

# SOUTH CAROLINA TSUNAMI RESPONSE PLAN

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### I. INTRODUCTION

- A. Tsunamis are ocean waves produced by earthquakes or underwater landslides. Tsunamis are often incorrectly referred to as tidal waves, but a tsunami is actually a series of waves that can travel at speeds averaging 450 (and up to 600) miles per hour in the open ocean. The National Tsunami Warning System was developed and implemented to help reduce the loss of life and property from a tsunami event. The National Oceanic and Atmospheric Administration (NOAA) monitors for earthquakes and subsequent tsunami events in both the Pacific and Atlantic Oceans. The Tsunami Warning Centers issue Tsunami Warnings, Watches, and Advisories in addition to Tsunami Information Bulletins for both the U.S. West and East Coasts. See Attachment A for Acronyms and Glossary.
- B. NOAA's National Weather Service (NWS) Offices promote the TsunamiReady Program. The TsunamiReady Program is designed to help states, counties, municipalities, universities and other population centers in coastal areas reduce the potential for deadly tsunami-related consequences. The program helps community leaders and emergency managers strengthen their local operations. TsunamiReady communities are better prepared to save lives through improved planning, education, and awareness. Communities have fewer fatalities and property damage if they effectively plan before a tsunami arrives. No community is tsunami proof, but the TsunamiReady Program can help minimize loss to vulnerable communities.

### II. PURPOSE

To plan and coordinate the operational procedures that South Carolina will use and provide resources to assist local governments in preventing and minimizing injury or death to people resulting from a tsunami.

### III. SITUATIONS AND ASSUMPTIONS

- A. Situation
1. The tsunami threat for South Carolina is relatively low, and any tsunamis would likely be small and inundate mostly the beaches. Although the risk is low, the consequences could be high. Tsunamis have been recorded on the U.S. Atlantic Coast in 1755, 1884, 1886 and in 1929. The majority of tsunamis in the Atlantic Ocean and Caribbean Sea were triggered by either earthquake activity or were the result of volcanic eruptions. The majority of these resulted in localized damage and death, but nothing on a regionally catastrophic scale outside of the Caribbean. The August 31, 1886, Charleston, SC, earthquake had an estimated magnitude of 7.3 with the epicenter estimated to be just onshore. In both South Carolina and

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Florida, the event produced a small, non-destructive tsunami. In South Carolina, the maximum run-ups for this event measured in the range of 0.5 to 20 inches. Tsunami run-up over three feet is dangerous to people and property.

2. There are two sources of tsunamis for coastal waters: a distant source and a local source.
  - a. Distant Source: The source of the tsunami more than 620 miles (1,000 km) away from the Tsunami Warning Center's Area Of Responsibility (AOR).
  - b. Local/Regional Source: Source of the tsunami within 620 miles of the AOR. A local or near-field tsunami has a very short travel time (30 minutes or less), and mid-field or regional tsunami waves have travel times on the order of 30 minutes to 2 hours.
  - c. Locally generated tsunamis generally cause more loss of life than distant tsunamis. Tsunamis generated from local sources are generally larger and arrive much sooner after the causative source event than tsunamis from distant sources.
3. See Attachment B for additional Tsunami Background Information

### B. Assumptions

1. A tsunami may occur at any time, day, or night.
2. A locally generated tsunami of any significance affecting South Carolina is unlikely.
3. A Tsunami Watch or Warning will be transmitted by NWS forecast offices for all tsunamis that are forecast to impact South Carolina.
4. The NWS Forecast Offices might not activate the Emergency Alert System (EAS) for all Tsunamis forecast to affect South Carolina. Tsunamis forecast with minimal impacts (riptides for example) may not result in EAS activation.
5. The tsunami threat in South Carolina may be caused by a distant seismic source, and in this case would provide at least three to four hours lead time to warn the public and evacuate sensitive facilities followed by establishing temporary shelters, and securing the coastal area.

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6. Landslides on the outer continental shelf and slope along the Mid-Atlantic coast have the potential to trigger tsunamis that may affect populated coastal areas.
7. Communications and critical infrastructure services may be disrupted or destroyed.
8. The maximum possible tourist and workforce populations may be present in the affected areas.
9. Withdrawal of the sea may be a precursor to arrival of the wave.
10. The first wave may not be the largest. The largest wave usually occurs among the first three waves.
11. Damage will be widespread and will vary widely, i.e., there may be concentrations of significant damage in some areas with only slight damage in others.
12. Access to and from the damaged areas may be restricted and some low-lying areas may be inundated.
13. The Statewide Mutual Aid Agreement will be implemented.

### IV. CONCEPT OF OPERATIONS

#### A. Warning System

1. NOAA operates the Tsunami Warning System. The goal of the Tsunami Warning System is to protect life and property from the tsunami hazard by providing timely, accurate, reliable, and effective tsunami warning to coastal populations and emergency management organizations within the AOR as well as by advancing other aspects of tsunami hazard mitigation. The primary operational objectives of a Tsunami Warning System are to rapidly locate, assess magnitude and extent, and otherwise characterize major earthquakes to determine their tsunamigenic potential, predict tsunami arrival times, predict coastal run-up when possible, and disseminate appropriate warning and informational products based on this information.
2. The Tsunami Warning Center at Palmer, Alaska, also known as the West Coast/Alaska Tsunami Warning Center (WC/ATWC), is responsible for the preparation and dissemination of Tsunami Warning, Watch, Advisory, and Information products for the coastal regions of Canada and all States except Hawaii. These regions are defined as the WC/ATWC's AOR. The

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WC/ATWC has the primary responsibility for the detection and parameterization of potentially tsunamigenic earthquakes occurring within or immediately adjacent to its AOR and events within the Atlantic Basin north of the Tropic of Cancer.

3. The Tsunami Warning Center uses earthquake information, tide gauges, and DART (Deep-ocean Assessment and Reporting of Tsunamis) buoys. DART buoys are located in the Atlantic Ocean, the Gulf of Mexico, and the Caribbean Sea. In addition NOAA plans to deploy tsunameter buoys in the Atlantic. The DARTs (or tsunameters) have been strategically deployed near regions to ensure accurate measurement of the waves as they propagate towards threatened U.S. coastal communities. The data captured by DART buoys are critical to monitoring tsunami waves and predicting the timing and magnitude of the waves as they approach and impact the coast of South Carolina.
4. The following products are issued by NOAA's Tsunami Warning Centers. Each had a distinct meaning relating to local emergency response. In summary:

<b>Information Statement</b>	<b>Minor waves at most</b>	<b>No action suggested</b>
<b>Watch</b>	<b>Danger level not yet known</b>	<b>Stay alert for more info</b>
<b>Advisory</b>	<b>Strong currents likely</b>	<b>Stay away from the shore</b>
<b>Warning</b>	<b>Inundating wave possible</b>	<b>Full evacuation suggested</b>

- a. **Tsunami Information Statement** - a tsunami information statement is issued to inform emergency management officials and the public that an earthquake has occurred, or that a tsunami warning, watch or advisory has been issued for another section of the ocean. In most cases, information statements are issued to indicate there is no threat of a destructive tsunami and to prevent unnecessary evacuations as the earthquake may have been felt in coastal areas. An information statement may, in appropriate situations, caution about the possibility of destructive local tsunamis. Information statements may be re-issued with additional information, though normally these messages are not updated. However, a watch, advisory or warning may be issued for the area,

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if necessary, after analysis and/or updated information becomes available.

- b. **Tsunami Watch** - a tsunami watch is issued to alert emergency management officials and the public of an event which may later impact the watch area. The watch area may be upgraded to a warning or advisory - or canceled - based on updated information and analysis. Therefore, emergency management officials and the public should prepare to take action. Watches are normally issued based on seismic information without confirmation that a destructive tsunami is underway.
  - c. **Tsunami Advisory** - a tsunami advisory is issued due to the threat of a potential tsunami which may produce strong currents or waves dangerous to those in or near the water. Coastal regions historically prone to damage due to strong currents induced by tsunamis are at the greatest risk. The threat may continue for several hours after the arrival of the initial wave, but significant widespread inundation is not expected for areas under an advisory. Appropriate actions to be taken by local officials may include closing beaches, evacuating harbors and marinas, and the repositioning of ships to deep waters when there is time to safely do so. Advisories are normally updated to continue the advisory, expand/contract affected areas, upgrade to a warning, or cancel the advisory.
  - d. **Tsunami Warning** - a tsunami warning is issued when a potential tsunami with significant widespread inundation is imminent or expected. Warnings alert the public that widespread, dangerous coastal flooding accompanied by powerful currents is possible and may continue for several hours after arrival of the initial wave. Warnings also alert emergency management officials to take action for the entire tsunami hazard zone. Appropriate actions to be taken by local officials may include the evacuation of low-lying coastal areas, and the repositioning of ships to deep waters when there is time to safely do so. Warnings may be updated, adjusted geographically, downgraded, or canceled. To provide the earliest possible alert, initial warnings are normally based only on seismic information.
- 5. All Tsunami products will be plotted on the NWS hazards maps.
  - 6. When a potential tsunami-producing earthquake greater than threshold magnitude of 6.75 occurs in the Atlantic Tsunami Center's AOR, all

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tsunami products for South Carolina are issued by West Coast Alaska Tsunami Warning Center (WC/ATWC). Tsunami products also may be issued when potential tsunami-producing earthquakes greater than magnitude 7.5 occur outside the Atlantic AOR and are likely to impact the AOR.

6. The geographic extent of a tsunami product is based on the size of the earthquake, the tsunami travel times throughout the AOR, and expected impact zones.
7. Tsunami Warnings are generally issued within 10 minutes after earthquake occurrence.
8. Below is the U.S. East Coast criterion:

<b>Magnitude</b>	<b>Area</b>	<b>Product</b>
4.0-4.9	Within 50km of coast	Tsunami Seismic Information Statement
5.0-5.9	Within 500 km of coast	Tsunami Seismic Information Statement
6.0-6.75	Within approximately 500km of coast	Tsunami Information Statement
6.0+	Inland	Tsunami Information Statement
6.8-7.5	Atlantic coast	Fixed warning (350km)*
7.6-7.8	Atlantic coast	Fixed warning (1000km)*
>7.8	Atlantic coast	3 hour watch/3 hour warning**

### B. Notification

1. In the event of a Tsunami Warning, Watch, Advisory, or Information Statement, the West Coast/Alaska Tsunami Warning Center (WC/ATWC) issues the tsunami message to the National Weather Service Forecast

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Offices (NWS) in the affected states. The local NWS forecast offices have the primary responsibility to process the information and rebroadcast the tsunami message or product through the civil emergency system which activates EAS.

2. The decision to activate EAS for a tsunami product is the sole responsibility of the local NWS Forecast Offices. The issuance of a Tsunami Warning or Watch may prompt NWS to activate EAS with a Civil Emergency Message. However, with the issuance of a Tsunami Advisory and Information Statement neither of these will prompt EAS activation. If NWS activates EAS, state and local officials can follow-up with another activation of EAS to warn the public and/or issue safety messages.
3. Upon SCEMD receipt of a Tsunami Warning, Watch, Advisory, or Information Statement, the State Warning Point will confirm receipt of the tsunami message with the WC/ATWC and relay to coastal counties. For redundancy, the SC Warning Point has several communications systems to receive tsunami messages when issued by NOAA:
  - a. The Emergency Management Weather Information System (EMWIN) which is a NOAA satellite-based system;
  - b. State Law Enforcement Division (SLED) teletype system;
  - c. Internet; and
  - d. NOAA All Hazards Weather Radio.
4. During business hours a copy of the tsunami message is given to SCEMD officials by the State Warning Point and faxed to the coastal emergency management offices. The State Warning Point will call to confirm receipt of the message.
5. After business hours, it is faxed to coastal emergency management warning centers which notify the county emergency management director. The State Warning Point will also confirm the receipt of the message telephonically with the warning centers. The message will be texted to SCEMD officials.
6. The State Warning Point participates monthly in an unannounced tsunami message test drill. The procedures for notification of a tsunami message are exercised during this monthly test drill.

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7. The coastal county warning centers also receive Tsunami Warning and/or Watch information independent of the State Warning Point through NOAA All Hazards Weather Radio and other systems that receive NOAA Weather warnings.
8. Upon receipt of any of the tsunami products, the SCEMD Director (or his designee) will confer with the NWS State Liaison (and if not available, a coastal NWS Forecast representative) to confirm threat and discuss potential consequences.
9. In the event a Tsunami Warning is issued for South Carolina coast by the West Coast/Alaska Tsunami Warning Center (WC/ATWC), the State Emergency Operations Center (SEOC) will activate at OPCON 1 and staffed accordingly.
10. In the event a Watch, Advisory or Information Statement is issued for South Carolina coast by the WC/ATWC, the SEOC will activate at OPCON 3 and staffed accordingly.

### C. Evacuation

1. High-speed communications systems are used by the Tsunami Warning Centers, and distant tsunamis can often be announced by the Warning Centers with lead time to evacuate. A tsunami produced from a distant-source may allow three or four hours to evacuate.
2. Current tsunami inundation modeling is still in its infancy for the U.S. East Coast, there is some modeling work being done by NOAA. Until tsunami inundation maps are developed for coastal South Carolina, the State's Tsunami Evacuation Zone will use the recommended NWS Forecast Zone which is the evacuation one (1) mile inland away from river or approximately the third floor of a high rise building in the event of a Tsunami Warning.
3. Inland evacuation is the preferred method to evacuate low-lying coastal areas in advance of the initial tsunami wave. However, if lead time is insufficient to effect an inland mass evacuation, citizens should evacuate to high rise buildings at least to the third floor to implement vertical evacuation procedures. Vertical evacuation is the act of moving to the highest floor in a multiple-story building in order to avoid the tsunami wave. It is the local government responsibility to recommend the most prudent evacuation method for its threatened areas.
4. Upon receipt of a Tsunami Warning, local government officials are responsible for issuing an evacuation order to the threatened area.

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Simultaneously or not long afterwards, SCEMD will request the Governor to activate the SCEOP and may declare a mandatory evacuation of specific coastal areas based on local authority to evacuate. See Attachment C for Sample Evacuation Order.

5. The evacuation message will be broadcast to television and radio stations through the activation of EAS and other communications systems. See Public Information Section IV.D.2.
6. SCEMD and the local emergency manager will maintain communication with the NWS State Liaison and the local NWS Forecast offices on all notification and evacuation decisions. Telephone numbers of the NWS Forecast offices are maintained in SCEMD and the county emergency managers' telephone directories.
7. If there is observation of severe water drawback of the sea from South Carolina coasts and it is authenticated by reliable sources, local officials will order an evacuation of the beach via whatever communications methods are available at the time (route alerting, loud speaker, etc). The county emergency manager will request the local NWS Forecast Office to issue a civil emergency message (which includes activation of EAS) to broadcast the tsunami warning and for persons to evacuate the beach immediately. County emergency managers will inform SCEMD of the evacuation order and the SCEMD Director (or his designee) will request the NWS State Liaison to confirm threat and will follow the same procedures as outlined above in C. 2 through 6.
8. An evacuation order for a Tsunami Watch will be dependent upon the situation. The decision to evacuate will be made by representatives of the State Emergency Response Team (SERT), NWS forecast officials, and affected local emergency management officials.
9. After the arrival of the first wave, additional waves may continue at varying intervals for several hours.
10. Assembly areas for those without transportation will be designated in the tsunami risk areas by county emergency managers.
11. Shelters for persons needing accommodations will be identified outside the tsunami risk areas.
12. If required or requested, Traffic Control Points (TCPs) will be identified for the areas and will be implemented by local law enforcement with assisted by ESF-16 if necessary.

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13. Identifying evacuation routes are not necessary due to the limited inundation area; however, if the need arises to implement evacuation routes, the routes currently identified for hurricane evacuation will be implemented along with the traffic management operations. Local officials will be responsible for coordinating the local evacuation effort and requesting implementation of the hurricane traffic management operations.
14. The following actions will occur following an evacuation order:
  - a. Advise jurisdictions to maintain full evacuation until the evacuation order has been rescinded. The evacuation order being rescinded will be based upon an ALL-CLEAR signal which is a minimum of two hours after arrival of the last wave.
  - b. An ALL CLEAR determination is the responsibility of the local officials in consultation with NWS Forecast Offices and SERT officials. An ALL CLEAR message will be issued no earlier than two hours after the last damaging wave. Before the ALL CLEAR determination is made, officials must be able to observe the waves from a safe distance/height.
  - c. No persons are to enter the evacuated areas until the evacuation order has been rescinded after the ALL CLEAR signal. Re-entry is the responsibility of local officials.
  - d. Consider declaration of emergency or disaster based on damage.
  - e. Disseminate public information about the event.
  - f. Resource allocation and coordination preceding the tsunami wave will take into consideration the following areas of special concern:
    - 1) Evacuation of education and childcare facilities and nursing homes located within the Tsunami Evacuation Zone.
    - 2) Evacuation of disabled persons and those needing special medical assistance within the Tsunami Evacuation Zone.
  - g. Request jurisdictions to initiate preparation for damage assessments to compile information and report information to SEOC.
  - h. SCEMD will request State Damage Assessment Teams to begin preparation to assist local governments in the assessment.

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- i. Request health inspections to begin preparation of damaged areas to ensure they are safe for residents to return.
  15. As the situation dictates, SCEMD will implement the Operational Area Concept in the jurisdictions affected by the incident. The Operational Area Concept will facilitate coordination of resources among jurisdictions and disciplines, and ensure that scarce resources are allocated in accordance with the needs of the situation.
  16. See Attachments D – F for Tsunami Checklists.
- D. Public Information
1. The NWS Forecast Offices have the authority and responsibility to issue a civil emergency to warn of a tsunami. The civil emergency notification activates EAS and other systems. State and local officials may follow with a rebroadcast of the initial EAS message.
  2. A Tsunami Warning will be disseminated to cover the affected areas by one or all of the following systems:
    - a. Emergency Alert System (EAS)
    - b. NOAA All Hazards Weather Radio
    - c. Local Warning System (Reverse 911, etc)
    - d. Local TV Stations
    - e. Local Radio Stations
    - f. Loud speakers (if available)
    - g. SC Reach Emergency Notification System (REACHSC)
    - h. Route Alerting
    - i. Person-to-Person
  3. SCEMD PIO office will release News Release to the media on the situation. See Attachment G for a Sample EAS Statement and Attachment H for a Sample News Release.

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### E. Recovery

1. SCEMD will implement its Recovery Plan to facilitate recovery in the disaster area after the evacuation order has been rescinded and the ALL CLEAR Signal has been given.
2. A focus will be placed on health inspections to prevent the spreading of communicable diseases, contamination of food, and water supplies.

## V. RESPONSIBILITIES

### A. SC Emergency Management Division (SCEMD)

1. Update and review annually this Annex and coordinate plan review with applicable state agencies, local NWS Weather Forecast Offices, and county emergency management offices.
2. Provide assistance to county emergency management offices in support of tsunami planning and TsunamiReady Program. See Attachment I – Map of Tsunami Ready Counties and Communities.
3. Coordinate with local emergency management offices and local NWS Weather Forecast Offices to review procedures for disseminating tsunami products to local jurisdictions.
4. Coordinate and implement procedures to relay and/or verify receipt of tsunami products notifications to affected counties.
5. Coordinate with local NWS Weather Forecast Offices and local emergency management offices to determine tsunami inundation areas within the State and develop tsunami inundation maps.
6. In conjunction with county emergency management offices and local National Weather Service Forecast Offices develop public education tools for tsunami public education program.
7. Coordinate with local NWS Weather Forecast Offices to prepare EAS tsunami messages to include ALL CLEAR messages in English and in Spanish.
8. Coordinate with local NWS State Liaison Office to participate in the monthly EAS test and provide information to coastal counties.
9. In coordination with SC DHEC, identify Special Medical Needs population in the tsunami inundation zone and the requirements to evacuate.

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### B. American Red Cross (ARC)

1. In coordination with the local emergency managers and SCDSS identify shelters to support evacuations from tsunami risk areas. Shelters identification should be outside the tsunami risk areas.
2. In coordination with SCDSS, the Salvation Army and local emergency managers be prepared to feed evacuated persons from the tsunami threatened areas to include groups of special needs such as nursing homes, health care facilities, Foster Care Group homes, vulnerable adult population groups.
3. Support the local governments TsunamiReady Program.

### C. Clemson University Livestock-Poultry Health

1. Consult with SC Association of Veterinarians (SCAV) and SC Department of Environmental Health (SCDHEC) concerning animal diseases and public health concerns related to a tsunami hazard, and assist with dissemination of this information to the public.
2. In coordination with local emergency managers and ESF-17 support agencies, identify emergency animal shelters outside the tsunami risk areas.

### D. SC Department of Health and Environmental Control (SCDHEC)

1. Review all aspects of possible health concerns that may affect the public following a tsunami and develop procedures to prevent the spreading of communicable diseases and contamination of food and water supplies.
2. Identify Special Medical Needs population in the tsunami inundation zone and the requirements to evacuate.

### E. SC Department of Natural Resources

In coordination with SCDOT and SCDPS, develop plans and procedures to evacuate persons using boats and other water craft and respond to other requests for assistance.

### F. SC Department of Public Safety (SCDPS)

1. In conjunction with county law enforcement authorities, develop and coordinate traffic management plans to ensure timely evacuation to include establishing local traffic control points/road blocks and implementation of the hurricane traffic management planning if necessary.

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2. Support local government tsunami planning.

G. SC Department of Social Services (SCDSS)

1. In coordination with the ARC and local emergency managers identify shelters to support evacuations from tsunami risk areas. Shelters identification should be outside the tsunami risk areas.

2. In coordination with Salvation Army and American Red Cross (ARC) be prepared to feed evacuated persons from the tsunami threatened areas to include groups of special concern such as nursing homes, health care facilities, Foster Care Group homes, vulnerable adult population groups.

H. SC Department of Transportation (SCDOT)

Review plans and procedures to transport evacuated persons from the tsunami threatened areas and if necessary, be prepared to implement transportation plans.

I. SC Lieutenant Governor's Office on Aging

1. Identify the vulnerable senior population groups in the inundation areas and the requirements to evacuate.

2. Coordinate and implement procedures to relay Tsunami Warning and Watch notifications to facilities serving senior population groups in inundation areas.

J. Salvation Army

In coordination with Department of Social Services and American Red Cross (ARC) be prepared to feed evacuated persons from the tsunami threatened areas to include groups of special needs such as nursing homes, health care facilities, Foster Care Group homes, vulnerable adult population groups.

K. Coastal County Emergency Management Offices

1. Participate in TsunamiReady Program and tsunami planning.

2. In conjunction with SCEMD and local National Weather Service Forecast Offices assist in the development of tsunami inundation maps.

3. Develop plans to reissue EAS messages upon receipt of a Tsunami Warning.

4. In conjunction with SCEMD, local National Weather Service Forecast Offices, SCDPS, SCDOT, and local law enforcement offices, assist in the development and coordination of traffic management plans to ensure

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effective evacuation to include establishing local traffic control points/road blocks and implementing of the hurricane traffic management planning if necessary.

5. Review and identify the best methods to evacuate threatened areas. For vertical evacuations, local planning for use of multi-story, high capacity, structurally sound buildings is needed. Additionally, identification of and routing to/from these structures must be considered.
6. In coordination with SCDHEC, identify populations with special transportation needs including day care facilities, schools, nursing homes, health care facilities, Foster Care Group homes, vulnerable adult population groups, and those without transportation.
7. In conjunction with ARC and SCDS, identify shelters to support displaced tourists and county population. Shelters identification should be outside the tsunami risk area.
8. In conjunction with local NWS Forecast Offices develop public education tools for tsunami public education and information program. Utilize materials from TsunamiReady Program.
9. Identify assembly areas for those without transportation to take to shelters.
10. In coordination with SCEMD and local NWS Forecast Offices develop plans to issue ALL-CLEAR signal and initiate re-entry policies.

### VI. FEDERAL ASSISTANCE

The principal federal agencies that provide assistance in the event of a tsunami disaster are National Oceanic & Atmospheric Administration (NOAA) to include the National Weather Service (NWS) Weather Forecast Offices (NWS), the NOAA Center for Tsunami Research (NCTR), and the National Geophysical Data Center (NGDC). The Department of Homeland Security and the Federal Emergency Management Agency (FEMA) will implement the National Response Framework (NRF) to provide assistance. Earthquake monitoring and analysis support is provided by the United States Geological Survey (USGS). Other federal agencies that have collateral or coordinating responsibilities are identified in the Basic Plan of the SC Emergency Operations Plan (SCEOP).

### VII. ATTACHMENTS

ATTACHMENT A - Acronyms and Glossary

ATTACHMENT B – Tsunami Background Information

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ATTACHMENT C - Sample Evacuation Order

ATTACHMENT D- Tsunami Warning Checklist

ATTACHMENT E - Tsunami Watch Checklist

ATTACHMENT F - Tsunami ALL-CLEAR Checklist

ATTACHMENT G - Sample Emergency Alert System (EAS) Messages for Tsunami Hazard

ATTACHMENT H - Sample News Release

ATTACHMENT I - Map of TsunamiReady Counties and Communities