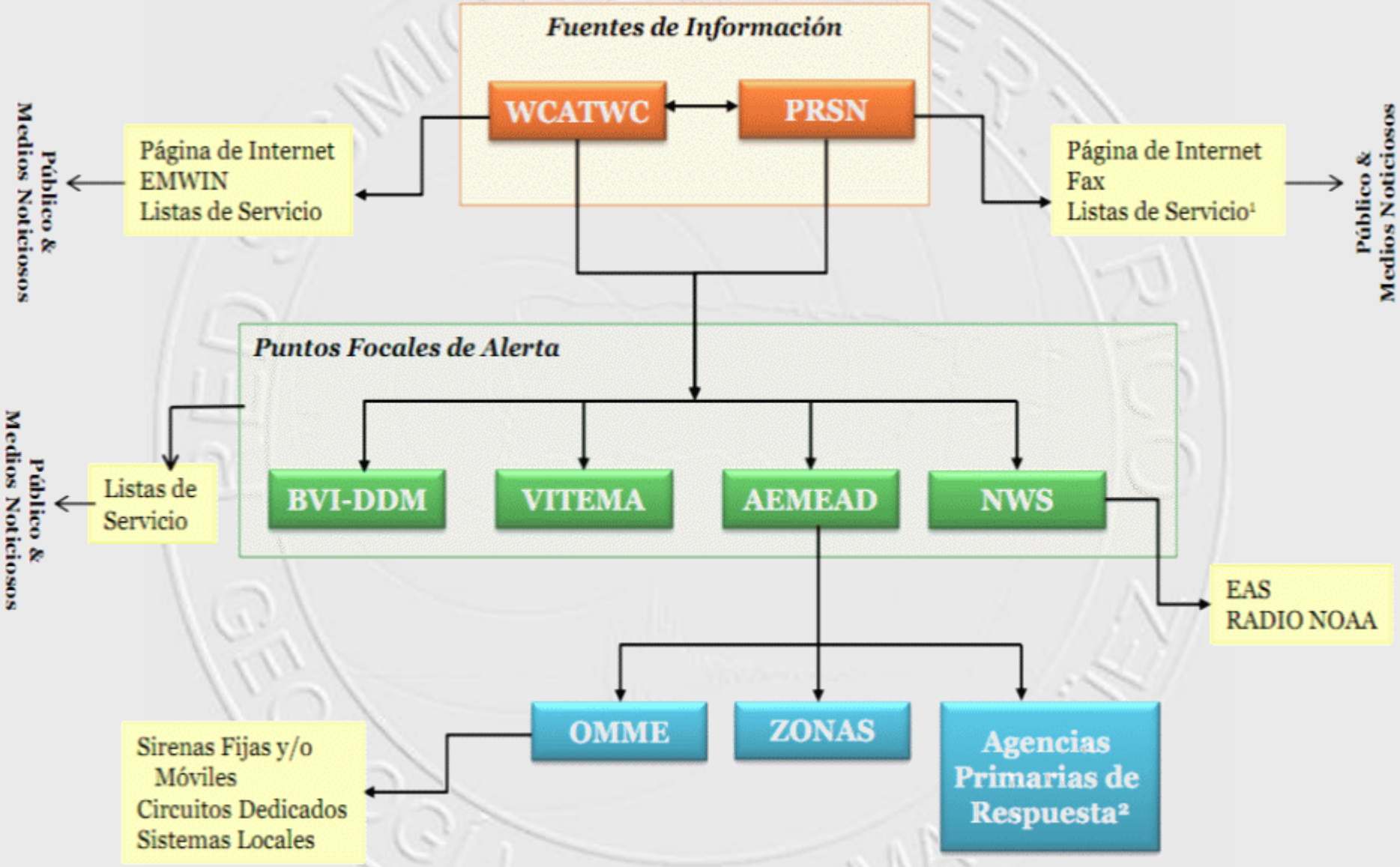




Current Earthquake/Tsunami Knowledge and Information

1. Decades: Probabilistic seismic shaking hazard
2. Years: Hazard information and education
3. Days-2 minutes: Location, size and Catalogs
4. 3-5 minutes: ShakeMaps
5. Real time loss estimation, EW..
6. 5 minutes: Tsunami Messages… Forecasting?
7. WHAT NEXT, Prediction ?

PR/VI EARTHQUAKE/TSUNAMI PROTOCOL



1. Incluye listas de correo electrónico, mensajes de texto, etc.
2. Estas incluyen: Policía, Emergencias Médicas, Bomberos y Guardia Nacional. La AEMEAD determinará cuales de éstas y otras agencias serán informadas conforme al Nivel de Alerta de Tsunami que se determine.

Estado en que quedó la iglesia de "El Rosario" Puerto Rico, después del terremoto del 11 de octubre del 1918.

The New PRSN Tsunami Portal Tour