

# National Tsunami Education and Outreach Plan Update

## Background

This plan is an update to the [National Tsunami Education and Outreach Plan of Action](#), which was approved by the National Tsunami Hazard Mitigation Program (NTHMP) Coordinating Committee on August 20, 2011. As an update, this 2014 plan has not undergone a full-scale planning process (e.g., it did not include a needs assessment). It aims to fill gaps and meet needs previously identified and supports and builds on the work initiated under the 2011 plan.

This plan was prepared by the NOAA Tsunami Program (NWS/HQ) with the assistance of a workgroup composed of members of the NTHMP Mitigation and Education Subcommittee and approved by the NTHMP Coordinating Committee on **x**.

This plan includes education and outreach projects to support state and local public education and outreach efforts to increase tsunami awareness and preparedness. “Education and outreach” broadly includes “formal education,” “informal education,” and “outreach” as defined in the NOAA Education Strategic Plan (see sidebar).

According to the Persuasive Communication Continuum Model, effective outreach and education considers the key stages of the communication continuum and where along it the target audience falls.<sup>1</sup> The stages are: awareness, understanding, acceptance, and behavior change (preparedness). Projects in this plan support audiences at different stages along the continuum.

The projects identified in this plan will be implemented by contract staff supporting the NOAA Tsunami Program (NWS/HQ). These staff will work collaboratively with NTHMP partners and other experts, as appropriate, to help achieve the visions of the NTHMP and the NOAA Tsunami Program.

**Formal Education**—Learning within a structured education system in which children or adults are required to demonstrate proficiency.

**Informal Education**—Learning outside the established formal system that meets clearly defined objectives through organized education activities.

**Outreach**—Opportunities designed to build awareness, develop relationships, and inspire action (e.g., pursuit of further learning opportunities, behavioral change). Involves information exchange between provider and target audience. Frequently designed to reach diverse audiences, but can be personal and interactive, designed to identify and appeal to an individual’s personal interest or motivation for information.

Source: [National Oceanic and Atmospheric Administration Education Strategic Plan 2009-2029](#)

<sup>1</sup> Source: [Flash Flood Early Warning System Reference Guide](#), The COMET Program

## 2014 Projects

The table below summarizes the projects identified for implementation under this plan. Subsequent pages provide additional details.

No.	Projects	Driver(s) <sup>1</sup>	Level of State Partner Involvement
14-1*	Provide content for NWS Tsunami Safety web pages	1, 3	Low
14-2*	Provide direction and content for Tsunami.gov non-operational web pages	1,3	Low
14-3*	Coordinate updates of COMET tsunami modules	1, 3	Low
14-4*	Create expanded NOAA Tsunami Program fact sheet	3	n/a
14-5*	Coordinate updates for tsunami pages on NWS JetStream Online Weather School	1, 3	Low
14-6	Develop evacuation modeling guidance	1, 2, 3	High
14-7	Create a risk assessment summary/fact sheet to support national-level “know your risk” outreach	1, 3	Low
14-8	Provide national-level support for 2015 National Tsunami Preparedness Week	1, 2, 3	Low-moderate (not including state activities)
14-9	Support development of California’s Tsunami Zone website as vehicle for Tsunami Preparedness Week activities	1, 2, 3	Low-moderate
14-10	Update Tsunami Awareness and Safety fact sheet	1, 3	Moderate
14-11	Create an online compilation of links to tsunami evacuation and inundation maps	1, 3	Low-moderate
14-12	Create materials that describe how FEMA’s Community Rating System can enhance tsunami mitigation and support efforts to achieve TsunamiReady recognition	1, 3	Low
14-13	Update NTHMP Media Guide	1, 2, 3	Moderate
14-14	Update Compendium of Tsunami Education Resources and create independent web page	1, 2, 3	Low
14-15	Develop a resource to help commemorate tsunamis	1, 3	Low

No.	Projects	Driver(s) <sup>1</sup>	Level of State Partner Involvement
	as a way to further tsunami awareness and preparedness		
14-16	Create meteotsunami awareness fact sheet	1, 3 <sup>2</sup>	Low
14-17	Create an NTHMP fact sheet		Low-moderate

<sup>1</sup> See Appendix 2 for more specifics about the following drivers of this plan update: 1 = NTHMP 2013–2017 Strategic Plan; 2 = Mitigation and Education Subcommittee Priorities; 3= NOAA Tsunami Program Strategic Plan 2012-2021

<sup>2</sup> While not explicitly identified in the key plan drivers, meteotsunami awareness can be considered part of the larger tsunami awareness efforts.

\* Current/ongoing project not in 2011 plan.

## Project Descriptions

### 14-1. Provide content for NWS Tsunami Safety web pages

**Anticipated Completion Date:** FY 2014, Q4 (already underway)

**Audience(s):** Primary—general public

Secondary—media; state, territorial, tribal, and local governments; federal agencies

The National Weather Service is developing hazard safety pages for weather.gov. They are being constructed in a consistent manner that is based on a template originally developed for [flood safety](#). NOAA Tsunami Program (NWS/HQ) staff will provide content for tsunami safety pages. Ultimately, NOAA Tsunami Program (NWS/HQ) staff will have access to the pages and will update them as appropriate.

### Implementation Steps

- Create framework for new pages and identify where links will go to existing pages and where new pages need to be created.
- Draft content and identify images (*seeking good public domain photos*) for new pages.
- Provide content to NWS/Office of Climate, Weather and Water Services (OCWWS) webmaster to create beta version of tsunami safety pages.
- Work with OCWWS and NWS webmasters to finalize beta pages and create icon for [Weather Safety homepage](#).
- Identify individuals to serve as content reviewers.
- Share beta pages with reviewers for comment.
- Work with OCWWS webmaster to incorporate reviewers' comments.
- Launch web pages.
- Send email to NTHMP partners and colleagues list to announce the launch of the pages.

- Promote launch of pages through social media and other vehicles.
- Update pages as needed, adding new images (as they become available), and revising content to reflect outcomes of the Tsunami Messaging Project (see 11-1 in Appendix 1).

**Anticipated Outcome:** Improved accessibility to tsunami safety information and increased public understanding of tsunami safety.

#### **14-2. Provide direction and content for Tsunami.gov non-operational web pages**

**Anticipated Completion Date:** FY 2015, Q1 (already underway)

**Audience(s):** State, territorial, tribal, and local governments; federal agencies; general public; media

Tsunami.gov is being redesigned to integrate the existing site with the warning center sites and to add a non-operational component<sup>2</sup> (will include links and information about tsunamis and the work of the NOAA Tsunami Program components, how the warning system works, outreach resources, etc.). The updated site will serve as the primary site for the NOAA Tsunami Program. Website contractors have already created “demo” pages for the site based on information from the existing Tsunami.gov and the two warning center sites. This project will entail reviewing the work of the contractors and providing updates, changes, and additional content. Once the site is live, it is anticipated that NOAA Tsunami Program (NWS/HQ) staff will have the ability to directly manage the content on the non-operational pages.

#### **Implementation Steps**

- Identify individuals to assist with project.
- Have kick-off call with website contractors so they can demo the non-operational pages to the project team.
- Work with project team to determine if any changes should be made to the framework proposed by the website contractors.
- Work with website contractors to finalize framework.
- Work with project team to identify content that should be added, updated, deleted, or reorganized (avoid duplication with project 14-1 above).
- Provide comments, updates, and additional content to website contractors.
- Work with project team to review and approve incorporation of input.
- Send email to NTHMP partners and colleagues list to announce the launch of the site.
- Promote launch of pages through social media and other vehicles.
- Update pages as needed.

*Note: Implementation steps may change based on requirements document for website contractor, which is still in development.*

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<sup>2</sup> All references to Tsunami.gov within this document refer to the non-operational pages.

**Anticipated Outcome:** Improved accessibility to tsunami information and increased public understanding about tsunamis.

#### **14-3. Coordinate updates of COMET tsunami modules**

**Anticipated Completion Date:** FY 2015, end of Q2 (already underway)

**Audience(s):** Emergency managers, NWS Weather Forecast Office staff, children ages 13-17 (target audiences vary by module, but all are useful to broader audiences)

The COMET Program has developed five tsunami distance learning modules and hosts them on its [MetEd website](#): Tsunamis, Tsunami Warning Systems, Community Tsunami Preparedness, Tsunami Strike! Pacific, and Tsunami Strike! Caribbean. Created between 2010 and 2012, some of the content now requires updating. This project entails coordinating the updates with COMET Program staff.

##### **Implementation Steps**

- Identify individuals to assist with the content updates.
- Have kick-off call with project team and establish a plan for the updates.
- Work with project team to identify content that should be updated, deleted, or added (based on updates already identified by NWS staff).
- Provide comments, updates, and additional content to COMET Program staff.
- Work with project team to review and approve incorporation of input.
- Send email(s) to NTHMP partners and colleagues list to announce the release of the updated modules.
- Promote availability of updates through social media and other vehicles.

**Anticipated Outcome:** Updated and improved tsunami distance learning modules.

#### **14-4. Create expanded NOAA Tsunami Program fact sheet**

**Anticipated Completion Date:** FY 2014, Q4 (already underway)

**Audience(s):** State, territorial, tribal, and local governments; federal agencies; general public; media

There is a need for a fact sheet that explains the NOAA Tsunami Program. Currently, there are two "NOAA Knows" [tsunami-related fact sheets](#). One is a two-pager that describes the program at a very high level. The other is a four-pager that describes NOAA's tsunami response-related capabilities in the wake of the March 2011 tsunami. A new expanded fact sheet is needed to identify and provide more detail about each of the components of the NOAA Tsunami Program.

##### **Implementation Steps**

- Draft expanded fact sheet that elaborates on two-pager and identify additional images (*seeking good public domain photos*).

- Identify individuals across program to review draft fact sheet.
- Share fact sheet with reviewers.
- Incorporate comments from reviewers.
- Work with NWS Public Affairs and NOAA Communications staff to finalize fact sheet and have it posted to NOAA Fact Sheet web page.
- Add links to both fact sheets on Tsunami.gov.
- Share new expanded fact sheet with NTHMP partners and colleagues through email list.

**Anticipated Outcome:** Improved awareness and understanding of the NOAA Tsunami Program and its capabilities.

#### **14-5. Coordinate updates for tsunami pages on NWS JetStream Online Weather School**

**Anticipated Completion Date:** FY 2015 (assistance already offered)

**Audience(s):** Educators, emergency managers, general public

[JetStream](#) is the National Weather Service's online weather school. It is designed to help educators, emergency managers, or anyone interested in learning about weather and weather safety. Staff from the NWS Weather Forecast Office in Jacksonville, Florida, are updating the JetStream content and making it more interactive. NOAA Tsunami Program (NWS/HQ) staff have offered to help by coordinating the update of the tsunami content and providing links to existing multimedia (animations and videos).

##### **Implementation Steps**

- Identify individuals to assist with content update.
- Have kick-off call with project team and establish a plan for the update.
- Work with project team to identify content that should be updated, deleted, or added and existing animations and videos that could be incorporated.
- Provide comments, updates, and additional content to JetStream.
- Work with project team to review and approve incorporation of input.
- Send email to NTHMP partners and colleagues list to announce the release of the updated material.
- Promote availability of update through social media and other vehicles.

**Anticipated Outcome:** Updated and improved tsunami online education.

#### **14-6. Develop evacuation modeling guidance**

**Anticipated Completion Date:** TBD

**Audience(s):** State, territorial, tribal, and local governments

The primary strategy for saving lives during a tsunami is to evacuate people from the hazard zone. Just as important as knowing where to evacuate in case of a tsunami is how to evacuate.

The NTHMP will develop guidelines for consistent evacuation modeling methodologies based on initial studies for pilot areas to support effective evacuation. This project will build off of previous NTHMP guidelines for consistent evacuation mapping. (See “[Modeling Pedestrian Evacuations](#),” which was presented at the 2014 NTHMP annual meeting.)

### **Implementation Steps**

- Complete evacuation modeling with U.S. Geological Survey assistance in pilot communities in West Coast states (2014).
- Identify NTHMP partners to assist with project.
- Hold kick-off call to discuss project and establish project parameters.
- Evaluate results via the NTHMP Mapping and Modeling Subcommittee.
- Draft guidelines.
- Share draft guidelines with NTHMP project partners for review.
- Incorporate comments from NTHMP project partners.
- Present draft guidelines to NTHMP.
- Revise draft guidelines based on feedback from NTHMP.
- Finalize guidelines.
- Post the guidelines on the NTHMP website and link to it from other appropriate sites.
- Share guidelines with NTHMP partners and colleagues through email list.
- Promote guidelines through social media and other vehicles.
- Ask NTHMP states and territories to present guidelines to local and state authorities.

*Note: This project will be led by NTHMP. It could be a suggested task for states to undertake via future NTHMP grant proposals.*

**Anticipated Outcome:** Enhanced tsunami evacuation strategies and products (e.g., maps and brochures) leading to more effective evacuations.

### **14-7. Create a risk assessment summary/fact sheet to support national-level “know your risk” outreach**

**Anticipated Completion Date:** TBD

**Audience(s):** Primary—general public

Secondary—media; state, territorial, tribal, and local governments; federal agencies

At the national level, it has proven challenging to easily communicate tsunami risk (e.g., in social media), especially to those outside of the Pacific. One of the current strategies of the NTHMP Mapping and Modeling Subcommittee is an update to the 2008 National Tsunami Hazards Assessment. This project will produce a summary of the update written for the public (similar to [this USGS summary](#)) and a graphic that illustrates risk based on the categories identified in the assessment (e.g., high, moderate, low risk).

### ***Implementation Steps***

- Work with risk assessment authors to determine timing of summary (after release of the assessment or concurrently).
- Work with risk assessment authors to determine if a graphic is needed for the summary or if it will be produced as part of the assessment.
- Determine format of summary (e.g., web page, fact sheet, both).
- Develop summary in coordination with risk assessment authors.
- If necessary, identify graphic artist and work with them to develop summary graphic in coordination with risk assessment authors.
- Identify NTHMP partners to review summary and graphic and provide comment.
- Incorporate comments from NTHMP reviewers.
- Determine where to host the summary online (likely the [NGDC site](#) or Tsunami.gov).
- Post the summary online and link to it from other appropriate sites.
- Share summary with NTHMP partners and colleagues through email list.
- Promote fact sheet through social media and other vehicles.

***Anticipated Outcome:*** Improved accessibility to brief and easily understandable information about tsunami risk at a national level that will help support increased tsunami awareness and preparedness.

### **14-8. Provide national-level support for 2015 National Tsunami Preparedness Week**

**Anticipated Completion Date:** FY 2015, Q2

**Audience(s):** State, territorial, tribal, and local governments; federal agencies; general public; media

National Tsunami Preparedness Week began in 2009 as National Tsunami Awareness Week. In prior years, the NOAA Tsunami Program (NWS/HQ) support has included press releases, public information statements, social media messages, and coordination of regular calls to exchange ideas and plans.

### ***Implementation Steps***

- In early fall 2014, identify participants for National Tsunami Preparedness Week Planning Team. Launch planning process with monthly calls, which will become bimonthly in early 2015.
- Draft plan based on the following steps:
  - Review lessons learned from 2014. Determine which materials provided by the NOAA Tsunami Program (NWS/HQ) in 2014 were useful and which were not.
  - Discuss possible themes for the week.
  - Identify materials the NOAA Tsunami Program (NWS/HQ) can provide to help NTHMP partners and NWS warning coordination meteorologists with their Tsunami Preparedness Week efforts. This includes looking at materials provided for other NWS-supported preparedness weeks.



- Work with NWS Communications staff to make National Tsunami Preparedness Week materials more consistent with those for other NWS-supported preparedness weeks.
- Determine whether or not to pursue a presidential proclamation or message (a proclamation is unlikely).
- If California's [Tsunami Zone](#) (see 14-6) is expanded beyond California, determine what information will be posted there and, if appropriate, what will be posted to the NWS National Tsunami Preparedness Week web page to avoid duplication but maintain comprehensiveness.
- Update the NWS National Tsunami Preparedness Week web page. Migrate information, with redirect, to Tsunami.gov when non-operational pages are live.
- Notify NTHMP partners and colleagues about plans for National Tsunami Preparedness Week.
- Implement plan.
- Hold final planning team call in April to discuss how the week went and make note of lessons learned for 2016.

*Note: Implementation steps will be similar for 2016 (FEMA Cascadia Subduction Zone Earthquake and Tsunami Exercise will be this year).*

**Anticipated Outcome:** A well-promoted National Tsunami Preparedness Week that engages the public and increases their awareness of and preparedness for tsunamis.

#### **14-9. Support development of California's Tsunami Zone website as vehicle for Tsunami Preparedness Week activities**

**Anticipated Completion Date:** FY 2015, Q2

**Audience(s):** Primary—general public  
Secondary—media; state, territorial, tribal, and local governments; federal agencies

[The Tsunami Zone](#) was created by the Southern California Earthquake Center (SCEC), with NTHMP funding to California, to support California's Tsunami Preparedness Week in 2014. The site is based on [ShakeOut](#), also created by SCEC. Other states have expressed interest in expanding the site to include their audiences. This project will build off of the existing Tsunami Zone website and will be led by SCEC with assistance from the California Governor's Office of Emergency Services and in partnership with the NTHMP and other interested parties. NOAA Tsunami Program (NWS/HQ) staff support will entail helping to bring together partners and coordinate content of the Tsunami Zone with the NWS National Tsunami Preparedness week web page. It is anticipated that the former will emphasize activities and state/local resources, while the latter will serve as a hub for general awareness and preparedness information and general Tsunami Preparedness Week announcements. A key component of The Tsunami Zone is the ability for people to register a tsunami preparedness event and their participation in an

event. Additionally, working with SCEC allows the advantage of leveraging the large audience of the ShakeOut.

### ***Implementation Steps***

- Help bring together representatives from participating states/NWS Weather Forecast Offices to discuss the site and how they can contribute.
- Discuss the benefits and disadvantages of having a dedicated NWS National Tsunami Preparedness Week web page over time.
- If appropriate, determine what information will be posted on the Tsunami Zone and what will be posted to the NWS National Tsunami Preparedness Week web page to avoid duplication but maintain comprehensiveness.
- Encourage Tsunami Zone staff to plan for an evaluation of the site following Tsunami Preparedness Week.
- Work with Tsunami Zone staff to determine how the site can be best used to meet the individual and varying needs of the partners and help draft text, as appropriate.
- Send email to NTHMP partners and colleagues list to announce and encourage the use and promotion of the Tsunami Zone.
- Promote website through social media, existing ShakeOut audience, and other vehicles.

*Note: Support will be extended to 2016 as appropriate.*

***Anticipated Outcome:*** A well-promoted National Tsunami Preparedness Week that engages the public and increases their awareness of and preparedness for tsunamis and increased development of and participation in preparedness week activities

### **14-10. Update Tsunami Awareness and Safety fact sheet**

**Anticipated Completion Date:** TBD

**Audience(s):** Primary—general public  
Secondary—media; state, territorial, tribal, and local governments; federal agencies

The [Tsunami Awareness and Safety fact sheet](#) was created as task 11-10 in the 2011 National Education and Outreach Plan (see Appendix 1). The fact sheet will be updated to be consistent with the messages developed as part of the Tsunami Messaging Project (see 11-1 in Appendix 1) and the new NWS Tsunami Safety web pages. The fact sheet and the information will be adaptable for local use.

### ***Implementation Steps***

- Identify NTHMP partners to assist with fact sheet update.
- Hold kick-off call to discuss the update and how it can be revised to better meet the needs of NTHMP partners and others.

- Revise text of fact sheet based on messages developed through the Tsunami Messaging Project and in a way that is consistent with the new NWS tsunami safety web pages.
- Ensure fact sheet remains “localizable” with room for adding logos, contact information, etc. (consider converting to Microsoft Word format).
- Share draft fact sheet with NTHMP project partners for review.
- Incorporate comments from NTHMP project partners.
- Determine where to host the fact sheet online.
- Post the fact sheet online and link to it from other appropriate sites.
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- Share updated fact sheet with NTHMP partners and colleagues through email list.
- Promote update of fact sheet through social media and other vehicles.

**Anticipated Outcome:** Improved tsunami safety information and increased public understanding of tsunami safety.

#### **14-11. Create materials that describe how FEMA’s Community Rating System can enhance tsunami mitigation and support efforts to achieve TsunamiReady recognition**

**Anticipated Completion Date:** TBD

**Audience(s):** State, territorial, tribal, and local governments (coastal community floodplain managers and other local officials, state National Flood Insurance Program coordinators and emergency managers)

The National Flood Insurance Program’s Community Rating System (CRS) provides a flood insurance premium discount for policy holders in communities that participate in the CRS. The discount is based on an assessment of floodplain management activities implemented by the community to reduce flood losses (including tsunami-related flood losses).

Given recent increases in flood losses and flood insurance premiums, communities are looking for additional ways to earn credits and lower their premiums. Many are not aware of the tsunami credits available to them. This is an opportunity to increase that awareness while also further promoting tsunami awareness and preparedness. This project consists of two fact sheets: 1) a two-pager that describes how credits can be earned for tsunami outreach activities and 2) a two-pager that more broadly summarizes the credits available for tsunami-related activities (based on “[Tsunami Hazards: A Special Flood-Related Hazards Supplement to the CRS Coordinator’s Manual](#)”).

#### **Implementation Steps**

- Identify primary FEMA/CRS contact to work with on fact sheets.
- Work with FEMA/CRS to determine format of fact sheets (e.g., FEMA template vs. new design).
- Draft fact sheets concurrently to simplify FEMA approval.
- Identify NTHMP partners to review draft fact sheets and provide comment.

- Share draft fact sheets with NTHMP reviewers.
- Incorporate comments from NTHMP reviewers.
- Work with FEMA/CRS to finalize fact sheets and post online (or link to, if posted on FEMA page).
- Work with FEMA/CRS to distribute fact sheets to the CRS community (e.g., through emails, newsletter, social media, etc.).
- Share fact sheets with NTHMP partners and colleagues through email list.
- Promote fact sheets through social media and other vehicles.

**Anticipated Outcome:** Increased awareness among floodplain managers of how tsunami-related mitigation activities can improve their community's standing in the CRS. Increased awareness among emergency managers about the CRS and how it can be used to promote tsunami mitigation (awareness, preparedness, and more) and support TsunamiReady efforts. Increased awareness among other local officials about tsunami mitigation and the intersections of the CRS and TsunamiReady programs.

#### **14-12. Create an online compilation of links to tsunami evacuation and inundation maps**

**Anticipated Completion Date:** TBD

**Audience(s):** Primary—general public, NTHMP  
Secondary—media; state, territorial, tribal, and local governments; federal agencies

A need has been expressed for a compilation of U.S. tsunami evacuation and inundation maps. This would not be a repository, but would link to maps already available online. (See [Find Your Evacuation Zone](#) – for hurricanes – as an example.)

#### **Implementation Steps**

- Identify NTHMP partners to provide guidance and review compilation.
- Hold kick-off call to discuss project and establish site parameters.
- Work with state and territorial NTHMP partners to identify existing evacuation and inundation maps.
- Share compilation with state and territorial partners and other NTHMP project partners for review.
- Determine where to host the compilation online (Tsunami.gov or NTHMP site).
- Post the compilation online and link to it from other appropriate sites.
- Share compilation with NTHMP partners and colleagues through email list.
- Promote compilation through social media and other vehicles.
- Check compilation annually for broken links and reconnect with state and territorial NTHMP partners to identify the need for updates.
- Make updates as necessary.

**Anticipated Outcome:** Increased availability and awareness of tsunami evacuation and inundation maps. Support for NTHMP efforts to work toward map consistency.

### **14-13. Update NTHMP Media Guide**

**Anticipated Completion Date:** Phase I—TBD; Phase II—TBD

**Audience(s):** Media

The [NTHMP Media Guide](#) was released in 2010 to serve, in part, as a template for individual state guides. It was last updated in July 2011. The guide will be updated in two phases. Phase one will include necessary updates (e.g., warning center names/areas of responsibility). During phase two, messages will be revised to be consistent with the outcomes of the Tsunami Messaging Project (see 11-1 in Appendix 1).

#### **Implementation Steps**

- Phase I:
  - Review guide for general programmatic information that requires updating.
  - Make updates and replace document online.
- Phase II:
  - Identify NTHMP partners to assist with media guide update.
  - Hold kick-off call to discuss the update and how the media guide should be revised.
  - Work with NWS Public Affairs to better understand media needs for content as well as format (e.g., .pdf vs. interactive web pages).
  - Review other tsunami media guides (e.g., Washington, Oregon, Guam).
  - Revise media guide based on messages developed through the Tsunami Messaging Project and in a way that is consistent with the new NWS tsunami safety web pages.
  - Share draft media guide with NTHMP project partners for review.
  - Incorporate comments from NTHMP project partners.
  - Discuss how best to raise visibility of media guide on NTHMP website.
  - Get approval from NTHMP Coordinating Committee.
  - Post on NTHMP website (link to guide from Tsunami.gov).
  - Share updated media guide with NTHMP partners and colleagues through email list and share with NWS Public Affairs staff.
  - Reconvene NTHMP project partners (or newly identified partners) annually to review guide for updates.
  - Promote update of guide through social media and other vehicles.
  - Make updates as necessary.

**Anticipated Outcome:** Updated and improved tsunami information for media.

#### **14-14. Update Compendium of Tsunami Education Resources and create independent web page**

**Anticipated Completion Date:** TBD

**Audience(s):** Primary: K-12 educators

Secondary: state, territorial, tribal, and local governments

The [Compendium of Tsunami Education Resources](#) was developed as task 11-8 in the 2011 National Education and Outreach Plan (see Appendix 1). It is a list of materials that have been developed for use in schools to educate students about tsunamis and related natural hazards. The compendium will be updated to add new resources and fix broken links. It will also be converted to a web page.

##### ***Implementation Steps***

- Send email to NTHMP partners and colleagues list notifying them about the update and asking for information about new and updated resources.
- Consult with the International Tsunami Information Center to find out what they know about new and updated resources.
- Review existing resources for updates (e.g., links, descriptions) and make changes, including removing resources no longer available, as appropriate.
- Conduct Internet search for new resources.
- Once identified, read and review new resources to consider them for inclusion in the updated compendium.
- Make identified updates and additions and include statement that explains that materials are not vetted.
- Finalize compendium and web page and post on NTHMP site.
- Share updated compendium with NTHMP partners and colleagues through email list.
- Promote update of compendium through social media and other vehicles.
- Check for broken links, reconnect with NTHMP partners and colleagues, and conduct Internet search for new resources on annual basis.
- Make updates as new resources and changes come to light.

*Note: This is intended as an update and will not entail the same level of effort put into the original product. While new materials will be cursorily reviewed for accuracy and appropriateness, they will not be vetted (this applies to the current list as well).*

**Anticipated Outcome:** Improved accessibility and awareness of tsunami education resources.

#### **14-15. Develop a resource to help commemorate tsunamis as a way to further tsunami awareness and preparedness**

Since tsunamis don't have seasons and are infrequent, it can be difficult to find the right time to conduct tsunami outreach. Tsunami anniversaries provide a good opportunity to remind people

about tsunamis that have happened in the past and encourage them to learn more. This project entails compilation and use of information about “notable” past tsunami events. Ideally, it would be similar to USGS’s [“Today in Earthquake History.”](#)

**Anticipated Completion Date:** TBD

**Audience(s):** State, territorial, tribal, and local governments; federal agencies; general public; media

### ***Implementation Steps***

- Identify NTHMP partners, including staff from the National Geophysical Data Center (NGDC, from where the data will be drawn) to provide guidance.
- Hold kick-off call to establish parameters<sup>3</sup> and discuss possible formats.
- Talk to someone at USGS regarding “Today in Earthquake History.”
- Work with NWS web staff to understand web capabilities and available technical resources, if necessary.
- Next steps = TBD based on format chosen.

*The following steps will be done regardless of format chosen.*

- Draft brief event summary template based on agreed upon parameters for posting on Tsunami.gov Facebook page and Tsunami.gov on the date of the anniversaries.
- Share summary text template with NTHMP project partners for review.
- Modify template based on reviewer comments.
- Populate templates with information for “notable” tsunamis.
- Establish process for posting event summaries (with photos if available in public domain) on anniversaries to Tsunami.gov Facebook page (and Tsunami.gov if not automated).
- Send email to NTHMP partners and colleagues list to share the compilation and announce the new web feature.

Questions:

- Can information from the NGDC database be easily imported into something like “Today in Earthquake History”?
- Does the content management system for Tsunami.gov (Drupal) allow for this kind of functionality?
- If we can’t make it work on Tsunami.gov, might it work on the [NGDC site](#)?

*Note: Some format options may exceed the technological capabilities of NOAA Tsunami Program contract staff and may thus require funding support (or assistance from other NOAA or NTHMP partners).*

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<sup>3</sup> For the purposes of this project, the runup database is likely the most relevant. However, there are almost 25,000 runup events in the database. If we set the parameters at runup events that caused \$.5 million or more in damage (as an example), this number drops to 61.

**Anticipated Outcome:** Another resource to support tsunami awareness and preparedness efforts.

#### **14-16. Create meteotsunami fact sheet**

**Anticipated Completion Date:** TBD

**Audience(s):** State, territorial, tribal, and local governments; federal agencies; general public; media

As a result of recent events, more and more attention is being focused on meteotsunamis, what causes them, what factors are conducive to their formation, and how we can provide alerts when conditions are favorable for an event. The National Tsunami Warning Center is developing guidance for NWS Weather Forecast Offices regarding when and how to provide meteotsunami alerts. This fact sheet will introduce meteotsunamis, explain how they are different from traditional (seismic) tsunamis, describe the threats they pose to life and property, and discuss what is being done to further our alerting capability.

##### **Implementation Steps**

- Identify NTHMP partners and meteotsunami experts to assist with development of fact sheet.
- Hold kick-off call to discuss the project.
- Draft fact sheet so that it is “localizable” with room for adding logos, contact information, etc.
- Share draft fact sheet with NTHMP project partners for review.
- Incorporate comments from NTHMP project partners.
- Determine where to host the fact sheet online.
- Post the fact sheet online and link to it from other appropriate sites.
- Share fact sheet with NTHMP partners and colleagues through email list.
- Promote fact sheet through social media and other vehicles.

**Anticipated Outcome:** Increased awareness and understanding of meteotsunamis.

#### **14-17. Create an NTHMP fact sheet**

**Anticipated Completion Date:** TBD

**Audience(s):** State, territorial, tribal, and local governments; federal agencies; general public; media

There is a need for a fact sheet that explains the NTHMP. The fact sheet will provide some historical context, describe the NTHMP’s overall mission and vision, and break down the three key activities: mitigation/preparedness, warning guidance, and hazard assessment. It will also incorporate information from the NTHMP return-on-investment project.



***Implementation Steps***

- Identify NTHMP partners to assist with development of fact sheet.
- Hold kick-off call to discuss the project.
- Share draft fact sheet with NTHMP project partners for review.
- Incorporate comments from NTHMP project partners.
- Get approval from NTHMP Coordinating Committee.
- Post the fact sheet online.
- Share updated fact sheet with NTHMP partners and colleagues through email list.
- Promote fact sheet through social media and other vehicles.

***Anticipated Outcome:*** Increased awareness about the NTHMP.

## Appendix 1: Status of 2011 Projects

The table below shows the status of the projects from the [2011 plan](#). These projects are not included in the list of 2014 projects, but many of them are still underway.

Projects	Status/Comments
Lead in development of consistent tsunami messaging through consensus process	Target completion date = end of 2014
Provide research citations (explanations) justifying tsunami messages	Pending completion of Action #1
Develop outreach and education content for high-priority audiences	Pending completion of Action #1
Support seamless integration of this plan with (new) TsunamiReady outreach elements	New TR guideline development to begin late spring
Develop "Educator's Resource for Tsunami Education"	Complete – see 14.7
Lead development of tsunami awareness items for flexible local implementation. Note: useful for Tsunami Awareness Week	Complete – see 14.8
Revise "Local Tsunami Education and Outreach Plan" (and rename "Disaster Preparedness Education and Outreach" Guide)	Target completion date = TBD
Develop evaluation metrics for plan components, provide period progress reports, and make plan revisions as indicated	Target completion date = end of 2014; Project has evolved to guidance to states and territories to help them evaluate their outreach products

## Appendix 2: Drivers

### National Tsunami Hazard Mitigation Program (NTHMP) 2013–2017 Strategic Plan

<http://nws.weather.gov/nthmp/documents/NTHMPStrategicPlan.pdf>

#### **Relevant Outcomes:**

- Successful execution of tsunami mapping, modeling, mitigation, planning, and education efforts
- Tsunami evacuation products and strategies that support effective preparedness and response
- Creating a community-based culture of tsunami preparedness
- Establishment of more tsunami resilient communities

#### **NTHMP Mitigation and Education Subcommittee**

##### **High Priorities:**

- NTHMP Maps use mapping standard guidelines by 2013
  - Standards developed, implementation in process
- Evacuation studies guidance by 2014 (MMS)
- Education strategy by 2014
  - In process, Progress Report from NOAA Tsunami Program due to committee along with suggestions for next steps
- Conduct evaluation of tsunami education products and programs in 10 communities by 2014
  - NOAA Tsunami Program to develop a tool for stakeholder use
- Develop a decision support tool (which?) addresses the characteristics of the population at risk by the end of 2015. (MMS)
  - HI, CA, PR, USGS, NOAA Tsunami Program
  - PAR communities subject to tsunami, people who live, work, plays, commutes thru, tourists, vulnerable populations (ANYONE IN AN EVACUATION ZONE?)
  - Boundary of evacuation zone
- Conduct state-level reviews of all local response plans for accuracy and effectiveness by the end of 2014.
  - In process through local CEMP review
- Educational events in all at-risk communities by 2017

##### **Medium Priorities:**

- 50% of high-hazard states have K-12 curriculum or guidelines by 2017
- Create regional TsunamiReady advisory groups by 2017
- National Tsunami Preparedness Week annually
- Maintain/update products for tourist community
- Support maritime community stuff by 2017 (MMS)

- Update tsunami media tool kit annually
- Increase TR communities by 40 by 2017 (maintain existing communities)
- 50% of high hazard states/commonwealths/territories have tsunami workgroups by 2017

### **NOAA Tsunami Program Strategic Plan 2012-2021**

[http://nws.weather.gov/nthmp/Tsunami\\_Strategic\\_Plan.pdf](http://nws.weather.gov/nthmp/Tsunami_Strategic_Plan.pdf)

#### **Outcome 3:**

Resilient communities that are educated and prepared to take appropriate actions to protect the lives and property of residents and visitors.

Relevant strategies:

- Support NTHMP in improving community resilience
- Collaborate with NOAA coastal community hazard resilience and coastal zone management programs
- Update outreach materials to communicate a NOAA-wide program
- Implement improvements to tsunami preparedness and education efforts, including TsunamiReady
- Support a sustainable tsunami education effort for domestic and international partners and customers
- Support ITIC's ongoing U.S. and international tsunami training programs

#### **Other Drivers**

While these are the key drivers of this plan, other drivers were considered during the development of the 2011 plan, including [Tsunami Warning and Preparedness: An Assessment of the U.S. Tsunami Program and the Nation's Preparedness Efforts](#) from the National Research Council of the National Academies. This report recommended actions to increase the effectiveness of tsunami education. As noted in the [response to the report](#), NOAA agreed with the recommendations and considers them complete. Nevertheless, some of the recommendations still apply for ongoing and future education and outreach efforts. Other drivers of the 2011 plan included the Tsunami Warning and Education Act, Government Accountability Office reports, the National Tsunami Research Plan, and the Strategic Implementation Plan for Tsunami Mitigation Projects (1998) and thus can also be considered drivers of this plan. For more information, see the [National Tsunami Education Plan Drivers](#).