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Operations and Services

STORMREADY AND TSUNAMIREADY RECOGNITION PROGRAMS

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SUMMARY OF REVISIONS: Supercedes StormReady and TsunamiReady Recognition Programs, NWSI 10-1802, dated October 1, 2002. Revisions include:

1.   New StormReady Community Hero Award section (7.0)
2.   New section (6.0) on renewing StormReady/TsunamiReady recognitions
3.   Appendix B - revised the StormReady Application form to include site visit verification information (previously listed separately in Appendix C)
4.   Appendix C - "StormReady Recognition Information/Examples" (previously listed as Appendix D)
5.   Appendix D - "TsunamiReady Guidelines"(previously listed as Appendix E)
6.   Appendix E - "TsunamiReady Application Form" (previously listed as Appendix F)

      signed   10/28/03
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  Water, and Weather Services

StormReady and TsunamiReady Organization and Operations Manual

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1.   Introduction. Some 90 percent of all presidentially declared disasters are weather related, leading to around 500 deaths per year and nearly $14 billion in damage. A destructive tsunami will create a tremendous risk to life and property for coastal communities along the Pacific, Atlantic, and Caribbean. To help Americans guard against the ravages of severe weather and potential tsunami damage, the National Weather Service (NWS) has designed StormReady and TsunamiReady, programs aimed at arming America's communities with the communication and safety skills necessary to save lives and property.

1.1   StormReady Overview. Many laws and regulations exist to help local emergency managers deal with hazardous material spills, search and rescue operations, medical crises, etc., but there are relatively few uniformly-recognized guidelines dealing with the specifics of hazardous weather response operations.

The NWS recognized this need and designed StormReady- - a program to help cities, counties, towns, and other designated communities, implement procedures to reduce the potential for disastrous, weather-related consequences.

By participating in StormReady, local agencies can earn recognition for their jurisdiction by meeting guidelines established by the NWS in partnership with federal, state, and local emergency management professionals. The StormReady program is intended to:

•   Improve the timeliness and effectiveness of hazardous weather warnings for the public.

•   Provide detailed and clear recommendations by which local emergency managers may establish/improve effective hazardous weather operations.

•   Help local emergency managers justify costs and purchases related to supporting their hazardous weather-related program.

•   Reward local hazardous-weather mitigation programs that have achieved a desired performance level.

•   Provide a means of acquiring additional Community Rating System points assigned by the National Flood Insurance Program (NFIP).

•   Provide an "image incentive" to counties, cities, towns, and other designate communities, that can identify themselves as being StormReady .

•   Encourage the enhancement of hazardous weather preparedness programs in jurisdictions surrounding StormReady Communities and Counties.

StormReady is a **voluntary** program offered to provide guidance and incentive to officials interested in improving their respective hazardous weather operations. **Implied or explicit references to "requirements" are made with regard to the voluntary participants in the StormReady program and should not be construed as being state or federal mandates.**

1.2   TsunamiReady Overview. Tsunamis are quite rare compared to hazardous weather events in the United States. As a result, tsunami hazard awareness and preparedness in some locations along the U.S. West Coast, Caribbean, Alaska, and within the Pacific Region (Hawaii, American Samoa, Guam, the Republic of Palau, the Federated States of Micronesia, and the Republic of the Marshall Islands) is inconsistent and, in many cases, insufficient. Even in locations with a history of deadly tsunamis, an adequate level of awareness and preparedness is difficult to achieve and sustain over time. The TsunamiReady program was created to help meet the needs of communities at risk from tsunamis.

Due to the similarities in the awareness and preparedness practices (communications, warning reception and dissemination, public education, etc.) in the severe weather and tsunami programs, the guidelines for becoming a TsunamiReady community mirror those of StormReady with a few important exceptions and additions. For example, a TsunamiReady community must have defined evacuation routes that lead to a designated shelter outside of the hazard zone (see Appendix E, TsunamiReady Guidelines).

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.

The TsunamiReady program is designed to educate local emergency management officials and their constituents and to promote a well-designed tsunami emergency response plan for each community. TsunamiReady promotes tsunami hazard preparedness as an active collaboration among federal, state, and local emergency management agencies. This collaboration supports greater and more consistent tsunami awareness and mitigation efforts among communities at risk. The TsunamiReady program is intended to:

- Improve the timeliness and effectiveness of tsunami warnings for the public.

- Provide detailed and clear recommendations by which local emergency managers may establish/improve effective tsunami emergency operations.

- Help local emergency managers justify costs and purchases related to supporting their tsunami preparedness program.

- Increase public awareness and understanding of the tsunami hazard.

- Encourage consistency in educational materials and response among communities and states.

- Reward local tsunami hazard mitigation programs that have achieved a desired performance level.

- Provide an "image incentive" to coastal counties, cities, towns, and other designated communities, that can identify themselves as being TsunamiReady.

• Encourage the enhancement of tsunami preparedness programs in jurisdictions surrounding the TsunamiReady Communities and Counties.

TsunamiReady is a voluntary program offered to provide guidance and incentive to officials interested in improving their respective tsunami hazard operations. **Implied or explicit references to "requirements" are made with regard to the voluntary participants in the TsunamiReady program and should not be construed as being state or federal mandates.**

2.   StormReady Advisory Board Organization. StormReady Advisory Boards implement and oversee the StormReady and TsunamiReady programs. Advisory Boards are set up on a national, regional, and local basis.

2.1   National StormReady Advisory Board. The National StormReady Advisory Board is responsible for general oversight of the StormReady and TsunamiReady programs. The National Board maintains a minimum set of guidelines consistent across the country. The National StormReady Advisory Board reviews existing and proposed guidelines at its annual meetings, and publishes updated guidelines on or before December 31. The National StormReady Advisory Board includes:

NWS Warning Coordination Meteorologist (WCM) Program Leader (NWSH)
NWS Eastern Region WCM Program Leader
NWS Southern Region WCM Program Leader
NWS Central Region WCM Program Leader
NWS Western Region WCM Program Leader
NWS Alaska Region WCM Program Leader
NWS Pacific Region WCM Program Leader
President (or designee) of the National Emergency Management Association
President (or designee) of the International Association of Emergency Managers

2.2   Regional StormReady Advisory Board. Each of the NWS's six regional offices have Regional StormReady Advisory Boards. The regional director determines team membership. Regional StormReady Advisory Boards monitor the activities of local boards and ensure the national guidelines are maintained. Regional boards also collect and review proposed guideline changes received from Local StormReady Advisory Boards. Recommendations for change to the national guidelines are forwarded to the National StormReady Advisory Board for consideration.

2.3   Local StormReady Advisory Board. The Local StormReady Advisory Board can enhance StormReady to fit local and state situations. Local StormReady Advisory Boards may be set up either on a WFO or statewide basis. Each local board consists of at least:

1 - NWS office Meteorologist in Charge (MIC).
1 - NWS office WCM.
1 - State emergency management agency director or designee.*
1 - Local emergency management association president or designee.*

* One per state if local board is WFO based with multi-state responsibility.

The Local StormReady Advisory Board oversees all steps leading to the recognition of the StormReady community, county, or parish. This includes developing by-laws for the board's activities, enhancing the national guidelines for the local area, establishing procedures for verification visits, and implementing procedures for application review.

The appropriate Local StormReady Board with at least one additional member—the Tsunami Warning Center's Geophysicist In Charge—provides oversight of the TsunamiReady program at the local level. The Local StormReady Board has authority to enhance TsunamiReady to fit local and state situations.

The Local StormReady Board is responsible for all steps leading to the recognition of the TsunamiReady community. This includes implementing procedures for site verification visits and application review.

3.   The Application Process. Application for StormReady and/or TsunamiReady recognition is a formal process requiring a written application, verification visit(s), local board action, and recognition. The StormReady and combined StormReady/TsunamiReady application forms are available on the NWS StormReady web site at: http://www.stormready.noaa.gov/apply.htm

3.1   Application Submission. A county or unincorporated community seeking StormReady recognition should prepare a written application following the categories outlined in Appendix B and submit it to the appropriate NWS office. A county or unincorporated community seeking TsunamiReady recognition should prepare a written application following the categories outlined in Appendix E and submit it to the appropriate NWS office.

Some applicants will have jurisdiction over both a community and the unincorporated areas of the surrounding county. In these cases, a single application is sufficient, with the combined populations used to determine the appropriate guideline categories. If a community earns StormReady/TsunamiReady recognition, the unincorporated communities are involved in the recognition, but do not get individually recognized.

While much of the application is a basic accounting of technology, a brief narrative describing aspects of preparedness and planning activities is necessary and will help assess such things as the hazardous weather plan, exercises, and public safety programs.

The local StormReady Advisory Board Chairperson will provide copies of the application to each board member and assign a team to visit the applicant to formally discuss the application.

3.2   Local Application Review. A StormReady Board member will review the application to ensure the appropriate set of guidelines are met. (See Appendix A, StormReady Population-Based Guidelines, and Appendix D, TsunamiReady Guidelines.) If the application indicates that these qualifications are not met, then the applying agency will be notified about any changes

needed to meet the guidelines. After these changes are made, the agency should send an updated application for additional review.

Once it appears the Population-Based Guidelines are met, the local StormReady Advisory Board will provide each board member with a copy. The StormReady Chairperson will assign a team to visit the applicant to verify the qualifications on the application and to formally discuss the application as necessary.

3.3   Site Verification Visit. The Local StormReady Advisory Board Chairperson will assign a verification team of no less than two members to visit an applicant. The verification team should be composed of, at a minimum, one NWS person and one emergency manager. StormReady/ TsunamiReady verification team members should be StormReady Advisory Board members, or other individuals deemed qualified to make an assessment by the Local StormReady Advisory Board.

During the site verification visit, the verification team member(s) will check off the "Verif" boxes listed in each Guideline on the StormReady or combined StormReady/TsunamiReady application, for each item that the applicant has in their EOC and/or 24 hour warning point. During the site visit, the verification team should visit both the warning point and EOC to:

      a.   Verify listed equipment from application;
      b.   Confirm suitable location of equipment; and
      c.   Confirm readiness of equipment.

During a StormReady site visit, the team will also review the applicant's hazardous weather plan. This review may require the applicant to explain procedures to ensure that the content meets StormReady Guidelines. A full copy of the applicant's Hazardous Weather Plan does not need to be submitted to the StormReady Advisory Board; however, the verification team may request a copy for further offsite review.

During a TsunamiReady site visit, the team will review the applicant's Tsunami Hazard Response Plan. This review may require the applicant to explain procedures to ensure that the content meets TsunamiReady Guidelines. A full copy of the applicant's Tsunami Hazard Response Plan does not need to be submitted to the StormReady Advisory Board; however, the verification team may request a copy for further offsite review.

After the site visit, the verification team will send their site visit summaries, and any additional comments or documentation deemed pertinent, to the Local Advisory Board.

3.4   StormReady Board Review. The Local StormReady Advisory Board will review a jurisdiction's application and associated site visit summaries at the Board's next meeting. The local StormReady Advisory Board may approve an application for recognition after this first review.

If the recognition is not approved, the local board will provide written guidance on improvements needed to achieve recognition. Upon written response from the applying jurisdiction, the local advisory board will schedule another verification visit and review. If a community disputes a decision made by the local advisory board, the dispute will be forwarded to the Regional StormReady Advisory Board for resolution.

3.5   The Recognition Process. When the Local StormReady Advisory Board determines an applicant has met the guidelines, it can grant StormReady and/or TsunamiReady recognition to the applicant. The local boards will notify National and Regional Advisory Boards of each recognition they grant.

The successful applicant will receive a formal notification letter from the appropriate NWS MIC, two StormReady and/or TsunamiReady signs, authorization to use the StormReady logo, instructions for acquiring additional signs, and information concerning the notification of the National Flood Insurance Program for possible adjustment to insurance rates (section 4).

Recognition will be for a period of 3 years from the date the official letter of recognition is signed by the Meteorologist in Charge of the local WFO.

StormReady recognition information and examples are located at the NWS StormReady Web site at: http://www.stormready.noaa.gov

3.6   Recognition Ceremony. Details of the recognition announcement and ceremony will be coordinated between the applicant and the NWS office which has responsibility for the community or county.

A typical ceremony includes a formal media announcement and should be a combination of the unveiling of the StormReady and/or TsunamiReady roadway signs and a subsequent press conference. See appendix C for information and examples of recognition materials.

4.   National Flood Insurance Program. Recognized jurisdictions participating in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) may receive 25 Community Rating Points towards lowering flood insurance rates. StormReady communities/counties should forward a copy of their recognition letter to their NFIP representative for details. More information on the NFIP and the Community Rating System is at: http://www.fema.gov/nfip/crs.shtm

5.   Recognition Monitoring. A formal plan to monitor a recognized jurisdiction is not necessary. However, if a formal concern is brought to the Local StormReady Advisory Board, the local board will review the issue and may suspend the recognition for 60 days while a review is conducted. If the local board review indicates the community or county no longer meets StormReady and/or TsunamiReady guidelines, and the discrepancy cannot be resolved within a reasonable amount of time, the board will request the StormReady signs be removed. A written notification will be made to the NFIP informing them of the action.

6.   Renewal of StormReady/TsunamiReady Status. StormReady/TsunamiReady recognitions are valid for 3 years from the date the local WFO MIC signs a communities StormReady Recognition Letter (i.e., following the Local Advisory Board approval). Six months prior to the expiration of the recognition, the Local StormReady Advisory Board will notify recognized jurisdictions in writing of their need to re-apply. They should follow the applicable guidelines published at the time of the notification. Site visits for re-recognition will be at the discretion of the local WCM.

It is sometimes difficult to get local board members together to vote on a re-recognition. If the anniversary date passes, the community will not lose its StormReady/TsunamiReady status if it has turned in its application. A county or community will only lose its StormReady/TsunamiReady status if it fails to renew its application or is formally terminated by the board. The Local StormReady Advisory Board seeks to maintain an atmosphere of constant improvement by keeping the evaluation guidelines representative of advancing technology and techniques.

7.   StormReady Community Hero Award. The StormReady/TsunamiReady Community Hero Award is a special recognition award that may be presented to communities that have been designated as StormReady/TsunamiReady. The award is designed to formally recognize those communities in which a life/lives have been saved as a direct result of the NWS StormReady/TsunamiReady program. Award guidelines and protocol can be found in the StormReady Organization and Operations Manual (section 7).

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APPENDIX A - StormReady Guidelines

Since the tax base typically dictates the resources applied to public programs, the guidelines for successful participation in the StormReady Program are based on population. Four population categories are used for developing appropriate recognition guidelines related to weather disaster preparedness. The population-based categories are:

Guidelines	Population			
	< 2,500	2,500 - 14,999	15,000 - 40,000	> 40,000
Guideline 1: Communications				
Established 24 hr Warning Point (WP)	X*	X*	X	X
Established Emergency Operations Center (EOC)	X*	X*	X	X
Ability to relay real-time storm reports to forecast office	X	X	X	X
Guideline 2: NWS Information Reception				
Number of ways for EOC and WP to receive NWS warning, etc (If in range, one *must* be NWR)	3	4	4	4
Guideline 3: Hydrometeorological Monitoring				
Number of systems to monitor Hydrometeorological data.	1	2	3	4
Guideline 4: Local Warning Dissemination				
Number of ways EOC/WP can disseminate warnings to public	1	2	3	4
NWR - SAME receivers in public facilities	X	X	X	X
Guideline 5: Community Preparedness				
Number of annual weather safety talks	1	2	3	4
Spotters and dispatchers trained biennially	X	X	X	X
Host / co-host annual NWS spotter training				X
Guideline 6: Administrative				
Formal hazardous weather operations plan	X	X	X	X
Biennial visits by emergency manager to NWS office	X	X	X	X
Annual visits by NWS official to community	X	X	X	X

* For cities or towns with less than 15,000 people, a 24-hour warning point and EOC are required; however, another jurisdiction within the county may provide that resource.

Guideline 1: Communications & Coordination Center

Effective communication is the key to disaster management. This is especially true in natural hazard emergencies (e.g., flood, wildfire,), where rapid changes may permit only short lead-time warnings that require an immediate, educated response.

1.   24-Hour Warning Point. To receive recognition under the StormReady Program, an applying agency will need a 24-hour warning point (WP) to receive NWS information and provide local reports and advice. Typically, this is a law enforcement or fire department dispatching point. For cities or towns without a local dispatching point, another jurisdiction within the county may act in that capacity for them.

The warning point will need to have:

•   24-hour operations.
•   Warning reception capability.
•   Warning dissemination capability.
•   Ability and authority to activate local warning system(s).

2.   Emergency Operations Center (EOC). All agencies must have an EOC. For towns and cities with less than 15,000 people, the EOC may be provided by another jurisdiction within the county. The EOC will need to be staffed during hazardous weather events and, when staffed, will assume the warning point's hazardous weather functions.

The following summarizes the weather-related roles of an EOC:

•   May assume weather-related duties of warning point, when staffed.
•   Activated based on predetermined guidelines related to NWS information and/or weather events.
•   Staffed with emergency management director or designee.
•   Warning reception capability (see guideline 2).
•   Ability and authority to activate local warning system(s). Must have capabilities equal to or better than the warning point.
•   Ability to communicate with adjacent EOCs/Warning Points.
•   Established communications link with NWS to relay real-time weather information to support the warning decision making process.

3.   Real-Time Storm Reports. An integral part of the warning decision making process is timely reports of real-time weather information. StormReady communities must relay these reports to the local NWS forecast office. At a minimum, these reports should include the type, location, and time of significant weather events. The extent and tracking of these reports are left to the discretion of the local board.

Guideline 2: National Weather Service Warning Reception

Warning points and EOCs each need multiple ways to receive NWS warnings. The StormReady Program guidelines for receiving NWS warnings in an EOC/WP require a combination of the following, based on population:

- NOAA Weather Radio receiver with tone alert. Specific Area Message Encoding is preferred. *Required for recognition only if within range of transmitter.*
- Emergency Management Weather Information Network (EMWIN) receiver: Satellite feed and/or VHF radio transmission of NWS products.
- Statewide law enforcement telecommunications: Automatic relay of NWS products on law enforcement systems.
- Amateur Radio transceiver: Potential communications directly to NWS office.
- Wireless Devises: From a provider not directly tied to a local system such as EMWIN.
- Television: Local network or cable TV.
- Local Radio (Emergency Alert System - LP1/LP2).
- National Warning System (NAWAS) drop: FEMA-controlled civil defense hotline.
- NOAA Weather Wire drop: Satellite downlink data feed from NWS.
- Other: For example, active participation in a state-run warning network.

Guideline 3: Hydrometeorological Monitoring

While receipt of warnings is crucial to the success of any EOC or warning point, there should also be a means of monitoring weather information, especially radar data. To obtain StormReady recognition, each EOC/WP (based on population) should have some combination of the following recommended means of gathering weather information:

- Internet
- Television/radio
- Two-way radio
- Emergency Management Weather Information Network (EMWIN)
- Local systems for monitoring weather

Guideline 4: Warning Dissemination

Once NWS warnings are received, or local information suggests an imminent weather threat, the local emergency officials should communicate with as much of the population as possible. To be recognized as StormReady, a community must have NOAA Weather Radio in the following facilities:

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Required Locations:	Recommended Locations:
-24 hour warning point	-Courthouses
-emergency operations center	-Public libraries
-City Hall	-Hospitals
-School superintendent office	-All schools
	-Fairgrounds
	-Parks and recreation areas
	-Public utilities
	-Sports arenas
	-Transportation departments
	-Nursing Homes/Assisted Living

In addition, recognition will be contingent on having one or more of the following means (based on population) of ensuring timely warning dissemination to citizens:

- Cable television audio/video overrides.
- Local Flood warning systems with no single point of failure.
- Other locally-controlled methods like a local broadcast system or sirens on emergency vehicles.
- Outdoor warning sirens.
- *Counties Only:* A County-wide communications network that ensures the flow of information between all cities and towns within its borders. This would include acting as a warning point for the smaller towns.

Guideline 5: Community Preparedness

Public education is vital in preparing citizens to respond properly to weather threats. An educated public most likely will take steps to receive weather warnings, recognize potentially threatening weather situations, and act appropriately to those situations. Those seeking recognition in the StormReady Program will need to:

- Conduct or facilitate safety talks for schools, hospitals, nursing homes and industries (number of talks per year will be based on population). These may be a part of multi-hazard presentations affecting local communities/regions (e.g., flood, wildfire, tsunami).

- Accomplish weather-related safety campaigns which include publicity for NOAA Weather Radios where coverage exists. These may be a part of multi-hazard presentations affecting local communities/regions (e.g. flood, wildfire, tsunami).

- EOC/Warning point staff and storm spotters will need to attend NWS storm spotter training sessions at least every other year. All jurisdictions larger than 40,000 people will need to host/co-host a spotter training session every year.

Guideline 6: Administrative

A program cannot be successful without formal planning and pro-active administration. To be recognized in the StormReady Program:

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- Approved hazardous weather action plans must be in place. These plans will need to address, at a minimum, the following:
  - ▸ Hazards/risk assessment
  - ▸ Warning point procedures relating to natural hazards.
  - ▸ EOC activation criteria and procedures if applicable
  - ▸ Storm spotter activation criteria and reporting procedures if applicable.
  - ▸ Storm spotter roster and training record if applicable.
  - ▸ Criteria and procedures for activation of sirens, cable television override, and/or local systems activation in accordance with state Emergency Alert System (EAS) plans.
  - ▸ Annual exercises relating to natural hazard.

To facilitate close working relationships, the community/county emergency management program leader will need to visit the supporting NWS office at least every other year. NWS officials will commit to visit accredited counties, cities, and towns annually to tour EOCs/Warning points and meet with key officials.

APPENDIX B - StormReady Application Form

The StormReady application form is located at the National Weather Service's StormReady Web
site at: http://www.stormready.noaa.gov/apply.htm

APPENDIX C - StormReady Recognition Information/Examples

StormReady recognition information and examples are located at the National Weather
Service's StormReady Web site at: http://www.stormready.noaa.gov

APPENDIX D - TsunamiReady Guidelines

Guidelines for participation in the TsunamiReady program are given in the following table. Each guideline is fully discussed following the table. Four community categories (based upon population) are used for developing appropriate recognition guidelines.

Guidelines	Population			
	< 2,500	2,500 - 14,999	15,000 - 40,000	> 40,000
Guideline 1: Communications and Coordination				
Established 24-hour Warning Point (WP)	X*	X*	X	X
Established Emergency Operations Center (EOC)	X*	X*	X	X
Guideline 2: Tsunami Warning Reception				
Number of ways for EOC/WP to receive NWS tsunami messages. (If in range, one *must* be NWR receiver with tone alert; NWR-SAME is preferred)	3	4	4	4
Guideline 3: Local Warning Dissemination				
Number of ways EOC/WP can disseminate warnings to public	1	2	3	4
NWR - SAME receivers in public facilities	X	X	X	X
For county/borough warning points, county/borough communication network that ensures information flow among communities	X	X	X	X
Guideline 4: Community Preparedness				
Number of annual tsunami awareness programs	1	2	3	4
Designate/establish tsunami shelter/area in safe zone	X	X	X	X
Designate tsunami evacuation areas and evacuation routes, and install evacuation route signs	X	X	X	X
Provide written, locally specific, tsunami hazard response material to public	X	X	X	X
Schools: Encourage tsunami hazard curriculum, practice evacuations (if in hazard zone), and provide safety material to staff and students.	X	X	X	X
Guideline 5: Administrative				
Formal tsunami hazard operations plan	X	X	X	X

Biennial meeting/discussion between emergency manager and NWS	X	X	X	X
Visit by NWS official to community at least every other year	X	X	X	X

* For cities or towns with less than 15,000 people, a 24-hour warning point and EOC are required; however, another jurisdiction within the county may provide that resource.

Guideline 1: Communications and Coordination Center

A key to effective hazards management is effective communication. This is especially true in tsunami emergencies, since wave arrival times may be measured in just minutes. Such a "short fused" event requires an immediate but careful, systematic and appropriate response. To ensure such a proper response, communities must have established the following:

1.   24-Hour Warning Point. To receive recognition under the TsunamiReady program, an agency needs to have a 24-hour warning point (WP) able to receive NWS tsunami information and provide local reports and advice. Typically, this might be a law enforcement or fire department dispatching point. For cities or towns without a local dispatching point, a county/borough agency could act for them in that capacity. The warning point needs to have:

•   24 hour operations
•   Warning reception capability
•   Warning communication/dissemination capability
•   Ability and authority to activate local warning system(s)

2.   Emergency Operations Center. Agencies serving jurisdictions of more than 2,500 people will need an emergency operations center (EOC). It must be staffed during tsunami events to execute the warning point's tsunami warning functions. Summarized below are tsunami-related roles of an EOC:

•   Activate based on predetermined guidelines related to NWS tsunami information and/or tsunami events
•   Staffed by emergency management director or designee
•   Possess warning reception/dissemination capabilities equal to or better than the warning point
•   Ability to communicate with adjacent EOCs/Warning Points
•   Ability to communicate with local NWS office.

Guideline 2: Tsunami Warning Reception

Warning points and EOCs each need multiple ways to receive NWS tsunami warnings. TsunamiReady criteria to receive NWS warnings in an EOC/WP require a combination of the following, based on population:

- NOAA Weather Radio (NWR) receiver with tone alert. Specific Area Message Encoding (SAME) is preferred. Required for recognition only if within range of transmitter
- NOAA Weather Wire drop: Satellite downlink from NWS.
- Emergency Management Weather Information Network (EMWIN) receiver: Satellite feed and/or VHF radio transmission of NWS products
- Statewide Telecommunications System: Automatic relay of NWS products on statewide emergency management or law enforcement system
- Statewide Warning Fan-out System: State authorized system of passing message throughout warning area
- NOAA Weather Wire via Internet NOAAPort Lite: Provides alarmed warning messages through a dedicated Internet connection
- Direct link to NWS office: For example, amateur or VHF radio
- E-mail from Tsunami Warning Center: Direct e-mail from Warning Center to emergency manager
- Pager Message from Tsunami Warning Center: Page issued from Warning Center directly to EOC/WP
- Radio/TV via Emergency Alert System: Local radio/TV or cable TV
- US Coast Guard Broadcasts: WP/EOC monitoring of USCG marine channels
- National Warning System (NAWAS) drop: FEMA-controlled civil defense hot-line

Guideline 3: Warning Dissemination

1.   Upon receipt of NWS tsunami warnings or other reliable information suggesting a tsunami is imminent, local emergency officials should communicate the threat to as much of the population as possible. Receiving TsunamiReady recognition requires having one or more of the following means of ensuring timely warning dissemination to citizens (based on population):

- A community program subsidizing the purchase of NWR.
- Outdoor warning sirens
- Television audio/video overrides
- Phone messaging (dial-down) systems
- Other locally-controlled methods, e.g., local broadcast system or emergency vehicle sirens.

2.   Once NWS tsunami warnings are received, or local information suggests an imminent tsunami threat, the local emergency officials should communicate with as much of the

population as possible. To be recognized as TsunamiReady, a community must have NOAA Weather Radio in the following facilities:

Required Locations:	**Recommended Locations:**
-24 hour warning point	-Courthouses
-emergency operations center	-Public libraries
-City Hall	-Hospitals
-School superintendent office or equivalent	-All schools
	-Fairgrounds
	-Parks and recreation areas
	-Public utilities
	-Sports arenas
	-Transportation departments
	-Nursing Homes/Assisted Living
	-Harbors

Receivers with SAME capability are preferred (This is required for recognition only if locations are within range of NWR transmitter).

In addition, recognition will be contingent on having one or more of the following means (based on population) of ensuring timely warning dissemination to citizens:

- Cable television audio/video overrides.
- Local Flood warning systems with no single point of failure.
- Other locally-controlled methods like a local broadcast system or sirens on emergency vehicles.
- Outdoor warning sirens.

3. Counties/Boroughs Only: A county/borough-wide communications network ensuring the flow of information among all cities and towns within its borders. This would include provision of a warning point for the smaller towns, and fanning out of the message as required by state policy. Critical public access buildings should be defined by each community's tsunami warning plan.

Guideline 4: Awareness

Public education is vital in preparing citizens to respond properly to tsunami threats. An educated public is more likely to take steps to receive tsunami warnings, recognize potentially threatening tsunami events, and respond appropriately to those events. Communities seeking recognition in the TsunamiReady program must:

1. Conduct or sponsor tsunami awareness programs. Possible locations may include schools, hospitals, fairs, workshops, and community meetings (number of presentations per year is based on population).

2.   Define tsunami evacuation areas and evacuation routes, and install evacuation route signs.

3.   Designate a tsunami shelter/area outside the hazard zone.

4.   Provide written tsunami hazard information to the populace, including:
  •   Hazard zone maps
  •   Evacuation routes
  •   Basic tsunami information

These instructions can be distributed through mailings, i.e, utility bills, within phone books, and posted at common meeting points such as libraries and public buildings throughout the community.

5.   Local schools must meet the following criteria:
  •   Encourage the inclusion of tsunami information in primary and secondary school curriculums. NWS will help identify curriculum support material.
  •   Provide an opportunity biennially for a tsunami awareness presentation by the local NWS office and/or the local Emergency Manager.
  •   Schools within the defined hazard zone must have tsunami evacuation drills at least biennially.
  •   Written safety material should be provided to all staff and students.
  •   Have an earthquake plan.

Guideline 5: Administrative

No program can be successful without formal planning and a pro-active administration. To be recognized in the TsunamiReady Program:

1. A tsunami warning plan must be in place and approved by the local governing body. This plan must address the following:
   - Warning point procedures
   - EOC activation criteria and procedures
   - Warning point and EOC personnel specification
   - Hazard zone map with evacuation routes
   - Procedures for canceling an emergency for those less-than-destructive tsunamis
   - Criteria and procedures for activation of sirens, cable television override, and/or local systems activation in accordance with state Emergency Alert System (EAS) plans, and warning fan-out procedures, if necessary
   - Annual exercises.

2. Yearly visit/discussion with local NWS Forecast Office Warning Coordination Meteorologist or Tsunami Warning Center personnel. This can be a visit to the NWS office, phone discussion, or e-mail contacts.

3. NWS officials will commit to visit accredited communities, at least every other year, to tour EOCs/Warning points and meet with key officials.

APPENDIX E - TsunamiReady Application Form

The TsunamiReady application form is located at the National Weather Service's StormReady
 web site at: http://www.stormready.noaa.gov/apply.htm