

National Tsunami Education and Outreach Plan of Action

The following is the NTHMP Tsunami Education and Outreach Plan of Action approved by the NTHMP Coordinating Committee on August 20, 2011. This Plan provides a course of action to fill gaps, meet needs, and work collaboratively with NTHMP Partners to achieve the vision of the NTHMP national strategy for tsunami education and outreach.

Each step in the Plan of Action indicated with a “yes” for work to be done will be acted on from August, 2011, through September 30, 2013, (and longer where indicated.)

The recommended course of action to take for a National Tsunami Education and Outreach Plan are based on observations about current needs, observations about what is not a current priority for outreach activities at this time, and feedback previously received. These action steps were based on the [drivers](#) described in various legislative authorities, national strategies, or Federal Government reports about the national tsunami program and NTHMP activities.

The table below (or on the next page of a printed version) summarizes each action item. Subsequent pages provide more detail to explain each implementation (or non-implementation) recommendation.

	Action	Recommend Implementation?	Related	Estimated FTE	Est. Hours
1	Lead in development of consistent tsunami messaging through consensus process	Yes Details	Action #2	0.30	1,248
2	Provide research citations justifying tsunami messages	Yes Details	Action #1	0.10	416
3	Offer professional development courses (audience includes government officials, emergency managers)	No Details	AWR-217 Done (Hawaii) WCM Tsunami courses @ WC/ATWC 3 courses on-line from COMET		
4	Develop Outreach and Education Content for High-Priority Audiences	Yes Details	After #1 & #2	0.10 (Yr 1) 0.15 (Yr 2)	516
5	Support seamless integration of this plan with (new) TsunamiReady outreach elements	Yes Details	New TR Guidelines being approved	0.05	104
6	Develop a CERT Training Addendum	No Details	Already done: FEMA CERT Instructor's Manual Tsunami Annex (link)		
7	Develop Tsunami Drills and Exercises Planning Guidance	No Details	Already done: California Warning Systems ... and elsewhere		
8a	Develop New Instructional Information About Tsunamis for Use In Schools (and have it adopted for use)	No Details	8a is being replaced by 8b		
8b	Develop "Educator's Resource for Tsunami Education"	Yes Details	Independent of other actions	0.075	156
9	Provide "Tsunami Education Marketing" resources	No Details	Combined with item #10 below		
10	Lead development of tsunami awareness items for flexible local implementation. Note: useful for <i>Tsunami Awareness Week</i>	Yes Details	Essential messages from Item #1	0.15	312
11	Refine "Local Tsunami Education and Outreach Plan" to "Disaster Preparedness Ed & Outreach" Guide	Yes Details	Essential messages from item #1	0.10	208
12	Develop evaluation metrics for plan components, provide period progress reports, and make plan revisions as indicated	Yes Details	Concurrent with each action being done	0.125	260

1: Lead in development of consistent tsunami messaging through consensus process.

Recommendation: YES

Related Actions: Action #2

Estimated FTE: 0.30 / 1,248 hours over two years

This is considered a long-term engagement process (minimum of two years) that will confirm consistent and accurate tsunami messaging for use in public education and outreach activities, as well as develop a dynamic process to continue to enhance and improve tsunami messaging for years to come.

Clarification: a social science contract is in place through and with the University of Tennessee which is looking at the content of the products that the Tsunami Warning Centers issue. While some of these products have tsunami safety calls to action in them, the products also have different content that is not related to tsunami education and outreach. In contrast, "tsunami education and outreach messaging" covers different areas of interest that are not related or included in this University of Tennessee contract. Clearly, we should work together and share information, and work on this project will not duplicate work being done in the U.T. endeavor.

Steps required to implement this activity include:

- Identify and recruit people to serve as participants and advisers on this long-term activity. They may come from NTHMP partner agencies and states, scientific organizations, academic institutions, and allied organizations. While we're not envisioning a huge group, we do want to make sure that everyone who has an interest and who wants to participate and share helpful insights and information is offered opportunities to participate.
- Develop and share a chart of the current major tsunami preparedness and safety action recommendations derived from various sources (Federal Government, states, and local providers). A comparative list can help the "tsunami messaging group" identify inconsistencies at-a-glance.
- While it would be ideal to have a face-to-face meeting of key players in tsunami message development, we recognize that travel funding is severely limited, and not everyone who should be involved could attend such a meeting. Further, since this is an ongoing process, having one meeting alone is insufficient. Therefore, it is recommended that we utilize technology, such as webinars and on-line collaborative tools that are available and accessible, to engage key representatives who are responsible for developing and disseminating tsunami preparedness and safety action information.
- It is envisioned that multiple sessions with a duration of about 60 - 90 minutes will be held every 4 - 6 weeks for an indefinite period, each focusing on different topics: 1) housekeeping and grounding of expectations and outcomes, introductions and orientation, and to provide information on how to access "messaging charts" and how to use this wiki as a method to provide review and feedback; 2) "long before" and awareness-raising messages; 3) the inherent differences and concerns related to tsunami messaging for the Pacific Islands, West Coast, Gulf Coast, East Coast, and Caribbean; 4) messaging for specific audiences (see item #4); 5) distant-source events; 6) near-source events; 7) tsunami mitigation and preparedness actions; 8) calls to action and safety messaging; 9) how tsunami messaging relates with messaging for other hazards (earthquakes, landslides, etc.); 10) miscellaneous and uncategorizable messaging; 11) message delivery media and techniques-what works and what doesn't, and why; 12) other topics or categories as the group determines they want to work on.

- Review the messaging and discuss the inconsistencies. Either agree on-the-spot on content changes, or assign follow-up efforts to individuals to find science and relevant research about the topic (and any other supporting information) and bring it back to the group for discussion and decision-making.
- During the message review and concurrence process–
 1. give attention to suggestions about methods to convey these messages in order to optimize their effectiveness and likelihood that behavior will be changed and actions taken consistent with the message.
 2. include, where appropriate, a “defensive strategy” to combat incorrect and faulty preparedness messages and the contexts in which these messages become salient (e.g., “Triangle of Life”).
 3. remain sensitive to and address issues related to the message recipient.
- Keep the process of refining and revising messaging over months and years by using a wiki process (tsunamieducation.org) to facilitate participation across the country by anyone with an interest and who is concerned. The wiki process is much faster, and provides a real-time method to update information without having to send email with attached files, some of which may not be the most recent. It allows others to see changes as they were and as proposed, and concur or leave comments for further discussion.
- Demonstrate the usefulness of achieving concurrence on tsunami messaging by selecting messages on which there is concurrence for use in nationally-produced products, such as print materials, websites, and official statements from agencies.
- Engage the media through partner relationships at the federal, state, and local level to make them aware of agreed/concurred messaging and encourage them to use these messages in their efforts.
- Ensure all results remain in the Public Domain and free from restrictions on usage.

Consequences if not done: Not doing this activity poses a direct conflict with the adopted NTHMP Strategic Plan and a direct conflict with NOAA's acceptance of primary recommendations in the National Academy of Sciences Report.

2: Provide research citations justifying tsunami messages

Recommendation: YES

Related Actions: Action #1

Estimated FTE: 0.10 / 416 hours over two years

This action is concurrent with the “consensus messaging” project above, and the FTE in the chart anticipates a two-year minimum timeframe. It's goal is to provide the science, research, and social science underpinnings on which tsunami messaging is based.

Steps required to implement this activity include:

- As tsunami messages are reviewed, ask what information establishes each message as fact. Collect the citation for each message as it is confirmed and concurred.
- Provide the “why.” That is, explain in an understandable manner why certain messages say what they say. Explaining why helps users of the message do two things: 1) understand how folklore (oral tradition) may be affecting the message and 2) become more educated on the topic.

Consequences if not done: Not doing this activity poses a severe risk that folklore, legends, inconsistent and inaccurate information will continue to be shared by federal, state, and local representatives who provide information about tsunamis.

3: Offer Professional Development courses

Recommendation: NO

Related Actions: None

Estimated FTE: 0.0 / 0 Hours

To clarify, we're talking about courses to improve the knowledge about tsunamis for audiences such as, but not limited to: emergency managers, responders, elected officials, and federal/state/local government employees.

The reason why this activity is not recommended for implementation is because several professional development courses already exist. There is no need to duplicate effort.

The existing courses include:

- On-line courses from COMET – “Tsunamis,” a two-hour overview covering the science of tsunamis – their causes, initiation process, properties, propagation, inundation, and long-term effects; “Tsunami Warning Systems,” a 1.25-hour course which describes the processes involved in anticipating, detecting, and warning for a tsunami by summarizing data collection, modeling, analysis, and alert procedures used at NOAA's Tsunami Warning Centers; and “Community Tsunami Preparedness, a 2-3 hour course designed to help emergency managers prepare their communities for tsunamis. Lessons include basic tsunami science, hazards produced by tsunamis, the tsunami warning system, the importance of public education activities, and how to craft good emergency messages and develop tsunami response plans. [More Information Here](#)
- Tsunami Awareness (AWR 217) – developed by the International Tsunami Information Centre (ITIC) at the University of Hawaii’s National Disaster Preparedness Training Center. This is a one-day course which covers the end-to-end tsunami early warning and emergency response process. It is

offered from time to time, but not on a specific schedule. [More information here.](#)

- Coastal Community Resilience (AWR 228), developed at the University of Hawaii's National Disaster Preparedness Training Center. This is a one-day course which covers the coastal community resilience (CCR) concepts, risks to coastal communities, and integrating CCR into existing plans. It is offered from time to time, but not on a specific schedule. [More information here.](#)
- "Tsunami Course" - The West Coast/Alaska Tsunami Warning Center (WC/ATWC) has offered week-long courses (primarily for WCMs but others in tsunami-responsible positions have attended) that provide intense and thorough education about tsunami matters from their science and history to causation to warnings, and much more. Two of these week-long courses have been offered each year - one of them focused on the East Coast, and one of them focused on the West Coast. There is strong support to have these courses continue to be offered, but perhaps migrating their offering to be through the NWS Training Center in Kansas City to optimize the use of NWS resources and reduce travel costs.

While this training already exists, more promotion of the COMET training would be useful, as well as more advanced notice of when and where offerings of AWR 217 will be given. The two one-week courses at the WC/ATWC have proven to be very popular, but are a burden on WC/ATWC staff to sustain, not to mention the cost of travel since all participants must travel by air to get there.

4: Develop Outreach and Education Content for High-Priority Audiences

Recommendation: YES

Related Actions: Action #1 and #2

Estimated FTE: 0.10 (Yr 1) 0.15 (Yr 2) / 516 hours over two years

Throughout the discussions and in feedback about the [Assessment](#) of Tsunami Education in the United States and the first draft of the national Tsunami Education and Outreach Plan, a number of audiences were listed as having needs for two things: 1) review and concurrence on messaging intended for that audience; and 2) guidance on how to reach each of those audiences.

Each of the audiences listed below must be further narrowed to include those who have a tsunami risk. For example, not all coastal visitors, but visitors to ocean coastlines that have an identified tsunami risk which can be explained to the public (contrasted with lake shores or Gulf Coast shorelines whose tsunami risk is still being confirmed.) Or, not all elected officials, but those who serve areas that are identified to be at risk for a tsunami (city councilmembers, county commissioners, and state elected officials) as well as those elected officials who may not directly serve areas at risk for a tsunami, but whose decisions affect areas at risk for a tsunami. These decisions may be on budgets, environmental issues, resources management, and so forth.

The audiences that were listed as having these needs include:

- Visitors/Tourists.
- People who may have difficulty responding to requests to evacuate quickly, or who may not be able to hear sirens or other audible warnings, or who may need help in making tsunami preparation and evacuation plans.
- Service Industry (lodging, restaurant, and visitor's services providers).
- Elected Officials.
- Residents of coastal areas.
- Maritime community (harbormasters, port authorities, recreational sailors, USCG Auxiliary, etc.)
- Educators who teach children in schools.

- Professional responders, including Dept. of Defense assets.
- Owners/staff/occupants of businesses and critical facilities within a tsunami zone (e.g., health care facilities, schools, power plants, etc.)

Steps required to implement this activity include:

- **Part 1: Messages for Audiences:** include the process of identifying and providing consistent messages for each audience in Item #1 of this plan (the “message development” process). This can, and should, be developed concurrently as the “consistent messaging process” is developed – over a two-year period (FTE in the chart reflects that).
- **Part 2: Guidance on Reaching Specific Target Audiences:** include in the refinement of the Local Disaster Preparedness Guide described in Item #11. This is an important concept, but will take a significant amount of time to do well. Developing a Guide on how to educate coastal visitors about tsunamis is very different from developing a Guide on tsunami education for the maritime community.
- Remember to keep in mind to avoid labels like “the elderly” or “the disabled.” The focus is on abilities and challenges, not on labels.
- Acquire help from NTHMP/MES Leadership to prioritize the specific audiences for whom Guides on Education and Outreach should be developed, as it is not possible (with current resources) to develop all of them simultaneously.

Consequences if not done: Not doing this activity poses a direct conflict with the adopted NTHMP Strategic Plan and a direct conflict with NOAA's acceptance of primary recommendations in the National Academy of Sciences Report.

5: Ensure seamless integration between the proposed (new) education and outreach elements of the TsunamiReady Guidelines with this national tsunami education and outreach plan.

Recommendation: YES

Related Actions: New TsunamiReady Guidelines being approved (separately by different people)

Estimated FTE: 0.05 / 104 hours

Steps required to implement this activity include:

- Continue to participate in reviewing the development of TsunamiReady Guidelines and offer suggestions on integration of its education and outreach guidelines with this national tsunami education and outreach plan.
- Ensure that the national tsunami education and outreach plan has measurable elements that can be utilized as a part of determining if a locality meets or exceeds TsunamiReady guidelines.

Consequences if not done: Not doing this activity results in confusion and inconsistency between TsunamiReady and Tsunami Program Activities.

6: Develop a CERT Training Addendum

Recommendation: NO

Related Actions: None

Estimated FTE: 0.0 / 0 hours

Developing an addendum for the Community Emergency Response Team instructor's manual about tsunamis is not required. FEMA developed it and has made it available as a supplement to the existing CERT Instructor's Manual. It is [available on-line](#) to anyone on FEMA's website. When possible, representatives from the NTHMP should meet with representatives from FEMA to improve the accuracy of the content of the existing CERT Instructor's Guide module on tsunamis.

7: Develop Tsunami Drills and Exercises Planning Guidance

Recommendation: NO

Related Actions: None

Estimated FTE: 0.0 / 0 hours

Such Guidance has already been developed:

- FEMA's Homeland Security Exercise and Evaluation Program (HSEEP) includes planning guidance for tsunamis. Since emergency managers are well-versed with using HSEEP, it is not wise to develop another product or tool that provides tsunami exercise planning guidance where content may be inconsistent and the applications of each could be confusing.
- The LANTEX and PACIFEX exercises have extensive planning guidance and tools prepared for them. These exercises are conducted in March on the Atlantic and Pacific coasts respectively.
- The International Tsunami Information Center (ITIC) is currently collaboratively creating a "How to Conduct Tsunami Exercise" manual, showcasing good international practices in preparation for PACWAVE '11. (Check with ITIC for more details; this is all that Brian Yanagi provided)

8a: Develop new instructional information about tsunamis for use in schools (and have it adopted for such use)

Recommendation: NO

Related Actions: 8b

Estimated FTE: See 8b

Due to the complexity and infeasibility of this particular approach, it is recommended to replace “developing new curriculum” with “developing a Teacher's Resource”. See item #8b.

This item inspired the most discussion of all the recommended (or not recommended) actions from the first draft of the national tsunami education and outreach outline. Several people believe fervently that teaching about tsunamis in the classroom is the “bread and butter” for sustainable public education and awareness through generations. Other comments generally suggested that we should explore creative ways to deliver tsunami education to school children that is not contingent upon classroom instruction.

To summarize, the reasons why it is so difficult to include information about tsunamis in social studies, science, and other classroom subjects are as follows:

- Assumptions have been made by some that schools will willingly accept and use instructional information, handouts, lesson plans, and activities provided by third parties. Many school districts have a cumbersome and lengthy process to review “curriculum materials” (which may be a misnomer for lesson plans, activity sheets, workbooks, web-enabled activities, and so forth). The materials provided by eager third parties may not have written educational objectives, so it is difficult for a school district to identify how the proposed materials aligns with existing Standards of Education that school districts have adopted and whose instructional staff must meet. Pressure for students to achieve levels of performance is incredible, and that performance is measured on a regular basis through standardized testing. Many teachers say that they have to “teach to the test.” Therefore, if materials provided to them do not help them achieve targets of student performance, then teachers will not use them (or say that they don't have time to use them, which is the same thing.)
- Before any formal adoption of educational curriculum, lesson plans, or activities may be done by a school district, such materials must be aligned with that particular state's Standards of Education. Teachers and school administrators do not have time to do that alignment themselves. If educational materials are not standards-based, they will not be able to be used during the school day because there simply is not enough time and using “non-aligned” materials renders them in conflict with the “No Child Left Behind Act of 2001” (P.L. 107-110). While this matter may be important, so are thousands of other topics competing for a teacher's time to teach about in a classroom.
- The United States Department of Education does not develop curriculum materials, nor standards of education. That's right, there are no national standards of education promulgated by the U.S. Government to the states. Each state is required to develop its own standards of education that must meet certain criteria proscribed by the Federal Government. Therefore, every state has slight different standards of education which are not the same, nor easy to develop a map or crosswalk between standards of education and where certain lessons about tsunamis may fit in.

8b: Develop "Educator's Resource for Tsunami Education"

Recommendation: YES

Related Actions: Independent

Estimated FTE: 0.075 / 156 hours

While developing new lessons for use in classrooms about tsunamis (or any hazard) is incredibly burdensome in dealing with the "teach-to-standards" requirement of the No Child Left Behind Act, and the U.S. Dept. of Education will not promote the concept of "school-based hazards education," we can - and should - do something that is achievable instead.

Steps required to implement this activity include:

- Identify, read, and review existing materials and resources to consider them for inclusion in this Educator's Resource. Advance those materials that have consistent and accurate messages for inclusion in the Resource. (Conversely, do not include items in the Educator's Resource that have significant errors, inaccuracies, folklore not based on science, or similar problems. Identified products that are too brief, incomplete, or would be superior with more refinement will be noted and feedback will be provided to the producer of the item to explain what's wrong and encourage them to improve the products.)
- Assemble a comprehensive resource for teachers/educators to provide a menu to them from which they may select to enhance what they're teaching the subjects of Earth Science, Geology, General Science, and Social Studies. (In lower grades, one may consider content areas of "the weather," "the oceans," "geography," "history," and such.)
- This Resource will map or link subjects taught in school with hazards education resources that already exist and are publicly accessible. If fees to acquire some materials are charged, the fee structure will be explained.
- The Resource should be created in cooperation with teacher's associations like the National Earth Science Teacher's Association and the National Science Teachers Association, among others. Text book editors will also be sought to assist with this process.
- During the process of developing the Educator's Resource, a list of possible gap areas will be identified which may lead to development of products, lesson plans, and activities in the future.
- Though it would be ideal to develop on-line, interactive learning tools like a tsunami modeling demonstration, the cost to do that from scratch would be prohibitive. However, there may be ways to adapt existing tools (for example one on-line activity that is part of a COMET training module) for this purpose. More discussions will be required.

Consequences if not done: Not doing this activity poses a direct conflict with the adopted NTHMP Strategic Plan and a direct conflict with NOAA's acceptance of primary recommendations in the National Academy of Sciences Report.

9: Provide "Tsunami Education Marketing Resources"

Recommendation: NO

Related Actions: Action #10

Estimated FTE: 0.0 / 0 hours

This has been combined with #10.

10: Lead development of tsunami awareness items for flexible local implementation

Recommendation: YES

Related Actions: Action #1

Estimated FTE: 0.15 / 312 hours

These background statements establish the platform for this recommendation:

- Tsunami risk and potential impacts are not well recognized by the public nor by emergency management and public safety officials except in relatively few states and localities. More work needs to be done to explain the tsunami phenomenon and risk to various audiences to enhance awareness of the hazard and recognition of the important work conducted by NTHMP partner agencies and states.
- Because tsunamis have no season, social scientists Mileti, Drabek, Lindell, and others recommend that the best approaches for raising awareness about any type of “seasonless” natural hazard (including tsunamis) is best done around memorable anniversaries. In the case of tsunamis, the key dates are March 11, 2011; March 27, 1964; and April 1, 1946. (To some, December 26, 2004, is also a key date.)
- Tsunami Awareness activities will be required in 2012 for use in and around the anniversary of the March 11, 2011, earthquake and tsunami in Japan and U.S. collateral events. High interest will be driven by the media, and NTHMP partners must be prepared to respond. The National Tsunami Education and Outreach Plan can contribute toward our state partners being prepared for the anticipated heightened media interest.
- Tsunami Awareness Week for 2012 has been established already for March 25 - 31, and discussions via email conducted in June 2011 have confirmed these dates. However, many concur that launching tsunami awareness-raising activities around March 11, 2012, should start the process, then following into Safe Boating Week March 18-24 (where links to tsunami safety for the boating/harbor audiences could be included), then conclude with the March 25 - 31 dates in which the LANTEX and PACIFEX exercises will be conducted (March 28.)

Considering all of this, it is recommended to use a collaborative process to engage people to produce materials, graphics, and audio/video products that can be localized (i.e., space to overprint a name or time to insert an audio lead-in by a state or local dignitary) and used when and where state and local leaders determine would work best. That is, this recommendation is to produce a suite of products from which state and local people can select and use as they deem fit. Further, a national-level roll-out and implementation of these materials should also be done for both the March 11 anniversary as well as for use during Safe Boating Week (March 18 - 24) and Tsunami Awareness Week (March 25 - 31).

Steps required to implement this activity include:

- Assemble a “Tsunami Awareness Action Team” composed of interested and committed individuals from nominated sources such as NTHMP member states, NWS regional offices, the West Coast/Alaska and Pacific Tsunami Warning Centers, localities, FEMA and USGS.
- Review actions of other “awareness weeks” that NOAA/NWS does. Obtain information on lessons learned from those activities that may apply to Tsunami Awareness Week.
- Develop tsunami awareness-raising resources that can be made available to states and localities for them to choose from and that they may use on their schedule as best fits their respective plans.

- Obtain an appropriate and timely TAW Proclamation from the President of the United States and encourage state leaders to obtain same from their respective governors.
- Ensure that federal, state, and local Public Affairs personnel are aware of these resources so they can assist with responding to demand for information and resources upon the March 11, 2012, anniversary of the earthquake and tsunami in Japan.
- These resources may include (but are not limited to):
 1. Graphics that can be used on websites and in printed materials.
 2. Pre-sized 'boxed text-and-image' print ads that can be lifted and dropped into newsletters, church bulletins, utility bill stuffers, telephone directories, and so forth.
 3. Pre-written articles that may be edited locally for inclusion in printed materials. The articles will be in MS-Word .doc files to enable ease of local editing. For those who do not wish to edit, the articles will also be made available as .pdfs.
 4. Video B-roll that can be used on websites and other media.
 5. Audio public service announcements.
 6. Draft postings and images for social networks (Facebook pages, LinkedIn Discussion Groups, etc.)
 7. Other resources that may be requested by NTHMP members and collaborators within the scope of ability and resources to develop them.
- Hard-dollar estimated costs include \$10K for web-based resources and \$10K for print resources.
- Further, when possible and practical, propose and engage leaders to deliver presentations for speaking opportunities at major national conferences where important audiences gather. For example, a presentation on Tsunami Risk was selected for presentation at the International Association of Emergency Managers conference that will be held November 12 - 16, 2011, in Las Vegas.
- Propose and negotiate for articles about tsunamis and the role of the NTHMP in publications read by important audiences. These publications may include: "IAEM Bulletin," "AMS Update," *The Earth Scientist* (Journal of the National Earth Science Teachers Association), TsuInfo, the ITIC Tsunami Newsletter, and other recommended journals, newsletters, or publications.

Consequences if not done: Not doing this activity will cause public and media expectations for tsunami anniversaries not to be met – NWS loses control of the message and all NTHMP partners will be reacting to what print and electronic media do. (Media representatives will do it anyway!)

11: Refine the document titled, "Local Tsunami Education and Outreach Plan" into a more comprehensive "Local Disaster Preparedness Education and Outreach Guide" that may be adapted for use by localities on comprehensive disaster preparedness education activities.

Recommendation: YES

Related Actions: Action #1

Estimated FTE: 0.10 / 208 hours

Much of the feedback about this item on the first draft of the national tsunami education and outreach plan outline was that we should provide a resource that is considered by local representatives to be more comprehensive of multiple hazards – not tsunamis only. The rationale for developing a comprehensive "Disaster Preparedness Outreach Guide" is as follows:

- With one or two exceptions (Puerto Rico Seismic Network Educator and Redwood Coast Tsunami Workgroup Educator), most people who are engaged in presenting information to various audiences about tsunamis also presents information about other hazards, too. The job of an emergency manager, for example, is responsible for all hazards, not for one hazard only.
- With the two exceptions listed above, funding that supports delivery of outreach comes from sources that are general in nature (Emergency Management Performance Grants [EMPG] from FEMA, for example), or very specific for other hazards (NEHRP funds for earthquakes, state hurricane planning grants for hurricanes, as examples), may not be used for tsunami-specific outreach activities. The National Assessment of Tsunami Education completed in December, 2010, indicated that the vast majority of tsunami outreach and education is being done through creative delivery methods that are funded by sources that have nothing to do with the tsunami hazard.
- Social science research indicates that at-risk audiences respond better to public outreach messaging about hazards they truly believe can happen to them where they are - not where they *will be* or happen with such infrequency that they are not considered a major threat. Research also indicates that people will respond and prepare for the one event they think can happen *and disrupt daily life* if they have experienced it before, such as an earthquake, hurricane, or flood. Thus, outreach efforts are more successful in encouraging direct preparedness activities and learning what to do when the event happens if it is focused on that one thing. However, adding additional related messaging to how tsunamis enter the thought process are useful, and this is what research has shown will be more effective.
- The *methods* of conducting public education and outreach for different hazards are about the same. The messages used and audiences are different for tsunamis than for other hazards. However, it should be well understood that the proposed "Local Disaster Preparedness Education and Outreach Guide" is a Guide on these *methods* - steps to take to organize, implement, and evaluate disaster preparedness education.
- It is well within the purview of the NTHMP to develop a methods Guide on Disaster Preparedness Education that is useful for tsunami outreach which can be applied to other hazards, as well.
- Labeling the Guide as a "Guide for Tsunami Education" may cause some to reject it by judging a book by its cover, as happened during the first round of review of this proposed education plan outline.

Steps required to implement this activity include:

- Review and revise the existing "local tsunami education and outreach plan" document to make it more comprehensive.
- Work with selected state and local leaders to review the Guide and edit it based on feedback.
- Conduct field tests in selected locations to ensure applicability, and make adjustments to it based on feedback and evaluation.

Consequences if not done: Not doing this activity will conflict with NTHMP Strategy. Communities continue to say that they "can't" conduct outreach because they don't know how.

12: Develop evaluation metrics for plan components

Recommendation: YES

Related Actions: Concurrent with all actions being done

Estimated FTE: 0.15 / 260 hours

Inherent with each item listed above will be to design metrics to measure each activity through appropriate evaluation techniques. Additional time required for measurement and reporting is included in the chart.

Steps required to implement this activity include:

- Write behaviorally-stated objectives for each item to be completed.
- Include data requirements and methods to measure each objective.
- Design a table to record the data measured against each objective.
- Periodically share the metric measurements against the objectives with the NTHMP Mitigation and Education Subcommittee Executive Council.

Consequences if not done: failure to evaluate results in not knowing what worked, what didn't, and what improvements to make. *Those who fail to learn from history are doomed to repeat it.*

Supporting Documentation

[Drivers](#) of the National Tsunami Education and Outreach Plan

["Action Elements"](#) - recommendations of possible actions for tsunami education and outreach sent to NTHMP for prioritization in May, 2011 (this is the document from which feedback about it was used to create this one.)

[Observations about Current Needs](#) for Tsunami Education and Outreach