

Report on Task 4

Develop warning messages and protocol in
the event of a potentially tsunamigenic event
is detected

Puerto Rico Tsunami Warning and Mitigation Program

Disaster Number PR-0077

Christa G. von Hillebrandt-Andrade
Puerto Rico Seismic Network
May 31, 2003

Report *Warning* on Task 4

Develop warning messages and protocol in the event of a potentially tsunamigenic event is detected.

A tsunami protocol was adopted for Puerto Rico in February 2003 (Attachment 4-1). For this protocol the following was taken into consideration:

1. Procedures and protocol of the West Coast and Alsaka Tsunami Warning Center and the Pacific Tsunami Warning Center.
2. Discussions held during the regional Tsunami Education Workshops held throughout Puerto Rico in 2001 and 2002.
3. Discussions with the Director and other emergency management officials of the Puerto Rico State Emergency Management Agency.
4. Discussion with personnel from the National Weather Service Field Office in San Juan (NWSFO-SJ).
5. Recommendations and discussions held during the Puerto Rico Tsunami Warning Protocol Workshop which was held in Mayagüez, PR on January 15 and 16, 2003 (Attachment 4-2).
6. Post Workshop meeting with the NWS Pacific Region Director (Jeff La Douce), PTWC director (Dr. Chip McCreery) and

Essentially there are four types of messages:

An *Information* message would be issued for earthquakes for which there is no potential tsunami.

A *Watch* would be issued for a situation where there is the potential of a tsunami given the occurrence of an earthquake and the travel time is greater than two hours. People within the tsunami hazard zone should prepare to evacuate.

A *Warning* would be issued for a situation in which a Tsunami has been produced and the travel time is less than two hours or a potentially tsunamigenic earthquake has occurred which could cause a tsunami with a travel time of less than two hours. People need to evacuate the hazard zones immediately. It is possible that a *Warning* be issued without having issued a *Watch*.

Cancellation of Warning and Watch/All Clear messages have also been prepared. This is for a scenario when there is no tsunami, despite a large Magnitude earthquake, the tsunami will not affect the region or after the occurrence of a tsunami.

Criteria used to issue an Information, Watch, Warning or Cancellation include at the moment:

1. Macro-Seismic data (location, magnitude) issued by the PRSN and/or USGS or another regional seismic network, eg. Seismic Research Unit, Trinidad.
2. Intensity data. If an earthquake is felt with an Intensity of VII or greater in Puerto Rico, a Warning would be issued.

3. Reliable sources which observe the tsunami.

This protocol has been presented at different levels to the Emergency Managers and other public safety and decision makers. It has also been discussed in the local media.