

Summary Report of the Steering Group Meeting June 18-19, 1997 Pacific Marine Environmental Laboratory (PMEL) Seattle, Washington

Meeting Attendees:

Eddie Bernard - NOAA	Roger Hansen - State of Alaska
Frank González - NOAA	Mike Webb - State of Alaska
Richard Hutcheon - NOAA	Richard Eisner - State of California
Richard Hagemeyer - NOAA	Lori Dengler - State of California
Chris Jonientz-Trisler - FEMA	Brian Yanagi - State of Hawaii
Craig Weaver - USGS	Augustine Furumoto - State of Hawaii
	Hawaii Beverly Vogt - State of Oregon
	George Priest - State of Oregon
	Timothy Walsh - State of Washington

Special Guests:

Carl Cook - FEMA
Antonio Baptista - Oregon Graduate Institute of Science and Technology
Douglas Gage - U.S. Navy/DARPA
Ruth Barritt - NWS Alaska Region Public Affairs Officer
Robert Kamphaus - NOAA TIME Center

1. Program Overview

A. Bernard reported that all funds had been transferred from NOAA to the five states, USGS, and FEMA. He produced a matrix of the distribution of funds and described the method used to identify the funds. After some discussion, the method was modified to reflect the benefits to all states. The following matrix was accepted by the group:

Distribution of Tsunami Hazard Mitigation Funds by State

	FY 97 (\$000)				
Goals	Alaska	California	Hawaii	Oregon	Washington
Coordination					
Buoy	\$142	\$142	\$211	\$142	\$142
Inundation Maps	\$39	\$39	\$39	\$137	\$137
Mitigation	\$33	\$33	\$33	\$33	\$33
Seismic	\$195	\$195	\$195	\$195	\$195
Networks					
Total	\$409	\$409	\$478	\$507	\$507
%	18%	18%	20%	22%	22%

B. Bernard reviewed the new additions and modifications to the National Tsunami Hazard Mitigation Program home page on the Internet. The new address is: <http://www.pmel.noaa.gov/tsunami-hazard/>

2. Coordination Activity

Hagemeyer led a discussion on the activities to [coordinate and support the states](#). Topics included the distribution of a list of NOAA personnel involved in tsunami warnings and state points of contact to share information, the training session for Warning Coordination Meteorologists (WCM), the distribution of Emergency Management Weather Information Network to Steering Group members, and the distribution of the Tsunami Communications Plan.

Hutcheon gave a presentation on the NOAA Tsunami Warning System and a report on the training session held on May 6-7, 1997, in Anchorage for the nine WCM's.

3. Tsunami Detection Buoy

Bernard reported on the latest developments in constructing the [tsunami detection buoy system](#) for deployment in July 1997. He showed a video of the March 24-25, 1997, test of the system off Honolulu, Hawaii, on the Research Vessel *Moana Wave*. He discussed how the data will be transmitted through the NOAA GOES satellite to the Warning Centers and PMEL. The data transmitted to PMEL will be placed on an Internet web page for dissemination.

Furumoto presented his ideas on the use of these data in Hawaii tsunami warnings. He showed correlations with historical data to aid in forecasting the potential inundation for Hawaii shorelines.

4. Tsunami Inundation Modeling

Gonzalez reported on activities to produce [tsunami inundation maps](#) for Washington and Oregon. He discussed the formation of the Tsunami Inundation Modeling Effort (TIME), the purchase of hardware and software to conduct modeling studies and database development. He reported on the progress of map production by the State of Oregon through Professor Baptista of the Oregon Graduate Institute. A specific problem on the use of tsunami models to produce inundation maps was discussed extensively by the group. It was agreed to refer this problem to a technical group to offer options.

Baptista made a presentation on his tsunami models used to produce inundation maps. His model and results can be found on his web page at: <http://www.ccalmr.ogi.edu/projects/oregonian/anim/>. He concluded his presentation with the recommendation that we continue to view models as tools to guide mitigation efforts.

5. Mitigation

Chris Jonientz-Trisler presented the [report on the activities of the Mitigation Group](#). The [matrix](#) approach of compiling an inventory of tsunami hazard mitigation activity for each state was supported by the Group. She will work to complete the inventory by July 1.

Lori Dengler reported on the [Strategic Plan for Hazard Mitigation](#). She hopes to have the plan finalized by September 1, 1997.

6. Seismic Upgrades

Weaver led the discussion on the seismic upgrade activities in the [CREST report](#). This prompted several questions about disseminating earthquake information to coastal communities. The states would like earthquake information as soon as possible so that communities will understand the hazard of earthquakes felt in their communities. The problem along the coast is when an earthquake is felt is it a small local earthquake or a large earthquake in the region. If it is a large earthquake in the region, they want to know if it is inland or offshore. After extensive discussion, the group asked that Hagemeyer and Weaver explore the possibility of using the NOAA weather wire as a mechanism for disseminating the earthquake information.

7. Public Affairs Working Group

Ruth Barrit discussed the activities of the Public Affairs Working Group. The group accepted her recommendation for her to be placed on the tsuhaz mailing list.

8. TIME Dedication Ceremony

Beverly Vogt reported on the [TIME Dedication Ceremony](#) . She complimented all participants and declared the ceremony a success based on activity since May 17. She felt that Bernard's video presentation on the 1993 Okushirii tsunami should be developed into an educational video. The group asked Bernard to proceed with its development.

9. FY 98 Plans

Brian Yanagi led a discussion of state support for the Program. He distributed copies of letters of support from Alaska, California, Hawaii, and Washington.

10. Meetings of Interest

CREW - fall 1997, Portland - contact Chris Jonientz-Trisler WSSPC - November 4, 1997, Victoria, B.C. - contact Brian Yanagi

11. Future meeting

The group tentatively agreed to an October 15-16, 1997, meeting at PMEL in Seattle, Washington, to discuss FY 98 activities.

Meeting Summary Report

March 4-5, 1997

Meeting Attendees:

- Eddie Bernard - NOAA
- Frank González - NOAA
- Richard Hutcheon - NOAA
- Richard Hagemeyer - NOAA
- Chris Jonientz-Trisler - FEMA
- Carl Cook - FEMA
- Craig Weaver - USGS
- Roger Hansen - State of Alaska
- Mike Webb - State of Alaska
- Richard Eisner - State of California
- Lori Dengler - State of California
- Brian Yanagi - State of Hawaii
- Augustine Furumoto - State of Hawaii
- Dave Mayer - State of Oregon
- George Priest - State of Oregon
- Beverly Vogt - State of Oregon
- Eric Paige - State of Washington
- Timothy Walsh - State of Washington

Special Guest - Dr. D. James Baker, Under Secretary and Administrator, National Oceanic and Atmospheric Administration

Meeting Minutes

1. E. Bernard, Chairman, opened the meeting by showing tsunami evacuation maps of Hilo, Hawaii, on the Pacific Disaster Center's worldwide web home page.

The group realized how powerful the web technology could be for the Tsunami Hazard Mitigation Program.

2. [Richard Hagemeyer led the discussion on State/NOAA Coordination.](#)

3. [Eddie Bernard led the discussion on the status of the Tsunami Detection Buoy](#)

Action items identified: need video footage of buoy deployment to use in media coverage.

4. [Frank González led the discussion on Tsunami Inundation Modeling.](#)
5. [Lori Dengler led the discussion on Hazard Mitigation which led to the following action items.](#)
6. [Craig Weaver led the discussion on improvements in the seismic net and presented the following plan that was approved by the group.](#)
7. Dr. D. James Baker, NOAA Administrator, addressed the group for about 10 minutes to share his commitment to the program. He was presented with a Tsunami Hazard Zone highway sign that was adopted by all five states as the convention for public highways.
8. The group discussed the upcoming Tsunami Inundation Mapping Center dedication ceremony to be held in Newport, Oregon, on May 17, 1997. Former Senator Mark Hatfield will deliver the keynote address.

Summary Report of the Tsunami Hazard Mitigation Steering Group Meeting

October 15, 1997

Pacific Marine Environmental Laboratory (PMEL)

Seattle, Washington

Steering Group Members

Eddie Bernard - NOAA

Richard Eisner - State of California

Frank González - NOAA

Lori Dengler - State of California

Chris Jonientz-Trisler - FEMA

Augustine Furumoto - State of Hawaii

Craig Weaver - USGS

George Priest - State of Oregon

Mike Webb - State of Alaska

Mark Darienzo - State of Oregon

Roger Hansen - State of Alaska

Timothy Walsh - State of Washington

Guests

David Oppenheimer - USGS

Shannon Priem - State of Oregon

Maillian Uphaus - State of Washington

The meeting began with a presentation of the Tsunami coffee mug by Shannon Priem of Oregon. She demonstrated the mug's characteristic of showing the tsunami hazard sign when the mug is filled with hot liquids. Bernard gave a mug to each Steering Committee member.

Bernard gave an overview of the program and a report on the budget status. He handed out the second draft of the tsunami brochure that describes the whole program. The group accepted

the brochure with small editing and requested viewgraphs of the four figures in the brochure. ACTION: Bernard to provide viewgraphs of the brochure and 10 color and 10 black and white copies of the brochure.

Bernard discussed the status of the *Eos* article and thanked the four people who provided comments. ACTION: Bernard to incorporate comments and submit article to *Eos* as soon as possible.

Because Dick Hagemeyer was ill, he did not attend this meeting. Bernard gave his report on [State/NOAA coordination](#). The group reviewed the written report submitted by Hagemeyer. Discussion revolved around the pilot earthquake distribution test in Seattle (item 6). The group requested copies of text of the earthquake message. Tim Walsh and Millian Uphaus requested that this activity be coordinated with the Washington National Guard, Emergency Management Division. ACTION: WNG-EMD will call Bill Steele of the University of Washington.

Hugh Milburn of PMEL gave a report on the buoy program. He provided a written report, explained the process of [buoy deployment](#), and presented the web page that displays real-time data from the two buoys. The group applauded his team's successful efforts.

Frank González gave a report on [inundation mapping](#) for Oregon and Washington. He reviewed his written report and showed computer animations of the OGI tsunami model simulating a Cascadia Subjunction Zone earthquake. He discussed the effects of tides on tsunami dynamics. The group discussed the delays experienced last year in distributing the money for inundation mapping. The group suggested a greater effort to distribute money earlier. ACTION: Copies of the Washington/Oregon proposal be distributed to California and Alaska for a faster start on the process.

Chris Jonientz-Trisler presented the [mitigation report](#). Each state gave a brief report on their activities and Chris reported on her trip to Hawaii to evaluate the resources available in Hawaii. California Office of Emergency Services distributed a report entitled, "Findings and recommendations for mitigating the risks of tsunamis in California."

David Oppenheimer discussed his written report on the [Consolidated Reporting of Earthquakes and Tsunamis](#). He reported that the Northern California Seismic Network, the Northwest Seismic Network, the Alaska Earthquake Information Center, and the Alaska Tsunami Warning Center are all exchanging real-time data using similar software.

The group had a lively discussion about the FY 98 budget. For FY 98, the group assumed an appropriation of \$2,300,000 as stated in the Senate report. The Implementation Plan called for a program funded at the \$3,250K level. Using the four concerns

- Quickly confirm potentially destructive tsunamis and reduce false alarms
- Address local tsunami mitigation and the needs of coastal residents
- Improve coordination and exchange of information to better utilize existing resources
- Sustain support at state and local level for long-term tsunami hazard mitigation

the group decided to allocate the funds in the following way:

	FY 98 Revised Budget
Produce Inundation Maps	\$400,000
Develop Hazard Mitigation Programs	\$400,000
Install Tsunami Detectors	\$700,000
Improve Seismic Network	\$800,000
TOTAL	\$2,300,000

The meeting was adjourned at 5 p.m.