

# Summary Report of the Tsunami Hazard Mitigation Steering Group Meeting

October 6-7 1999  
Newport, Oregon

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## Attendees

### Steering Group

Eddie Bernard - NOAA  
Frank Gonzalez - NOAA  
Richard Przywarty - NOAA  
Chris Jonientz-Trisler - FEMA  
Scott Simmons - State of Alaska  
Craig Weaver - USGS  
Roger Hansen - State of Alaska  
Gary Brown - State of Alaska

Lori Dengler - State of California  
Richard Eisner - State of California  
Brian Yanagi - State of Hawaii  
George Crawford - State of Washington  
Timothy Walsh - State of Washington  
John Beaulieu - State of Oregon  
Mark Darienzo - State of Oregon  
George Priest - State of Oregon

### Guests

Steve Hammond - NOAA  
Robert Kamphaus - NOAA  
Jana Goldman - NOAA/OAR Public Affairs  
Mike Shore - FEMA  
David Oppenheimer - USGS  
Lou Clark - DOGAMI

Brian Atwater - Univ. of Washington  
Tony LaVoi - NOAA Coastal Services Ctr.  
Costas Synolakis - USC  
Don Christianson - DOGAMI

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## Overview

Dr. Bernard presented the introductory remarks and welcomed everyone to the Hatfield Marine Science Center's Guin Library. All attendees introduced themselves. Copies of the Conferees list for the FY 2000 Commerce, Justice, and State Appropriations were distributed. This body will meet within the next two weeks. The current budget status of the funds for the National Tsunami Hazard Mitigation Program was discussed.

A brief history of the development of the National Tsunami Hazard Mitigation Program was given:

April 1992 Cape Mendocino Earthquake/Tsunami

1993-1994 Earthquake/tsunami study of northern California

Oct. 1994 U.S. Senate (Senator Hatfield) requested a tsunami preparedness report. This report contained 12 recommendations based on available technology

Oct. 1995 Senate requested Implementation Plan and budget for program

Dec. 1996 The National Tsunami Hazard Mitigation Program begins

Due to second year budget decisions, the program received less money than requested in the original implementation plan. This had some impact on pushing back some program activities. Highlights of program for its first 3 years are:

#### NOAA/State Coordination

- WCMS were trained during the first year of the program
- Tested the distribution of small earthquake alerts via the EMWIN system (pilot of the Northwest Seismic Network)
- Relocated NOAA weather radio transmitter to improve coastal coverage in Washington state

#### Mitigation

- TIME center created to do inundation mapping and modeling
- Three-quarters of the activities toward achieving a goal of a "tsunami-resistant community" completed

#### Warning Guidance

- Seismic upgrades 1/2 complete
- Four buoys deployed as well as a test buoy
- Third generation prototype of buoy is working well

#### Concerns

##### States

- How to stabilize the program long term

##### Emergency Managers

- How to maintain interest among other demands

#### Technical Scientists

- How to maintain the technical infrastructure

## Agencies

- How to stabilize the program long term
- FEMA - how to weave into other program
- USGS - how to maintain seismic upgrades
- NOAA - how to maintain upgrades and weave into other programs

## Future Activities

- FY 2000 - continue with implementation plan actions and formulate long-term vision
- FY 2001 - complete initial implementation plan activities and develop new implementation plan
- FY 2002 and beyond - implement new plan

### **Review of action items from the previous meeting:**

#### **Cataloging of ITIC's library holdings**

The cataloging of the library at the International Tsunami Information Center (ITIC) is in progress. **ONGOING ACTION:** Mike Blackford

#### **Historical Tsunami Database for the U.S. Pacific Coast (HTDB/US)**

Work on the development of the HTDB/US continues. **ONGOING ACTION:** Richard Hagemeyer

#### **Web page presentation of the Mitigation Status Report**

As soon as the Status Report is published, work will begin on the Adobe Acrobat (.pdf) version for the web page. The report will go to the printers for publication as soon as the review of the second proof is completed. **OPEN ACTION:** Chris Jonientz-Trisler.

#### **Review of the 1998 Annual Mitigation Subcommittee Report**

Comments on the final draft of the report have been received. The second proof is being reviewed prior to publication. **OPEN ACTION:** Chris Jonientz-Trisler.

#### **Local Warning Subcommittee progress report**

A draft of the warning system guidance document was distributed to the Steering Group members for review. **OPEN ACTION:** Mark Darienzo/Local Warning Subcommittee

#### **Public Affairs**

A copy of the budget for access to tsunami videos was given to each Steering Group member. **CLOSED**

Copies of a generic, customizable media kit were given to each Steering Group member. **CLOSED**

### **Future Initiatives beyond FY 2000**

Establishment of a broad band seismological network for WC/ATWC and PTWC --At the last Mr. Hagemeyer put forward this initiative to add backup redundancy to the routes for data reception for the two tsunami warning centers. Mr. Hagemeyer was unable to attend the meeting so there was no report on this item. **OPEN ACTION:** Hagemeyer

### **New Data Initiative-- Kamphaus**

At the last meeting, Lt Kamphaus presented an initiative to promote the generation of high quality digital bathymetry and topography data for future inundation studies. There are no funds in the FY 2000 budget for this initiative. **CLOSED**

### **Other Business**

**Tasking of each Subcommittee member to provide a list of interested state and local government officials for distribution of the TsuAlert Newsletter.**

Connie Manson reported that she received quite a few contacts but still does not have many for Hawaii. **CLOSED**

**Copies of state letters of support generated for the FY 2000 budget**

Only one support letter was received by Dr. Bernard **CLOSED**

**Submission of the Steering Group for a Western States Seismic Policy Council award.**

The committee cannot nominate itself. **CLOSED**

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## **[Develop NOAA/State Coordination and Technical Support](#)**

The NWS facility modernization program will start on a new building at the same location for the WC/ATWC this year. NWS is in the final states of the installation of the NOAA Weather Radio at Dutch Harbor. Part of the FY 2000 Operations Plan for the State of Alaska is a proposal to establish a tsunami-wise community. This would be based on the existing storm-wise community model. Work continued on the Historical Tsunami Data Base for the U.S.

## **[Improve Seismic Networks](#)**

Three new sites will be put in place in Hawaii in November 1999. Two new sites have been installed in California, The Alaska sites of Adak and Kodiak are up and running. Several new sites for the Pacific Northwest are being planned.

## Deploy Tsunami Detection Buoys

The original implementation plan budget for years 1 through 4 requested \$800K per year. Budget shortfalls for this period amount to approximately \$200K. The buoy program involves over 40 people and 16 contractors. The third generation buoy design appears to be a reliable design. The third-generation prototype test buoy deployed off the coast of Monterey, California, has returned data with 98% reliability. To increase the reliability factor to 99% would increase engineering costs by a factor of 2. We plan to place 2 sets of instruments at each site to increase reliability. Future locations for buoys are being determined by using models. Now that we are moving from the development into the operation stages of the program, we are working with the U.S. Coast Guard and the National Buoy Center for cooperative efforts to maintain the buoys.

## Produce Inundation Maps

Inundation Mapping has been the most impacted element of the Implementation Plan. Costs have been much higher than anticipated. The Plan costs were originally based on one dimensional maps, however, it was later decided to produce two-dimensional maps. There was a discussion concerning the best cell size to use in mapping. TIME agreed to attempt to summarize the existing knowledge on the best cell size to use for inundation mapping, taking into account cost benefits. TIME will provide some numerical modeling guidance to Steering Group members. **ACTION:** TIME Center

Professor Costas Synolakis showed photos from his survey of the damage from the Turkish tsunami. He also described the subsidence and liquifaction that took place as a result of the earthquake/tsunami.

## Mitigation

Due to a drop in funding from that requested in FY 98, all aspects of mitigation are moving slower than planned, however, states are on target on most things. Some activities have been slowed by Y2K issues. A planning meeting with lodging associations is being planned in Oregon for February 2000. School programs on what to do in the event of a tsunami are ongoing. NOAA Weather Radio should be operational on the Washington coast by mid-November. Washington is planning 4 workshops in Pacific and Grays harbor counties for November 15-18, 1999. The *TsulInfo Alert Newsletter* will go to six issues per year. The *TsulInfo Alert Newsletter* July and August 1999 issues are currently posted on the web. States requested an Adobe Acrobat (.pdf) version for the web. All members were urged to send copies of news clips of community tsunami activities to Connie Manson for the *TsulInfo Alert Newsletter*. **ACTION:** Connie Manson, Washington EMD

The Steering Group determined that an article on the multi-state partnership was needed for the *TsulInfo Alert Newsletter*. **ACTION:** E. Bernard, R. Eisner, Lori Dengler.

Due to extensive fiscal-year changeover activities in October, the mitigation subcommittee requested that the October meetings be changed to November. Additionally, it was decided that the Steering Group should meet once a year in Seattle and once a year in one of the states. The group unanimously agreed and the meetings for calendar year 2000 will take place in April and November in Seattle and Hawaii respectively.

The mitigation subcommittee agreed that they need to revisit the issue of how best to get tsunami warning

information to end users. **ACTION:** Mitigation Subcommittee.

There was a lengthy discussion on George Priest's suggestion that aerial photos of tsunami damage on the U. S. West coast be taken as soon after the event as possible. The National Weather Service (NWS) directors have the authority to order these types of surveys for their areas but would need threshold guidance from the Steering Group on when to request such a survey. Rich Eisner also stated that having the data is only the first step because there must be the capability to analyze it. The group agreed to form a subcommittee consisting of George Priest, Rich Eisner, FEMA, Richard Przywarty, and Lori Dengler to study this issue and develop response plans.

## Local Tsunami Warning Systems

The draft of the Tsunami Warning Systems: Guidance for State and Local Officials was received from Robert Olson Associates, Inc. All Steering Group members were asked to send comments on the document to Robert Olson Associates, Inc. Preliminary review of the document suggested that the document was inadequate and options were explored on how to proceed. Mark Darienzo was asked to send a copy of the original scope of work to each member via e-mail along with Robert Olson's e-mail address for comments. **ACTION:** M. Darienzo, all Steering Group members.

## Tsunami Education Booklets

Brian Atwater, United States Geological Survey (USGS), distributed copies of the tsunami educational booklet (USGS Circular 1187) just published by USGS in conjunction with The National Tsunami Hazard Mitigation Program. The booklet, *Surviving a Tsunami--Lessons from Chile, Hawaii, and Japan* contains true stories that illustrate how to survive a tsunami and how not to survive a tsunami. The booklet is an educational tool meant for those who live and work or who visit coastlines that tsunamis may strike. Copies of the booklet can be obtained from USGS Information Services, Box 25286, Denver, CO 80225, by calling 888-ASK-USGS, or downloading from <http://geopubs.wr.usgs.gov/circular/c1187/>. Drafts of proposals for three more products were distributed. Since there are currently no funds for new projects, these proposals were referred to the Mitigation Subcommittee for discussion.

## Earthquake/Tsunami Mitigation for Ports and Harbors

Dr. James Good, Oregon State University Extension Sea Grant Program, gave a presentation on his collaborative research, planning, and outreach project, "Reducing earthquake-tsunami hazards in Pacific Northwest ports and harbors." This project brings together Oregon and Washington Sea Grant, the NOAA Coastal Sciences Center, the USGS, Oregon and Washington port and harbor communities, and other Pacific Northwest and national partners in a partnership whose impetus is tsunami hazard mitigation for ports and harbors. The project will utilize tsunami inundation maps developed by the National Tsunami Hazard Mitigation Program. Lessons learned in this demonstration project will provide a basis for developing, evaluating, and applying training materials to other port and harbor communities.

## Public Affairs Report

Ann Thomason presented the highlights of the Summary of Media Coverage and other Outreach since the April 1999 meeting (copies given to each member). Jana Goldman presented the response to a request from the May Emergency Manager's meeting for Public Service Announcements (PSAs). Sample PSA announcements texts and a cost estimate for various types and lengths of announcements were given to each member. A generic

generic press kit that can be locally customized was also prepared and given to each member. The Steering Group requested that the generic media kit be put on the web site in (.pdf) format so they can be downloaded and printed out as needed. Jana Goldman presented the Public Affairs Working Group's list of available tsunami videos with a budget as requested in an action item from the April meeting. Each Steering Group member was given a copy of this list. The cost for one copy of each video on the list is approximately \$350. A suggestion was made to structure the video list by indicating which videos are in the public domain and which are not. Some Steering Group members mentioned other tsunami videos that were not on the list. These members will contact either Jana Goldman or Ann Thomason and share whatever information they have on the source of these videos so that if they are still available, they can be added to the video list. **ACTION:** PAWG

## **The Next Five Years**

Eddie Bernard stated that it time to prepare our plans for the next 5 years. He will prepare an outline of the vision for the next 5 years and present it at the next meeting for discussion. **ACTION:** Bernard

## **Meeting Dates and Locations for 2000**

May 9-11, 2000, PMEL, Seattle, Washington

November 14-16, Hilo, Hawaii