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Operations and Services
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THE TSUNAMI READY® RECOGNITION PROGRAM

NOTICE: This publication is available at: http://www.nws.noaa.gov/directives/.

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SUMMARY OF REVISIONS: This supersedes NWS Instruction 10-704, The Tsunami Ready®
Recognition Program, dated August 15, 2014. Changes were made to incorporate revised
TsunamiReady Guidelines.

1. Updated all references to former Office of Climate, Water, and Weather Services
    (OCWWS). Changed to Analyze, Forecast, and Support Office (AFSO).
2. Removed references to the National Incident Management System (NIMS) and replaced
    with more commonly-understood phases of emergency management.
3. More thoroughly explained roles of National, Regional, and State/Territory
    TsunamiReady Boards.
4. Incorporated revised and updated TsunamiReady Guidelines -- Fundamental.
5. Described transition process from 2001 TsunamiReady Guidelines to 2015
    TsunamiReady Guidelines (i.e., "Grandfathering")
6. Updated references throughout to reflect content of new TsunamiReady Guidelines.
7. Added a section on recommended TsunamiReady Guidelines for Tier Two recognition.
8. The TsunamiReady word mark is a registered trademark (®). This mark occurs in the
    first reference, but no others for consistency with style usage indicated by U.S. Patent and
    Trademark Office (USPTO).

/Signed/   4/12/2016

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Andrew Stern   Date
Director, Analyze, Forecast, and Support Office

The TsunamiReady® Recognition Program

1   The TsunamiReady Program Objective

Tsunami tragedies have reminded the world of the socioeconomic impacts this hazard can inflict. Major tsunami events include: the Indian Ocean tsunami in December 2004, Samoa in September 2009, Chile in February 2010 and the Japan disaster in March 2011. Similar tsunami hazards exist for many U.S. coastlines. It is not a question of "if" a tsunami will occur in the United States, but "when." Understanding the risk, exercising an effective response plan, and educating residents and tourists will be coastal America's best chance for minimizing the impacts of our next major tsunami.

TsunamiReady (www.tsunamiready.noaa.gov) is a voluntary program that promotes tsunami hazard preparedness as an active collaboration among federal, tribal, state/territory and local emergency management agencies, community leaders, the public, and the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS). This collaboration supports more effective and consistent tsunami awareness and mitigation efforts among communities at risk. The main goal of TsunamiReady is to improve public safety during tsunami emergencies so that the public knows how to recognize the natural warning signs of a tsunami, such as a long duration earthquake, and understands the importance of moving inland and to a safe location immediately. It can also mean that when a tsunami warning is issued, the public receives the warning, knows what to do about it and takes appropriate action.

TsunamiReady is administered by the NWS with collaboration, coordination, and feedback from the United States Geological Survey (USGS), the Federal Emergency Management Agency (FEMA), and the 28 U.S. coastal states, territories and commonwealths represented in the National Tsunami Hazard Mitigation Program (NTHMP). Since the program's inception in 2000 and as of April, 2016, over 192 jurisdictions (counties, communities, universities, Indian nations and military installations) have been recognized as TsunamiReady. An effective TsunamiReady program is essential for NWS to fulfill its mission of protecting life and property, and enhancing our Nation's economy.

By participating in TsunamiReady, emergency managers can earn recognition for their jurisdiction by meeting the NWS guidelines. The TsunamiReady program is intended to:

- Increase public safety through improved timeliness, dissemination and more effective communication of tsunami warnings.
- Improve public response to official tsunami warnings.
- Improve public response to natural tsunami warnings, such as felt earthquakes.
- Provide detailed and clear recommendations emergency managers may use to establish or improve tsunami planning, operations, and public response.
- Empower the public to make better decisions before and during tsunamis through community preparedness.

TsunamiReady jurisdictions have made a strong commitment to implement the infrastructure and systems needed to save lives and protect property when tsunamis strike.

NOTE: Implied or explicit references to "guidelines" or "requirements" are made only with regard to the voluntary participants in the TsunamiReady program and should not be construed as being state, tribal or federal mandates.

1.1   TsunamiReady Program Definitions

24-Hour Warning Point (WP): A communication facility at a state or local level, operating 24 hours a day, which has the capability to receive NWS alerts and warnings, plus has the authority and ability to activate the public warning systems in its area of responsibility.

Note: For jurisdictions without a local communication/Dispatch Center that can serve as a 24-hour WP, another jurisdiction (e.g., county, adjacent community or municipality, state, etc.) may act in that capacity for the jurisdiction. This scenario is most likely in smaller jurisdictions (e.g., in Alaska and the U.S. territories) with less than 5,000 residents. This type of working arrangement should be addressed in both jurisdictions' plans and operational protocols. Such an arrangement might also require a standing mutual aid agreement through a memorandum of understanding (MoU) or some other formal means. The smaller jurisdiction should designate responsible officials who are able to receive warnings 24/7 from their surrogate 24-hour WP. NWS recommends the smaller jurisdiction designate several primary and backup points of contact as the responsible officials. These responsible officials should have the authority and ability to activate the public warning system in their jurisdiction in a timely manner. It is also recommended that the responsible officials in the smaller jurisdiction have a 24/7 redundant means to receive alerts, such as NOAA Weather Radio All Hazards, InteractiveNWS, and related services provided by AWCI (see section 1.3).

Communications/Dispatch Center: Agency or interagency dispatch centers, 911 call centers, emergency control or command dispatch centers, or other facility and staff who handle emergency calls from the public and communication with emergency management/response personnel. This center may act as a 24-hour warning point.

Critical Facilities: A critical facility provides services and functions essential to a community, especially during and after a tsunami. Examples of critical facilities requiring special consideration include:

- Police stations, fire stations, critical vehicle and equipment storage facilities, and emergency operations centers needed for tsunami response activities before, during, and after a tsunami.
- Medical facilities, including hospitals, nursing homes, blood banks, and health care facilities (including those storing vital medical records) likely to have occupants who may not be sufficiently mobile to avoid injury or death during a tsunami.
- Schools and day care centers, especially if designated as shelters or evacuation centers
- Power generating stations and other public and private utility facilities vital to maintaining or restoring normal services to tsunami-hit areas.

- Drinking water and wastewater treatment plants.
- Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic, and/or water-reactive materials.

Distant Tsunami: (Also referred to as a teletsunami). A tsunami originating from a faraway source, generally more than 1,000 km/621 miles or 3 or more hours tsunami travel time from its source to the area impacted. What may be a distant tsunami in one location can be a local tsunami for another location. A distant tsunami may also be referred to as a "far-field" tsunami hazard. The most common distant threats are from dangerous and unpredictable currents resulting in possible significant harbor and shoreline damage.

Emergency Operations Center (EOC): The physical location at which the coordination of information and resources to support incident management (on-scene operations) activities normally takes place. An EOC may be a temporary facility, a permanently established facility or located at a higher level of organization within a jurisdiction. EOCs may be organized by major functional disciplines (e.g., fire, law enforcement, medical services), by jurisdiction (e.g., federal, state, regional, tribal, city, municipality, county), or by some combination thereof.

Emergency Operations Plan (EOP): A document maintained by various jurisdictional levels setting procedures for responding to a wide variety of potential hazards. It should include the following:

a) Describe how people and property will be protected.
b) Detail who is responsible for carrying out specific actions.
c) Identify the personnel, equipment, facilities, supplies, and other resources available.
d) Outline how all actions will be coordinated.

Emergency Management/Response Personnel: Includes federal, state, Territory, tribal, sub-state regional, and local governments, non-governmental organizations (NGOs), private sector organizations, critical infrastructure owners and operators, and all other organizations and individuals who assume an emergency management role.

Incident: An occurrence, natural or manmade, that requires a response to protect life or property. Incidents can, for example, include major disasters, emergencies, terrorist attacks, terrorist threats, civil unrest, wildland and urban fires, floods, hazardous materials spills, nuclear accidents, aircraft accidents, earthquakes, hurricanes, tornadoes, tropical storms, tsunamis, war-related disasters, public health and medical emergencies, and other occurrences requiring an emergency response.

Integrated Warning Team (IWT): A local or state level team that consists of emergency management, America's Weather and Climate Industry (typically the broadcast media), and the NWS, that shares the common goal and responsibility of improving the warning system and reducing fatalities, injuries and property damage due to natural hazards.

Inundation: The horizontal distance inland that a tsunami penetrates, generally measured perpendicularly to the shoreline.

Local Tsunami: A tsunami generated from a nearby source with less than 1 hour tsunami travel time from its source to the area impacted. What may be a local tsunami in one location, can be a regional or distant tsunami for another location. A local tsunami may also be referred to as a "near-field" tsunami hazard. A local tsunami includes tsunamigenic influences due to tectonics in the source zone such as uplift, subsidence, landslides, and strong shaking. It is the focus of major destruction.

Meteotsunami: Meteotsunamis have the characteristics similar to earthquake-generated tsunamis, but are caused by air pressure disturbances often associated with fast moving weather systems, such as squall lines. These disturbances can generate waves in the ocean that travel at the same speed as the overhead weather system. A meteotsunami affects the entire water column and can become dangerous when it hits shallow water, which causes it to slow down and increase in height and intensity. Even greater magnification can occur in semi-enclosed water bodies like harbors, inlets, and bays.

Regional Tsunami: A tsunami generated from a regional source, generally between 100 km/62 miles and 1,000 km/621 miles away or between 1 and 3 hours tsunami travel time from its source to the area impacted. What may be a regional tsunami in one location can be a local tsunami for another location. Regional tsunamis also occasionally have very limited and localized effects outside the region. In comparison with a local tsunami, it gives a little more time for authorities to respond than the case of local earthquakes.

Tsunami: A tsunami is a series of waves that can cause dangerous fluctuations of water along shorelines, and are generated by earthquakes, volcanic eruptions, or landslides that cause a large scale and rapid displacement of the water. Tsunamis can last minutes, hours, or even days. Tsunami is a Japanese word meaning harbor wave. Tsunamis are often incorrectly called tidal waves; they have no relation to the daily ocean tides. (See also: Distant Tsunami, Local Tsunami, and Regional Tsunami.)

Tsunami Evacuation Map: A graphical representation of coastal areas that outlines the hazard zones and designates limits beyond which people must be evacuated to avoid harm from tsunami waves. Evacuation routes and assembly areas are generally designated to ensure efficient movement of people out of the evacuation area and to areas of safety. Tsunami evacuation maps should be based on tsunami inundation model outputs or the best available science.

Tsunami Evacuation Zone: Evacuation zones are much larger in surface area than hazard zones. There is a margin of error in estimation of the hazard zone. Some areas may not be flooded by tsunami activity but those areas may be isolated by flood waters. This essentially cuts these areas off from other areas. As such, people in those areas are requested to evacuate to prevent them from requiring rescue by first responders.

Tsunami Hazard Zone: The area expected to be flooded or inundated by water in coastal areas. Hazard is synonymous with inundation in this sense, even though there are instances where simple inundation (flooding) may not necessarily be hazardous.

TsunamiReady Community: An Indian tribal government*, local government† entity or facility‡ that has the authority and ability to adopt the TsunamiReady recognition guidelines within its jurisdiction.

> ***The term "Indian tribal government" means** the governing body of any Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe under the Federally Recognized Indian Tribe List Act of 1994 *(25 U.S.C. 479a et seq.) Sec: Stafford Act, 42 U.S.C. 5121 et seq.; section 5122(6).*

> **†The term "local government" means –**
> a) A county, parish, borough, municipality (municipio – Puerto Rico), city, town, township, local public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under state law), regional or interstate government entity, or agency or instrumentality of a local government.
>
> b) An Indian tribe or authorized tribal organization, or Alaska Native village or organization that is not an Indian tribal government.
>
> c) A rural community, unincorporated town or village, or other public entity, for which an application for assistance is made by a state or political subdivision of a state.
> *See Stafford Act, 42 U.S.C. 5121 et seq.; section 5122 (8)*

> **‡The term "facility" for a TsunamiReady community includes but is not limited to:** universities, colleges, military installations, state/national parks, power plants/utilities, major transportation centers (i.e., airports, harbors, ports, railroad stations and other large transit complexes), theme parks/entertainment complexes, corporate business complexes, factories and large event venues (i.e., stadiums, arenas, race tracks, convention centers and other venues that temporarily host large gatherings of people).

TsunamiReady Supporter: An organization, business, facility, or local government entity that has authority to adopt the TsunamiReady recognition guidelines within its purview, actively promotes the principals of TsunamiReady, but does not have the ability to meet all of the recognition guidelines.

Some examples of potential TsunamiReady Supporters might include, but are not limited to: businesses, churches, hospitals, shopping centers, malls, utilities, museums, aquariums, villages, small communities, individual schools, and broadcasters/broadcast stations.

TsunamiReady Supporter participation and eligibility is based on the determinations (e.g., by-laws, charters, agreements, implementation plans) of the local or state TsunamiReady Boards. An entity applying for TsunamiReady Supporter status should also receive endorsement from local emergency management within the applying entity's county, parish, or municipio jurisdiction.

TsunamiReady Sites: A generic term used to collectively identify all categories of TsunamiReady communities but not Supporter entities.

Tsunami Source: Point or area of tsunami origin, usually the site of an earthquake, volcanic eruption, or landslide that caused a large scale and rapid displacement of the water resulting in a tsunami. A comet or meteorite impacting the ocean may also be considered a tsunami source.

Tsunami Warning Center: Facilities operated by the National Weather Service that have responsibility to detect, forecast, and issue tsunami alerts. The National Tsunami Warning Center (NTWC) is based in Palmer, Alaska, and the Pacific Tsunami Warning Center is based in Honolulu, Hawaii. More information about each tsunami warning center's area of responsibility (AOR) can be found on tsunami.gov.

1.2   TsunamiReady Recognition Guidelines

The TsunamiReady recognition guidelines have been modified to better align with the generally understood "phases of emergency management" (preparedness, mitigation, response, and recovery). The goal of this emergency management-TsunamiReady integration is to enhance collaboration between emergency managers and the NWS by creating more consistency in terminology, standards, and consistency. The TsunamiReady guidelines best align with three of the four emergency management phases:

1. **Mitigation**: Includes any activities that prevent an emergency, reduce the chance of an emergency happening, or reduce the damaging effects of unavoidable emergencies.
2. **Preparedness:** Involves an integrated combination of assessment, planning, procedures and protocols, training and exercises, personnel qualifications, licensure, certification, evaluation, and revision.
3. **Response**: Includes actions taken to save lives and prevent further property damage in an emergency situation.
4. **Recovery**: A process that involves decisions and actions relative to rebuilding homes, replacing property, resuming employment, restoring businesses, and permanently repairing and rebuilding infrastructure. The recovery process requires balancing the more immediate need to return the community to normalcy with the longer-term goal of reducing future vulnerability. [Reference: Federal Emergency Management Agency, *National Incident Management System*, June 2015.]

TsunamiReady guidelines include:

- Producing and disseminating easily understood tsunami hazard zones and evacuation maps.
- Supporting an ongoing, sustained tsunami education effort for the community and for public schools in the inundation zone.
- Conducting drills and exercises that include tsunami.
- Coordination and incorporation of the tsunami hazard with existing community mitigation plans and emergency operations plan.
- Having redundant and reliable means of receiving and disseminating tsunami alerts.

1.3   America's Weather and Climate Industry

America's Weather and Climate Industry (AWCI) is a key partner in helping the NWS fulfill its mission. AWCI includes all elements of the private sector (including media, consultants, equipment providers, etc.) that provide services to the public in the areas of climate, water, and weather. TsunamiReady guidelines may be satisfied by incorporating products, data, and services provided by AWCI.

2   Authorities and Responsibilities

2.1   Weather Forecast Offices

It is the responsibility of each Weather Forecast Office's (WFO) Warning Coordination Meteorologist (WCM) or designee, as overseen by the Meteorologist-in-Charge (MIC), to implement and manage the TsunamiReady Program within his or her county warning and forecast area (CWFA). This includes the following:

- Works with interested emergency managers by:
  - Assisting with application process.
  - Archiving TsunamiReady applications.
  - Arranging for optional recognition ceremonies.
  - Planning for and following up on renewal process.
  - Working with, where applicable, the Local, State and/or Regional TsunamiReady Boards.
  - Arranging for, when appropriate, TsunamiReady Awards (see sections 6.2 and 6.3).
- Coordinates TsunamiReady activities with state National Tsunami Hazard Mitigation Program (NTHMP) representatives and TsunamiReady Program Managers in NWS regions.
- Reviews all TsunamiReady applications, verifies the information, and coordinates their approval with the State/Territory Tsunami Steering Committee or TsunamiReady Board.
- Coordinates the prioritization of TsunamiReady applicants with the State/Territory Tsunami Steering Committee or Regional TsunamiReady Board based on available

resources. The National TsunamiReady Board recommends the following prioritization:

- County, borough, municipio, or parish recognitions.
- Other full TsunamiReady recognitions.
- TsunamiReady Supporters.

- Coordinates news releases with NOAA Public Affairs and Regional TsunamiReady Program Manager.
- Adds recognitions to the NWS Headquarters Analyze, Forecast, and Support Office TsunamiReady/StormReady database.
- Mentors and trains WFO staff in the TsunamiReady Program.
- Promotes the TsunamiReady Program.
- Implements service improvements to the TsunamiReady Program.
- Coordinates TsunamiReady Award nominations with the State/Territory Tsunami Steering Committee or Regional TsunamiReady Board.
- Reports TsunamiReady activities (e.g., meetings with emergency managers, hazards preparedness education in communities, verification visits, ceremonies) through the NWS Outreach and Education Event System as per NWS Instruction 10-1804.
- Administers other aspects of the program as necessary.

WCMs or designees are required to inform TsunamiReady and TsunamiReady Supporter applicants who represent large event venues of information regarding NWS support of special events and the role of AWCI in providing tsunami and weather information. For more information, please reference:

- NWSI 10-1806 *NWS Support for Special Events*
- www.stormready.noaa.gov/resources/specialevents.pdf

WCMs or designees should also inform applicants that TsunamiReady guidelines may be satisfied by incorporating data/services provided by AWCI.

2.2   Tsunami Warning Centers

It is the responsibility of the Director of each Tsunami Warning Center to support the TsunamiReady program within his or her area of responsibility. This includes, but is not limited to, the following:

- Serving as NWS tsunami science and technical experts.
- Working with state/territory and local emergency officials on TsunamiReady recognitions and coordinating those activities with the National TsunamiReady Program Manager, Regional TsunamiReady Program Managers, local WCMs and NTHMP partners.
- Conducting regular dissemination tests and assisting with exercises to ensure proper and efficient tsunami warning delivery.
- Providing tsunami science and warning system training.
- Participating in outreach activities to improve tsunami hazard awareness and education.

- Reporting TsunamiReady activities through the NWS Outreach and Education Event System as per NWSI 10-1804.

2.3   Regional headquarters

The Regional Director is the first-line supervisor of the Tsunami Warning Centers, the Caribbean Tsunami Warning Program and the International Tsunami Information Center, and assigns TsunamiReady Program responsibilities for the region. It is the responsibility of the designated Regional TsunamiReady Program Manager, typically the Regional WCM, to manage the TsunamiReady Program on a regional basis. This includes the following:

- Coordinating TsunamiReady programmatic, budgetary, and policy issues with NWS Headquarters (NWSH) on behalf of the region's WFOs.
- Representing the region and participates on the NTHMP's Mitigation and Education Subcommittee (MES).
- Directing and overseeing service improvements to the TsunamiReady Program.
- Managing the regional budget and other resources for the TsunamiReady Program.
- Coordinating news releases with NOAA Public Affairs.
- Promoting the TsunamiReady Program.
- Coordinating TsunamiReady Award nominations between State/Territory Tsunami Steering Committee or TsunamiReady Boards and the National TsunamiReady Program Manager.
- When applicable, convening and facilitating a Regional TsunamiReady Board.
- Reporting TsunamiReady activities through the NWS Outreach and Education Event System as per NWSI 10-1804.
- Developing and maintaining regional supplements to this national directive, as necessary.

2.4   NWS Headquarters - Analyze, Forecast, and Support Office

The NWS Headquarters AFSO is responsible for a variety of activities supporting the TsunamiReady Program. Within AFSO is the Marine, Tropical, and Tsunami Services Branch (MTTS), which includes the Tsunami Program.

2.4.1   AFSO Tsunami Program

It is the responsibility of the Tsunami Program Manager or designee to manage the TsunamiReady program on a national basis. The Tsunami Program Manager will designate the National TsunamiReady Program Manager.

The responsibilities of the National TsunamiReady Program Manager include the following:

- Facilitates and leads the National TsunamiReady Board (see section 2.9.1).
- Administers the TsunamiReady Program in collaboration with NTHMP partners including maintaining the listing of TsunamiReady target/tsunami at-risk jurisdictions.

- Coordinates TsunamiReady programmatic, budgetary and policy issues within NWSH on behalf of the NWS Regional Headquarters, local WCMs and TWCs.
- Represents the TsunamiReady Program on the NTHMP MES.
- Directs and oversees service improvements to the TsunamiReady Program.
- Manages resources for the TsunamiReady Program.
- Recommends procurement of and manages national resources such as TsunamiReady recognition signs, stickers, brochures and other tools.
- Coordinates news releases with NOAA Public Affairs.
- Works with the National WCM to oversee the national TsunamiReady/StormReady database.
- Maintains the National TsunamiReady website.
- Promotes the TsunamiReady program.
- Coordinates TsunamiReady Award nominations with the NTHMP MES and NWS WCMs.
- Reports TsunamiReady activities through the NWS Outreach and Education Event System as per NWSI 10-1804.
- Develops and maintains memorandums of understanding or memorandums of agreement with national partners, as necessary.

2.5 International Tsunami Information Center

It is the responsibility of the International Tsunami Information Center's (ITIC) Director or designee to support the TsunamiReady program as needed. This includes the following:

- Serving as NWS tsunami science and technical expert.
- Working with state/territory and local emergency officials in Hawaii, American Samoa, Commonwealth of Northern Mariana Islands (CNMI), and Guam on TsunamiReady recognitions and coordinating those activities with the National TsunamiReady Program Manager, Regional TsunamiReady Program Managers, local WCMs, TWCs and NTHMP partners.
- Assisting with regular dissemination tests and exercises to ensure proper and efficient tsunami warning delivery.
- Participating on the NTHMP's Mitigation and Education Subcommittee.
- Providing tsunami science and warning system training.
- Reporting TsunamiReady activities through the NWS Outreach and Education Event System as per NWSI 10-1804.
- Participating in outreach activities to improve tsunami hazard awareness and education.
- Socializing the U.S. TsunamiReady experience and address international interests in the program.

2.6   Caribbean Tsunami Warning Program

The Caribbean Tsunami Warning Program (CTWP) is a NWS office in Puerto Rico co-located with the Puerto Rico Seismic Network at the University of Puerto Rico at Mayaguez. This office reports to and is managed by the NWS Southern Region Headquarters. It is the responsibility of the CTWP Director or designee to support the TsunamiReady program as needed. This includes the following:

- Serving as NWS tsunami science and technical experts for U.S. interests in the Caribbean region.
- Working with commonwealth/territory and local emergency officials on TsunamiReady recognitions and coordinating those activities with the National TsunamiReady Program Manager, Regional TsunamiReady Program Managers, local WCMs and NTHMP partners.
- Serving as WCM designee as needed for support of TsunamiReady recognition activities.
- Participating in the Commonwealth/Territorial Tsunami Steering Committee or Regional TsunamiReady Board.
- Participating on the NTHMP's Mitigation and Education Subcommittee.
- Providing tsunami science and warning system training.
- Reporting TsunamiReady activities through the NWS Outreach and Education Event System as per NWSI 10-1804.
- Participating in outreach activities to improve tsunami hazard awareness and education.
- Socializing the U.S. TsunamiReady experience and address international interests in the program.

2.7   TsunamiReady Applicants

TsunamiReady applicants work with their local WCM/designee and/or state/territory NTHMP representative throughout the TsunamiReady recognition process. This includes:

- Completing the application.
- Working with the local WCM/designee on the verification of the application (section 3.2.1 below).
- Coordinating information for the optional recognition news release and ceremony.
- Maintaining or improving on the site's compliance with TsunamiReady guidelines throughout the valid period of the TsunamiReady recognition.
- Apprising the local WCM/designee about candidates for TsunamiReady Awards.
- Working with the local WCM/designee on renewal of the recognition.

2.8   National Tsunami Hazard Mitigation Program

Formed in 1995 and codified into Public Law in 2007 (P.L. 109-479, Title VIII), by Congressional action, the NTHMP is the nation's community-focused program to improve tsunami mitigation and preparedness of at-risk coastal areas within the United States and its territories. The NTHMP includes all 28 U.S. coastal states, territories and commonwealths, the USGS, FEMA and NOAA. Typically the state/territory NTHMP representatives work for the state/territory emergency management and geologic agencies' earthquake and tsunami programs. The NTHMP provides recommendations to the NWS on how to improve the TsunamiReady program, particularly on ways to make communities more tsunami resilient through the use of inundation maps and other mitigation practices. In coordination with the local WCMs/designees, state/territory NTHMP representatives lead State/Territory Tsunami Steering Committees and the implementation of TsunamiReady with their coastal communities. The NTHMP shall appoint two representatives to serve on the National TsunamiReady Board.   (See section 2.9.1).

2.8.1   NTHMP Mitigation and Education Subcommittee

Oversight and administration of the TsunamiReady program is a responsibility of the NWS through collaboration and coordination with the NTHMP's Mitigation & Education Subcommittee (MES). The NTHMP MES may provide recommendations to the NWS regarding the consistent application of "recognition" guidelines nationwide. The NTHMP MES may review existing and proposed guidelines and provide recommendations to the NWS. It may address TsunamiReady challenges, suggest projects, publish guidance, and help prioritize future goals for the program. The NTHMP MES, in collaboration with NWS Regions and WFOs, may provide changes to the listing of NTHMP MES identified TsunamiReady target/tsunami at-risk jurisdictions. Major issues that arise with TsunamiReady may be elevated by the NTHMP MES co-chairs to the NTHMP's Coordinating Committee for subsequent review and final determination by the NWS TsunamiReady Program Manager.

2.9   TsunamiReady Boards or Steering Committees

2.9.1   National TsunamiReady Board

The National TsunamiReady Board is responsible for general oversight of the TsunamiReady Program. The National Board maintains a minimum set of guidelines that are consistent across the country. The Board reviews existing and proposed changes to the TsunamiReady Guidelines and publishes updated guidelines as needed.

The duties of the National TsunamiReady Board include:
- Developing, reviewing, and approving national TsunamiReady Guidelines.
- Interprets the TsunamiReady Guidelines and provides clarification and allowances for regional variances as necessary.
- Developing, reviewing, and approving TsunamiReady and TsunamiReady Supporter application forms.

- Resolving disputes brought to its attention by Regional or State/Territory Boards if the Region does not or is unable to resolve.
- Reviewing nominations for TsunamiReady Hero or TsunamiReady Champion Awards (see sections 6.2 and 6.3).
- Reviewing materials that support TsunamiReady implementation consistently nationwide. These materials may include training products, toolkits, web-based products, and the national TsunamiReady website.
- Providing advice, guidance, and support to Regional TsunamiReady Boards and State/Territory Boards or Steering Committees.
- Developing metrics to measure TsunamiReady implementation and success.

The National TsunamiReady Board is led and its meetings are facilitated by the National TsunamiReady Program Manager.

Membership on the National TsunamiReady Board includes:

- One representative from each of these NWS Regions: Alaska Region, Pacific Region, Western Region, Southern Region, and Eastern Region.
- Two emergency management representatives designated by the NTHMP's Mitigation and Education Subcommittee.
- Additional representatives or invited guests at the discretion of the National TsunamiReady Program Manager.

2.9.2   State/Territory Tsunami Steering Committees

The TsunamiReady Program on the state/territory level may also be collaboratively administered through State/Territory Tsunami Steering Committees or Working Groups. These committees provide a forum for the state/territory tsunami program/NTHMP representatives to coordinate with their coastal jurisdictions, state and federal agencies and other stakeholders. Many of the improvements to the TsunamiReady Program through the years have been through the grass roots collaborations of these committees. In some instances these tsunami steering committees help facilitate TsunamiReady implementation in their state/territory. Since TsunamiReady is a partnership with emergency managers and other public safety officials, it is ideal to have their participation in the administration of the program. The longstanding success of TsunamiReady has proven this approach effective.

2.9.3   Local, State, Territory and Regional TsunamiReady Boards

TsunamiReady Boards may be formed at the local, state, territory or regional level. At a minimum, TsunamiReady Boards have representatives from the NWS and emergency management agencies. TsunamiReady Boards can supplement TsunamiReady guidance to fit local and state/territory situations. Examples may include an enhanced set of guidance for schools, universities, large event venues, etc. The TsunamiReady branding will remain intact when implementing such efforts. Similarly, the TsunamiReady administration and application

forms may not be altered. NWS recommends enhanced TsunamiReady or TsunamiReady Supporter guidance be implemented through a toolkit, check list and/or other guidance maintained by the respective TsunamiReady Board and promoted through the national TsunamiReady website. WCMs/designees and emergency managers should use these resources to enhance the standard national TsunamiReady guidelines when pursuing their TsunamiReady or TsunamiReady Supporter recognitions.

TsunamiReady Boards may oversee all steps leading to a jurisdiction's TsunamiReady recognition. This may include:

- Determining and documenting the Board's activities.
- Providing incentives as may be available.
- Promoting mitigation and preparedness best practices.
- Implementing procedures for application review.
- Coordinating ceremonies and awards.
- Resolving specific issues.
- Coordinating recommendations for change to the national guidelines, programmatic issues and nominations for awards with the NTHMP MES.

3   TsunamiReady Application Process

The application for TsunamiReady recognition is a formal process requiring the following:

- Emergency Manager submitting an application form.
- Local WCM/designee verifying the information.
- State/Territory Tsunami Steering Committee or a TsunamiReady Board reviewing the information.
- WCM/designee providing formal notification of site recognition.

TsunamiReady application forms are cleared through the White House's Office of Management and Budget and will not be modified. TsunamiReady application forms are available on the NWS TsunamiReady website at: http://www.tsunamiready.noaa.gov

3.1   Application Submission

TsunamiReady and TsunamiReady Supporter applications (available from: http://www.tsunamiready.noaa.gov/) should be sent to the local WCM/designee. If a hard copy is utilized, it should be scanned into an electronic format by the WCM/designee and stored locally. While much of the application is a basic accounting of technology, a brief narrative describing preparedness and planning activities is necessary and will help assess how tsunamis are addressed in the emergency operations plan, exercises, and public safety programs.

Note: Communities that apply for TsunamiReady recognition may also satisfy many of the requirements for becoming StormReady, and are therefore strongly encouraged to jointly apply for StormReady recognition as well. More information about the NWS StormReady Program is here: http://www.stormready.noaa.gov/.

Some applicants may have jurisdiction over a community and surrounding unincorporated areas. In these cases, a single application is sufficient, with the combined populations used to determine the appropriate guideline categories. If a community earns TsunamiReady recognition, the unincorporated communities will be included in the recognition, but are not individually recognized. The State/Territory Tsunami Steering Committee or TsunamiReady Board coordinates how unique TsunamiReady recognitions are implemented.

3.2   Application Review

The local WCM/designee reviews all TsunamiReady and TsunamiReady Supporter applications for the office's area of responsibility. The WCM/designee verifies the information with the applicant. For TsunamiReady Recognition applicants, the WCM/designee then coordinates the approval with the State/Territory Tsunami Steering Committee or TsunamiReady Board. For TsunamiReady Supporter applicants, the local WCM/designee may immediately approve the application. In either case, if an application indicates the guidelines are not met, the WCM/designee notifies the applicant about changes needed to meet the guidelines. After these changes are made, the applicant should submit an updated application for additional review by the local WCM/designee.

The State/Territory Tsunami Steering Committee or TsunamiReady Board may review a jurisdiction's TsunamiReady application and discuss the verification of the information with the local WCM/designee. The State/Territory Tsunami Steering Committee or TsunamiReady Board may approve an application for recognition after this first review.

If the recognition is not approved, the State/Territory Tsunami Steering Committee or TsunamiReady Board will list improvements needed for the community to achieve recognition. If a community disputes a decision made by the State/Territory Tsunami Steering Committee or TsunamiReady Board, the dispute is forwarded to the NWS Regional TsunamiReady Program Manager for resolution by the Region TsunamiReady Board, and if not resolved at that level or if there are questions in need of guidance, to the NWS National TsunamiReady Program Manager for review and final resolution by the National TsunamiReady Board.

3.2.1   Verification of Application Information

The local WCM/designee verifies application information with the applicant. Historically, this process included a site verification visit. Due to the travel costs, the growth of the TsunamiReady Program, and the emergence of effective web tools, the program now allows a virtual site verification visit. Tools such as video teleconference, Webinar, Go-To-Meeting, etc., may be used to verify an application's information. In extreme cases, for very remote communities, the verification may be accomplished via email and phone correspondence.*

In general, verification of an application by the WCM/designee includes the following:

- Verify WP and EOC equipment listed on application.
- Confirm suitable location and readiness of equipment.

- Review how tsunamis are addressed in the community's EOP including review of the following:
    – how the site identifies tsunamis and assesses risk;
    – how tsunami hazard zones are identified and what procedures exist to prevent people from entering those areas or to evacuate such areas when necessary;
    – if local and distant tsunami hazards are addressed, when applicable;
    – EOC activation criteria and deactivation procedures;
    – communication/Dispatch Center procedures relating to tsunamis;
    – criteria and procedures for activating the public warning system in its area of responsibility;
    – contact information for all jurisdictional agencies and response partners including the NWS; and
    – ability of the site to assess significant tsunami incidents through an After Action Review, or similar review, to identify lessons learned and best practices, and to evolve emergency response planning accordingly.
- Understand how tsunamis are addressed in the community's mitigation and preparedness program(s), including activities such as safety campaigns, public education projects and exercises.

*In instances where remote verification is necessary, at a minimum verify the following through documentation and photographic evidence provided by the applicant to the local WCM/designee:

- EOC/Warning Point facilities.
- Equipment used to receive and disseminate NWS warnings and information.
- Tsunami evacuation maps and route signage.
- EOP addressing tsunamis.
- Training and exercises.
- Community preparedness activities.

Ultimately, it is the responsibility of the local NWS office and its Regional Headquarters to ensure that the principles of TsunamiReady are being properly applied and the NWS mission is being served.

4   TsunamiReady Recognition Process

Once the TsunamiReady Site or TsunamiReady Supporter application is approved, the local WCM/designee enters the information in the national TsunamiReady/StormReady database. The applicant is notified through a formal recognition letter from the local Meteorologist-In-Charge (MIC) or WCM. A site is recognized for three years from the date the official letter of recognition. This date is the one the WCM/designee enters into the AFSO national TsunamiReady/StormReady database as the recognition date.

When the WCM/designee enters the new site into the database, the site has the option to request two TsunamiReady signs (Appendix B). Signs are only available through AFSO when funding is available for procurement. In addition the site will receive:

- A formal Certificate of Recognition.
- Authorization to use the TsunamiReady logo.
- Instructions for acquiring additional signs.
- Information concerning possible adjustment to insurance rates under the National Flood Insurance Program (section 6.1).

Recognition signs are suitable for display on or in buildings (e.g., courthouses, libraries, town halls, EOCs, etc.). Some communities have posted their signs along roadways; however, it is recommended that officials first consult county or state road departments regarding restrictions. TsunamiReady recognition signs are not approved by the Federal Highway Administration.

Once the site is approved, the local WCM/designee may work with the successful applicant on an optional news release and/or recognition ceremony. The community will also now be listed on the national TsunamiReady website.

4.1   TsunamiReady Recognition Ceremony

The local WCM/designee will coordinate details of any recognition announcement and/or ceremony with the successful applicant. A typical ceremony includes a formal media announcement and should be a combination of the following:

- Unveiling of the official TsunamiReady signs.
- Presentation of a Certificate of Recognition.
- Press conference.

The local WCM/designee should work with NOAA Public Affairs and the Regional TsunamiReady Program Manager to prepare the news release and coordinate ceremony activities. The NWS TsunamiReady website and the AFSO Integrated Database for Education and Awareness (password protected site available internally within NOAA/NWS) offer more information and examples of recognition materials.

4.2   TsunamiReady Recognition Monitoring

A formal plan to monitor a recognized jurisdiction is not necessary; however, if a formal concern is brought to the State/Territory Tsunami Steering Committee or TsunamiReady Board, it will review the issue and may suspend the recognition for 60 days while the review is conducted. If the State/Territory Tsunami Steering Committee or TsunamiReady Board's review indicates the community no longer meets TsunamiReady guidelines, and the discrepancy cannot be resolved within a reasonable amount of time, the local WCM/designee, State/Territory Tsunami Steering

Committee or TsunamiReady Board will revoke that jurisdiction's TsunamiReady Recognition status (see section 4.4).

4.3   Renewal of TsunamiReady Recognition

TsunamiReady recognition will be valid for 3 years from the date of the official letter of recognition. This date will be entered in the national TsunamiReady/StormReady database as the recognition date. Three months prior to the expiration of the recognition, the TsunamiReady/StormReady database automatically sends a renewal reminder to the local WCM/designee. Following the applicable guidelines published at the time of the notification, the local WCM/designee coordinates with the point of contact from the jurisdiction to verify the original application information is still in order. Once verified, the local WCM/designee notes this information in the WFO's records and updates the renewal date in the TsunamiReady database. The TsunamiReady recognition renewal is then valid for an additional 3 years, 6 total years, from the date of the official letter of recognition. The local WCM/designee then notifies the site's point of contact regarding the approval of the renewal.

After the initial 3-year renewal, the subsequent renewal will require the community to renew the full application process (Section 3). This process helps ensure required equipment is in place, contact information is accurate, and technological advances in communications and warning dissemination are applied and documented as needed. Additional renewals will repeat the interval outlined above: after nine years, a contact renewal, after 12 years, a full application review, etc.

If the anniversary date for a renewal passes, a community will not immediately lose its TsunamiReady status if it has communicated to the local WCM/designee it is ready and willing to accomplish the renewal. In these instances, the local WCM/designee should notify the National TsunamiReady Program Coordinator in AFSO for permission for a 3-month extension. A second 3-month extension may be granted in extreme cases. Once the renewal is completed, the local WCM/designee updates the TsunamiReady/StormReady database indicating the renewal. The anniversary date from the date of the official letter of recognition will not change and the jurisdiction will have 3 or 6 months less time before their next renewal. For example, if the initial renewal was May 5, 2016, and the site does not renew until July 21, 2016, the renewal date would be May 5, 2016. The same rule applies to sites that are proactive and renew early.

4.3.1   TsunamiReady Renewal – Transition from 2001 Guidelines to 2015 Guidelines ("Grandfathering")

4.3.1.1 Existing TsunamiReady Communities (Recognized before June 1, 2016)

- An existing TsunamiReady community retains the option to continue to use the 2001 TsunamiReady Guidelines (Option A) or employ the 2015 TsunamiReady Guidelines (Option B) when renewing their TsunamiReady recognition status.

Option A

If an existing TsunamiReady community was originally recognized under the 2001 guidelines and is renewing recognition on or after June 1, 2016, the community is encouraged to use the 2015 guidelines, but may use the 2001 guidelines for one renewal for a three-year period.

Option B

An existing TsunamiReady community that is using the 2001 TsunamiReady Guidelines and is in the process of its three-year renewal as of June 1, 2016, may receive a one-year extension to renew if the renewal will follow the 2015 TsunamiReady Guidelines. The one-year extension may be granted at the discretion of the local or state TsunamiReady Board provided there are reasonable circumstances justifying the decision.

- Subsequent renewals are required to meet the 2015 TsunamiReady Guidelines.

4.3.1.2 New TsunamiReady Communities (Recognized as of June 1, 2016 or later)

- A new community applying for TsunamiReady recognition on or after the date of this Instruction becoming effective are required to meet the 2015 TsunamiReady Guidelines.

- If an application for TsunamiReady recognition is in process before the effective date of this instruction, the applicant may continue to request recognition under the 2001 TsunamiReady Guidelines, or, at the applicant's option, choose to pursue recognition under the 2015 Guidelines.

- Subsequent renewals are required to meet the 2015 TsunamiReady Guidelines.

4.4   TsunamiReady Recognition Status Revocation

A jurisdiction will only lose its TsunamiReady status if it fails to renew its recognition as outlined above or a formal concern is brought to the State/Territory Tsunami Steering Committee or TsunamiReady Board and determined to be reasonable. The following actions will be taken:

- The local WCM/designee, State/Territory Tsunami Steering Committee or TsunamiReady Board will provide a written notification to the jurisdiction.
- A letter will also be sent to the National Flood Insurance Program informing them of this action.
- The local WCM/designee should also notify the WCM Program Coordinator in   AFSO and update the national TsunamiReady/StormReady database and website.
- The State/Territory Tsunami Steering Committee or TsunamiReady Board may request the TsunamiReady signs be removed.

5   TsunamiReady Supporter

Small coastal jurisdictions and non-government entities such as coastal community businesses and schools often establish tsunami safety plans and actively participate in and promote tsunami awareness activities. Many of these entities do not have the resources necessary to fulfill the eligibility requirements for TsunamiReady site recognition. An entity that promotes the principles and guidelines of the TsunamiReady Program but does not meet the guidelines for TsunamiReady Site recognition may be eligible to be designated as a TsunamiReady Supporter. TsunamiReady recognition of the county or community in which the entity resides is not a requirement to achieve the Supporter designation.

5.1   TsunamiReady Supporter Applications, Designations and Renewals

Entities interested in becoming a TsunamiReady Supporter should first check with their local WCM/designee to ensure that optional TsunamiReady Supporter designations are utilized based on the determinations of the State/Territory Tsunami Steering Committee or TsunamiReady Board. If the local WFO participates and supports the optional TsunamiReady Supporter Program, then entities should complete the Supporter application on the national TsunamiReady website and submit it to their local WCM/designee for review. The WCM/designee and/or State/Territory Tsunami Steering Committee or TsunamiReady Board verify the information with the applicant and may immediately approve the application. If an application indicates the guidelines are not met, the applicant will be notified about changes needed to meet the respective guidelines. After these changes are made, the applicant should submit an updated application for review by the local WCM/designee and/or State/Territory Tsunami Steering Committee or TsunamiReady Board.

A TsunamiReady Supporter receives a TsunamiReady Supporter Certificate dated and signed by the local WCM/MIC and/or State/Territory Tsunami Steering Committee or TsunamiReady Board. The date printed on the TsunamiReady Supporter Certificate will be considered the official date of the Supporter designation and is valid for up to five years (the State/Territory Tsunami Steering Committee or TsunamiReady Board may impose a shorter valid period based on their determinations). The local WCM/designee, in consultation with the local government emergency manager, may prepare an optional news release and/or ceremony. Upon request, the successful TsunamiReady Supporter applicant will receive the following:

- TsunamiReady Supporter certificate.
- Authorization to use the TsunamiReady logo.
- Listing on the national TsunamiReady website.

Once approved, the local WCM/designee notes the site in her/his WFO's records and enters the Supporter into the national TsunamiReady/StormReady database in the "Add TsunamiReady Supporter" category.

Three months prior to the expiration of the Supporter recognition, the national TsunamiReady/StormReady database sends an automated email to the local WCM/designee. Following the applicable Supporter guidelines, the local WCM/designee coordinates with the point of contact from the Supporter entity to verify the original application is in order. Once verified, the local WCM/designee notes this in the WFO's records and updates the TsunamiReady/StormReady database. The local WCM/designee then notifies the point of contact from the jurisdiction for their records. If the local WCM/designee is unable to verify the Supporter's renewal or if the Supporter entity no longer wishes to participate, the local WCM/designee will delete the site from the national TsunamiReady database.

6   TsunamiReady Incentives

TsunamiReady communities are better prepared to save lives from tsunamis through advanced planning, education, and awareness. Some incentives for participation in TsunamiReady include:

- improving coordination and timeliness of tsunami warning dissemination, reception and response;
- strengthening the working relationship between emergency managers and the NWS;
- providing a means for acquiring up to 30 Insurance Services Office/Community Rating System points to possibly lower National Flood Insurance Program premiums;
- helping emergency managers justify costs and purchases related to their tsunami preparedness programs;
- rewarding local tsunami mitigation programs that have achieved a desired performance level;
- improving community image;
- recognizing emergency managers for their hard work helping their communities reduce vulnerability to hazards and cope with disasters; and
- encouraging better tsunami preparedness programs in surrounding jurisdictions.

6.1   National Flood Insurance Program

FEMA's National Flood Insurance Program (NFIP) offers flood insurance in communities that comply with minimum standards for floodplain management. The NFIP's Community Rating System (CRS) recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Flood insurance premiums are discounted in CRS communities to reflect the reduced flood risk resulting from community actions.

The CRS assigns credit points for a range of activities, which correlate to the level of discount provided. Credit points are available to TsunamiReady Communities that also meet basic prerequisites. Credit points are also available for community preparedness outreach and education on tsunamis and other tsunami-specific activities.

To learn more, see "Flood Warning and Response Activities" and "Outreach Projects" in the 2013 CRS Coordinator's Manual and Tsunami Hazards: A Special Flood-Related Hazards

Supplement to the CRS Coordinator's Manual (2013), which provides an overview of credit points available for tsunami management measures.

6.2   TsunamiReady Hero Award

The TsunamiReady Hero Award is a special national level recognition that may be presented by senior NWS officials to an individual(s) within a jurisdiction recognized as TsunamiReady. The award formally recognizes individuals within a TsunamiReady community in which lives have been saved as a direct result of those individuals' proactive actions, personifying the NWS TsunamiReady Program. TsunamiReady Hero Award guidelines are as follows:

- Award consideration will take place on a case-by-case basis.
- The award may be given to a single individual or to several public safety officials within a community.
- The impacted community has successfully implemented the TsunamiReady Program and is recognized as TsunamiReady before the tsunami event occurs.
- Lives were saved as a result of the successful application of the Integrated Warning Team:
    - detection of the tsunami hazard;
    - reception of the warning from NWS;
    - dissemination of the tsunami warning by emergency management officials to the at-risk community; and
    - response/protective actions taken by the at-risk population.
- There is clear and unambiguous evidence of proactive actions, *beyond the nominee's normal duties*, resulting in lives saved in the impacted community.

A community may still be eligible for the award even if there was loss of life as long as there were lives saved as a direct result of the TsunamiReady Program.

6.2.1   TsunamiReady Hero Award Protocol

A TsunamiReady Hero Award is nominated at the local level, either by an emergency manager or the local MIC/WCM. Typically the local WCM/designee prepares the nomination based on the award guidelines in Section 6.2 within 1 month of the event. The nomination is then forwarded to the State/Territory Tsunami Steering Committee or National TsunamiReady Board for its approval. Once cleared, the Regional TsunamiReady Program Manager shares the nomination with the National TsunamiReady Program Manager. The nomination is then shared with the members of the National TsunamiReady Board who formally vote on the nomination. A majority vote is needed by the National TsunamiReady Board for approval. The National TsunamiReady Program Manager then communicates the decision of the NTHMP MES to all parties. If approved, depending on available funding, a high profile media event will be scheduled for the awawrd presentation ceremony as follows:

- The ceremony should be arranged with collaboration among the following:

- NWS/NOAA Public Affairs;
- Regional TsunamiReady Program Manager;
- National TsunamiReady Program Manager;
- Local WCM/MIC;
- State/Territory Tsunami Steering Committee or TsunamiReady Board members; and
- Sponsoring community/state organization.
- A framed certificate(s) or plaque should be presented to the recipient(s) at the award ceremony. The certificate/plaque should note TsunamiReady Hero Award.
- The top NWS keynote speaker and presenter at the award ceremony will generally be determined by NWS leadership at the Regional or National Headquarters level.
- The news release from the TsunamiReady Hero Award ceremony will be archived on the national TsunamiReady website.

The local WFO is encouraged to also submit an *Aware* newsletter article highlighting the TsunamiReady Hero accomplishment to the *Aware* managing editor.

6.3   TsunamiReady Champion Award

The TsunamiReady Champion Award is a special local or state level recognition presented by NWS officials to an individual(s) or organization for exceptional service, achievement and/or leadership through the TsunamiReady program. TsunamiReady Champions are individuals that have gone above and beyond their normal duties in advocating for and implementing TsunamiReady. TsunamiReady Champion Awards are approved by the State/Territory Tsunami Steering Committee or TsunamiReady Board. TsunamiReady Champion Award guidelines are as follows:

- The award may be given to an individual(s) or an organization within a TsunamiReady community or state.
- At least one of the following criteria should be achieved:
    - *Exceptional Service:* Through years of dedication has fostered a preparedness culture that personifies the TsunamiReady program;
    - *Outstanding Achievement:* Has taken significant actions that have saved lives and/or property through the TsunamiReady program; or
    - *Visionary Leadership:* Through innovation and inspiration has led significant improvements in the effectiveness of the TsunamiReady program.

6.3.1   TsunamiReady Champion Award Protocol

A TsunamiReady Champion Award is nominated at the local level, either by an emergency manager or the local MIC/WCM. Typically, the local WCM/designee prepares the nomination based on the award guidelines in Section 6.3.   The nomination is then shared with the State/Territorial Tsunami Steering Committee or TsunamiReady Board for its approval. The MIC/WCM will communicate the decision of the State/Territorial Tsunami Steering Committee

or TsunamiReady Board with all parties. The local WCM/MIC should keep both the Regional and National TsunamiReady Program Managers informed throughout the process. The National TsunamiReady Program Manager will inform the NTHMP MES. If approved, depending on available funding, the NWS will hold a media event as follows:

- The ceremony should be held in collaboration with the following:
  - NWS/NOAA Public Affairs;
  - Regional TsunamiReady Program Manager;
  - Local MIC/WCM; and
  - State/Territorial Tsunami Steering Committee or TsunamiReady Board Sponsoring community/state organization.
- A framed certificate(s) or plaque will be presented to the recipients at the award ceremony. The certificate/plaque will note TsunamiReady Champion Award.
- Generally, the top NWS keynote speaker and presenter at the award ceremony will be determined by NWS leadership at the Regional Headquarters level. Typically this would be the local MIC.
- The news release from the TsunamiReady Champion Award ceremony will be archived on the national TsunamiReady website.

The local WFO is encouraged to submit an *Aware* newsletter article highlighting the TsunamiReady Champion accomplishment to the *Aware* managing editor.

APPENDIX A - TsunamiReady Recognition Guidelines*

TSUNAMIREADY GUIDELINES (As adopted July, 2015)

FUNDAMENTAL LEVEL—TSUNAMIREADY
Coastal communities seeking TsunamiReady recognition should meet all elements included in these Guidelines. The specific actions required to meet each element will vary among communities depending on the types of tsunami hazards and related vulnerability and as determined by the local, state, or regional TsunamiReady Board (composed of a NWS Warning Coordination Meteorologist (WCM) and a state-appointed emergency management representative) and additional stakeholders identified by the WCM.

Communities with plausible local tsunami threats should include efforts that enable individuals at risk for tsunami inundation to take self-protective actions, in addition to strategies for all coastal communities that address regional and distant tsunamis. Determination of the range of plausible local, regional, and distant tsunami threats in a particular community rests with the designated TsunamiReady Board who will be in close communication with tsunami experts from the National Tsunami Hazard Mitigation Program (NTHMP), such as NOAA, the U.S. Geological Survey, state geological surveys and emergency managers, universities, or consultants.

SUMMARY TABLE OF GUIDELINES

MIT-1	Have designated and mapped tsunami hazard zones.
MIT-2	Include tsunami hazard and community vulnerability information in the community's FEMA-approved multi-hazard mitigation plan.
MIT-3	Install signage, as needed, that identifies for example: (1) tsunami danger area and/or hazard zone (entering and leaving signs), evacuation routes, and assembly area; and (2) provides tsunami response education (go to high ground).
PREP-1	Produce easily understood tsunami evacuation maps as determined to be appropriate by local authorities
PREP-2	Support an ongoing sustained tsunami public education effort. This effort should include the development and distribution of outreach materials.
PREP-3	Support an ongoing sustained tsunami education effort specific to public schools in coastal community pursuing TsunamiReady recognition.
PREP-4	Hold at least one community-wide outreach or education activity annually.
PREP-5	Conduct community exercises that reinforce the concepts contained in Prep-1 through Prep-4.
PREP-6	Conduct evacuation drills for all public schools in the mapped tsunami evacuation zone to reinforce the concepts contained in Prep-1 through Prep-4.
RESP-1	Address tsunami hazards in the community's emergency operations plan (EOP)
RESP-2	Address tsunami hazards in the emergency operations plans (EOP) for all public schools in the tsunami hazard zone.
RESP-3	Commit to supporting the emergency operations center (EOC) during tsunami incidents if an EOC is opened and activated.
RESP-4	Have redundant and reliable means for a 24-hour warning point (and EOC if activated) to receive official tsunami watch, advisory, and warning alerts.
RESP-5	Have redundant and reliable means for 24-hour warning point and/or EOC to disseminate official tsunami watch, advisory, and warning alerts to the public.
RESP-6	Have Public Alert-certified NOAA Weather Radio (NWR) receivers in critical facilities and public venues.
RESP-7	Conduct emergency operations plan exercises that test at least one component of the community's EOP or one item from Resp-4 through Resp-6.

MITIGATION (MIT)

Mit-1. Have designated and mapped tsunami hazard zones. The primary source for mapping potential tsunami hazard zones is inundation modeling, which illustrates expected areas to be flooded by the tsunami. If models are unavailable, other acceptable sources include guidance from tsunami experts from NOAA, the U.S. Geological Survey, state geological surveys, universities, or consultants. Modeling and mapping efforts should meet NOAA/NTHMP guidelines. *Note: for communities on the coasts of the Atlantic Ocean or Gulf of Mexico, a "baseline tsunami zone" has been prepared and, where observed, is approved to meet this requirement. SLOSH modeling is also approved for use for this purpose. Tsunami Hazard Zone maps are used by emergency managers for planning purposes and are different from, but related to, evacuation maps described in Prep-1.*

Mit-2. Include tsunami hazard and community vulnerability information in the community's FEMA-approved multi-hazard mitigation plan. As described in section 44CFR Part 201.6 (c)(2) of the Stafford Disaster Mitigation Act, this information should include, where available, the following:
- A tsunami-hazard profile, including source locations, extent of inundation, run-up or height that a wave reaches above sea level, previous tsunami occurrences, and likelihood of future tsunamis.
- A description of community vulnerability, including areas exposed to inundation and an impact summary of the resident population and specific sub-populations of people expected to be affected (e.g., individuals with access and functional needs, visitors, seasonal workers), businesses, infrastructure, and critical facilities.

Estimates of population exposure in tsunami evacuation zones should be based on local knowledge or on analysis of population data (e.g., Census), and can include ranges of population counts to recognize daily or seasonal fluctuations in workers, visitors, and temporary residents. Communities that do not have resources to support development of a multi-hazard mitigation plan should work with the county where the community is located to be incorporated into the county's multi-hazard mitigation plan.

This requirement is met if there is a FEMA-approved multi-hazard mitigation plan that includes tsunamis.

Mit-3. Install signage, as needed, that identifies for example: (1) tsunami danger area and/or hazard zone (entering and leaving signs), evacuation routes, and assembly area; and (2) provides tsunami response education (go to high ground). Signage should be implemented according to state and local policies and as determined to be appropriate by local authorities, the local TsunamiReady Board, and with possible assistance from partners. Wherever possible, signage should comply with specifications aimed at standardization so that all coastal communities eventually will have identical signage. Continuity of signage benefits domestic residents and international visitors. In cases where tribal law supersedes state laws, tribes should make every effort to try to be consistent with state codes while also maintaining their own tribal codes. Multi-hazard signs that include the tsunami hazard are adequate for this item.

PREPAREDNESS (PREP)

Prep-1. Produce easily understood tsunami evacuation maps as determined to be appropriate by local authorities that depict tsunami evacuation routes and assembly areas (see Mit-1). Maps should be based on tsunami hazard zone mapping and in accordance with the community's emergency operations plan. Maps should be made available via appropriate print and/or digital media. *Note: for communities on the coasts of the Atlantic Ocean or Gulf of Mexico, a "baseline tsunami hazard zone" has been prepared and, where observed, is approved to meet this guideline.*

Prep-2. Support an ongoing sustained tsunami public education effort. This effort should include the development and distribution of outreach materials that include, where appropriate, tsunami evacuation maps, evacuation routes, safety tips, and information about when and how to respond to warnings (including natural warnings for regions with a local tsunami threat). They should be tailored to meet local information needs and be based on location-specific tsunami threats. Distribution should use <u>three or more</u> wide-reaching diverse methods, including, but not limited to:
- Brochures and flyers distributed at public venues and/or bulk mailed to local residents and businesses
- Newspaper inserts
- Public utility/service industry bill safety notices
- Local faith-based and civic organization bulletins/mailings
- Local radio and television
- Billboard, roadside, highway, or educational signs
- Historical markers and interpretative signs
- Websites/Social media
- Bulk email

Possible physical locations for distribution of materials include:
- Visitor centers and local tourist businesses (e.g., restaurants, bars)
- Hotels, motels, and campgrounds where visitors to beach areas stay
- Public libraries
- Community centers
- Recreation centers
- Kiosks or information centers in places where the public visits (e.g., malls, stores, etc.)
- Child care centers

Prep-3. Support an ongoing sustained tsunami education effort specific to public schools in coastal community pursuing TsunamiReady recognition. This effort can leverage the outreach materials from Prep-2 but should also be augmented if needed to cover tsunami threats specific to any given school. Distribution can be through existing state, regional, or local educational governing bodies but cover letters transmitting materials should be included that provide schools with a means to get support from the community's TsunamiReady Board. Distribution to all schools in the tsunami hazard zone should occur for initial TsunamiReady

Recognition and then again every three years. At the discretion of the TsunamiReady Board, and to address the cases where the tsunami hazard zone represents a very small percentage of total area of the community, the distribution can be limited to schools that are in or near the tsunami hazard zone. This applies to both the initial and periodic distribution. This Distribution should also occur for private schools when possible.

Prep-4. Hold at least one community-wide outreach or education activity <u>annually</u> to educate community residents, businesses, and visitors, with an emphasis on those in the tsunami hazard zone, on tsunami hazards, evacuation routes, how warning information will be received (including natural warnings for regions with a local tsunami threat), safety, and response. These activities may be multi-hazard as long as they include tsunamis in the content. The number of activities required for a given community is to be determined by the TsunamiReady Board but will generally include at least one community-wide event and/or multiple smaller scale events. Acceptable activities include, but are not limited to:
- Leveraging national, state, and regional campaigns through use of social media.
- Multi-hazard events or presentations.
- Adding on to *The Great Shakeout* drills and practice.
- Booths at community events and county fairs.
- Community tsunami safety workshops, town halls, or similar public meetings.
- Presentations or workshops for faith-based organizations, community or civic groups.
- Local public safety campaigns, such as "Tsunami Preparedness" week/month.
- Local business workshops to help them develop response and business continuity plans.
- Information for business owners for employee training, outreach, or education that targets high-occupancy businesses in tsunami hazard zones (e.g., hotels, restaurants, fisheries, industrial sites).
- Door-to-door safety campaigns targeted to residents and businesses who live or work in the community's tsunami hazard zone.

Prep-5. Conduct community exercises that reinforce the concepts contained in Prep-1 through Prep-4. The exercises can focus solely on the tsunami hazard or can be a multi-hazard exercise that also address the tsunami hazard. One exercise should be conducted for initial Tsunami Ready recognition and then at least one other should be conducted <u>within the three-year period following recognition</u>. The exercises could be tabletop, functional, or full-scale.

Prep-6. Conduct evacuation drills for all public schools in the mapped tsunami evacuation zone to reinforce the concepts contained in Prep-1 through Prep-4. Evacuation drills should be conducted <u>annually</u> but can be conducted as part of a multi-hazard drill (for example, combined with a fire evacuation drill). Private schools in the tsunami evacuation zone should be encouraged to also conduct annual evacuation drills.

<u>RESPONSE (RESP)</u>

Resp–1. Address tsunami hazards in the community's emergency operations plan (EOP). If a community-level plan does not exist, other acceptable plans include a countywide EOP or a state or local comprehensive emergency management plan. To meet this requirement, plans should:
- Identify tsunami as a hazard and provide a risk assessment

- Detail 24-hour warning point procedures relating to tsunamis
- Specify emergency operations center activation criteria and staffing expectations
- Specify tsunami criteria and procedures for the activation of the public warning system in its area of responsibility
  - Criteria and procedures for siren activation, cable television override, and/or local activation in accordance with state EAS plans, warning fan-out procedures, and communication to functional and access needs populations
- Provide contact information for all jurisdictional agencies and response partners, including the NWS
- Include evacuation plans for tsunamis, roles of community entities/agencies, tsunami hazard zone maps with evacuation routes, and protocols for access and functional needs populations
- Include procedures for updating information and determining when to advise it is safe for (1) emergency response personnel to enter the evacuated zones, and (2) when it is safe for the public to return to homes and businesses in the evacuated zone(s)
- Include procedures for providing security for the evacuated zone(s)
- Include procedures for reporting tsunami impacts in the community

Resp-2. Address tsunami hazards in the emergency operations plans (EOP) for all public schools in the tsunami hazard zone, or have a section in community's emergency operations plan (EOP), from Resp-1, that addresses emergency operations for public schools in the community. Encourage this for private schools.

Resp–3. Commit to supporting the emergency operations center (EOC) during tsunami incidents if an EOC is opened and activated. Ensure that the EOC can execute tsunami warning functions (public notifications) based on predetermined guidelines related to NWS tsunami information and/or tsunami incidents. *Note: this applies only for communities with a year-round population of 15,000 or more. For communities with less than a 15,000 year-round population, there must be ties to an EOC serving that community.*

- Has 24-hour operations or plan to activate an EOC for tsunami incidents in accordance with the EOP
- Has warning reception and dissemination capability
- Has the ability and authority to activate the public warning system in its area of responsibility
- Maintains the ability to communicate within and across jurisdictions (e.g., with other EOCs, including those maintained by private organizations, incident command posts, etc.); communication capabilities should be equal to or better than the communication/ dispatch center
- Maintains established communication links with NWS (e.g., NWSChat, phone, etc.) to relay real-time weather and flood reports to support the warning decision making process

Resp–4. Have redundant and reliable means for a 24-hour warning point (and EOC if activated) to receive official tsunami watch, advisory, and warning alerts from NOAA Tsunami Warning Centers, local NWS Offices, or other officially recognized U.S.-based agencies such as state and local emergency management agencies**.** Alerts must be able to reach the 24-hour warning point by <u>at least three</u> of the following

- Public Alert™ certified NOAA Weather Radio (NWR) receiver: ***Required*** *for recognition only if within reliable reception range of a NWR transmitter*
- Statewide warning fan-out notification system (documented in writing with backup indicated)
- NOAAPORT receiving station
- National Warning System (NAWAS) drop: FEMA-controlled, 24-hour, continuous-private-line telephone system used to convey warnings to federal, state and local governments, as well as the military and civilian population
- NWSChat: An instant messaging program available via the Internet used by NWS operational personnel to share critical warning decision expertise and other significant weather information
- Emergency Management Weather Information Network (EMWIN) receiver: Device that receives satellite feed and/or VHF radio transmission of NWS products
- Statewide telecommunications system: Automatic relay of NWS products, usually on law enforcement systems
- California Integrated Seismic Network (CISN) Display Program
- Amateur Radio transceiver: Potential communications directly to NWS office
- Alerts provided through a third-party provider: Typically received via phone, email and/or a texting service to a smartphone, tablet, or computer
- Local Radio: Emergency Alert System, LP1/LP2
- Active Internet monitoring capability, including social media such as Facebook and Twitter
- NOAA Weather Wire drop: Satellite downlink data feed from NWS
- Direct email from Tsunami Warning Center
- Direct fax from Tsunami Warning Center
- Text message or direct pager message from Tsunami Warning Center
- U.S. Coast Guard (USCG) broadcasts: warning point monitoring of USCG marine channels
- Other communications channel (e.g., active participation in a state-run warning network, two-way, local emergency responder radio network, etc.), please explain.

Note: Wireless Emergency Alerts (WEA) are NOT included as a means of receiving tsunami alerts because WEA is only activated for the first tsunami warning and not for other levels of alerts (Tsunami Advisory, Tsunami Watch, Tsunami Information Statement.) Also, WEA does not work everywhere.

Resp–5. Have redundant and reliable means for 24-hour warning point and/or EOC <u>to disseminate</u> official tsunami watch, advisory, and warning alerts to the public. Alerts must be able to be disseminated from the 24-hour Warning Point and/or EOC through <u>at least three</u> of the following methods:
- Emergency Alert System (EAS) message initiation and broadcast
- Cable television audio/video overrides
- Local flood warning systems ideally with no single point of failure
- Plan for siren/megaphone notification on emergency vehicles
- Outdoor warning sirens
- Other local alert broadcast system
- Local pager/texting system

- Amateur radio operator network (ham radio)
- Telephone mass notification system
- Telephone tree to critical facilities
- Coordinated jurisdiction-wide radio network
- For counties, parishes, boroughs, etc., a countywide communications network that ensures the flow of information between all cities and towns within its borders, including acting as the surrogate warning point and/or EOC for communities without those capabilities
- Social media usage (Twitter, Facebook, etc.)
- Lifeguards on beaches and on patrol
- Other, please explain

All response requirements should recognize that during a local tsunami event, initial response would be performed primarily by at-risk individuals. Individuals in local tsunamis, including emergency personnel, will need to take personal responsibility for evacuating after recognizing the natural warnings or environmental cues of a possible or imminent tsunami (e.g., ground shaking from an earthquake, unusual rapid rise or fall of a shoreline). Official communications and warnings may be difficult to perform given the potential for infrastructure and telecommunication damage from the preceding earthquake and the limited time between the generation and arrival of the first wave in the tsunami.

Resp–6. Have Public Alert-certified NOAA Weather Radio (NWR) receivers in critical facilities and public venues in and around the tsunami evacuation zone (where reception is available), including:

Required locations:
- Communication/dispatch center serving as the 24-hour warning point
- EOC or standby location (such as a conference room) that will become a defacto EOC, if designated
- City hall, county courthouse, or similar local elected executive office building
- Public school superintendent's office—for all public school jurisdiction(s) in tsunami evacuation zones

TSUNAMIREADY GUIDELINES TIER TWO

The NOAA/NWS TsunamiReady Program recognizes that some communities are at greater risk for catastrophic tsunamis than others—particularly those on the earthquake-prone West Coast of United States and within the Caribbean. For these communities, we offer the following guidelines as "Tier Two" recognition. These second tier guidelines will help high-risk communities more completely prepare for and mitigate extreme tsunami risks, and will help communities reach a level of disaster resiliency.

Resilience is defined in many ways. For purposes of these guidelines, it is defined as "sustained ability to respond to, withstand, and recover from adverse situations."

Resilience includes the more difficult to attain mitigation and recovery elements, including the brick-and-mortar elements of mitigation that typically cannot be done without significant external funding (bonds and/or FEMA grants). It also incorporates recovery, which may be harder, take longer to accomplish, and also requires funding to support.

A two-tiered approach leverages FEMA's local hazard mitigation plan concept. It focuses on a long-term plan, even long enough for land use policy to affect resilience.

Following are proposed additional guidelines that if met, would meet Tier Two recognition. If these additional guidelines are not met, but the Fundamental TsunamiReady Guidelines are met, then TsunamiReady status is recognized.

MITIGATION (MIT)
MIT-4. Identify natural high or inland ground outside the tsunami evacuation zone for purposes of evacuation of at-risk populations. If suitable high or inland ground is available, then it should be determined if at-risk populations can reasonably reach these areas before tsunami waves are predicted to arrive. Evacuation assessments and/or modeling should take into account the population in the tsunami evacuation zone, including subpopulations that may be at greater risk for injury (e.g., elderly people, children, tourists, people with disabilities, seasonal workers, etc.). They should also take into account the reliability of evacuation routes (e.g., bridges, roads), especially in areas where the tsunami may be triggered by a strong earthquake that could weaken or destroy transportation infrastructure. If natural high or inland ground is not currently accessible within the time the first wave is predicted to arrive, see Mit-6.

MIT-5. Have a plan to maintain, improve, and strengthen evacuation routes to enable at-risk populations to effectively evacuate to natural high or inland ground in the time available. For communities with local tsunami threats related to earthquakes, strengthening of evacuation routes may mean developing and maintaining foot trails through areas of heavy vegetation, improving roads, and seismic strengthening of bridges and roads.
Communities must demonstrate progress in implementing this plan or provide reasons why such progress is not possible or unnecessary at subsequent reviews for TsunamiReady Tier Two recognition.

After strengthening evacuation routes, if people are still unable to reach natural high or inland ground within the time the first wave is predicted to arrive, see Mit-6.
If it has been determined and demonstrated that there would be no added tsunami safety benefit

to strengthening evacuation routes, see Mit-6.

MIT-6. Have a plan for vertical evacuation using existing or planned berms and other structures if it is unlikely that at-risk populations would be able to reach natural high ground and inland locations before arrival of first wave. This plan identifies current or proposed locations of vertical evacuation structures, the at-risk populations they would serve, funding sources, land use considerations, and a timeline for implementation. Communities must demonstrate progress in implementing this plan at subsequent reviews for TsunamiReady Tier Two recognition.

RECOVERY (REC)

REC–1. Have a pre-disaster recovery plan that considers how communities will continue to operate and recover after a tsunami disaster. According to the National Disaster Recovery Framework: "Pre-disaster recovery planning enables local, state, and tribal governments to effectively direct recovery activities and expedite a unified recovery effort. Pre-disaster plans provide a common platform to guide recovery decisions and activities."

A pre-disaster recovery plan should guide the full range of recovery efforts, both short- and long-term (it is not the same thing as a multi-hazard mitigation plan or an EOP), and ensure all affected populations are included. A pre-disaster recovery plan could be an annex to an EOP, a multi-hazard mitigation plan, or a stand-alone plan. It should be consistent with the National Disaster Recovery Framework consistent with the framework's key principles and recommended activities. It should also include other hazards, as appropriate, such as floods, hurricanes, severe storms, or earthquakes.
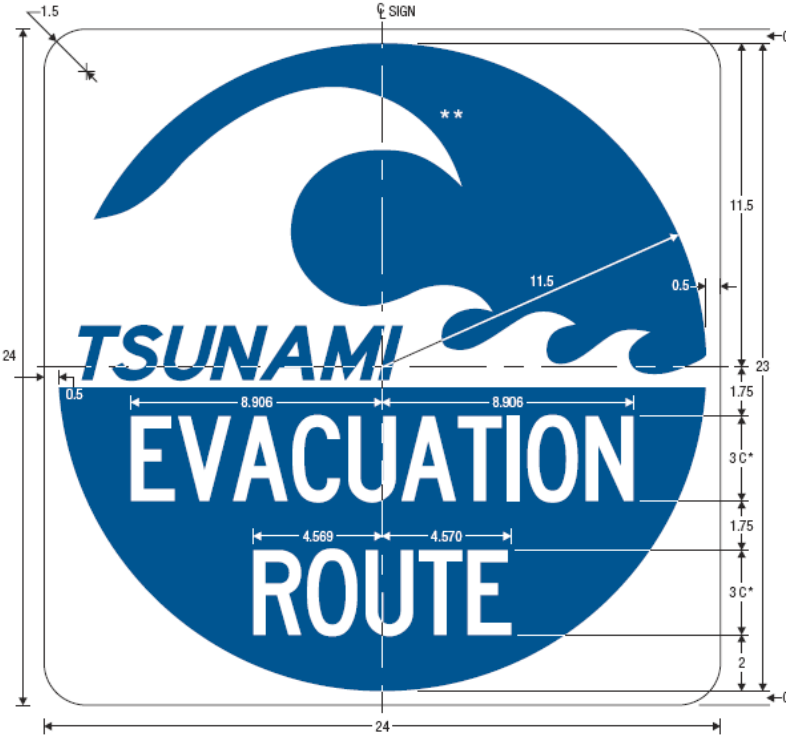
RESPONSE (RESP)

RESP-8: Have a plan for the management of debris after a tsunami disaster. This plan could be described in the community's EOP, pre-disaster recovery plan, or stand-alone plan.

APPENDIX B - TsunamiReady Recognition and Evacuation Route Sign Examples

Left: NWS TsunamiReady Community sign; Right, NWS TsunamiReady County sign.

Above: Tsunami evacuation route sign as per the Federal Highway Administration's 2012 Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).