

TEAM NORFOLK



Emergency Operations &

Resilience Framework

Hazard-Specific Annex

Tsunami

February 26, 2018



STOP! Before you read this Hazard-Specific Annex, be sure you are aware of all that is written in the Framework’s BASIC PLAN and your respective Emergency Support Function (ESF) Annex(es). The Basic Plan is the foundational document on which all annexes are built and explains strategies for Command and Control, Situational Awareness, Resource Requests, Communications and more. ESF Annexes lists partner agencies, roles and responsibilities, available resources and other critical information.

Purpose and Scope

The purpose of this Hazard-Specific Annex is to provide an organizational framework and response capability from which the city and its partners can respond to a Tsunami incident. It is designed to not only meet the legal mandates outlined by State and local code in the areas of emergency services and emergency management, but to do so with unity of effort among all participating agencies.

Situation

Background

Per the 2011 Southside Hampton Roads Hazard Mitigation Plan (p. 4:105), The word tsunami is Japanese and means “harbor wave.” A tsunami is one or a series of great waves that are created by an earthquake, landslide, volcanic eruption, submarine earthquake or other undersea disturbance. From the area of disturbance, tsunami waves will travel outward in all directions. Tsunamis can originate hundreds or even thousands of miles away from coastal areas. A tsunami is not the same as a tidal wave.

The time between wave crests may be five to 90 minutes and the open ocean wave speed may average 450 MPH. As tsunami waves approach shallow coastal waters, they appear to be of normal size. Although the waves slow down as they reach shallow water, the energy remains constant. When tsunami waves crash into the shoreline, they may be as high as 100 feet. Areas at greatest risk are less than 50 feet above sea level and within one mile of the shoreline. Rapid changes in the ocean water level may indicate that a tsunami is approaching. Most deaths during a tsunami are the result of drowning. Associated risks include flooding, polluted water supplies, and damaged gas lines.

There is no historical evidence of tsunami events directly affecting the Southside Hampton Roads region. However, although tsunamis are more frequently associated with Pacific Rim states, historical evidence does indicate that tsunamis have affected the Eastern United States. In fact, **40 tsunamis and tsunami-like waves have been documented in the Eastern United States since 1600.**

Tsunami events along the East Coast are not the result of traditional sources of tsunami waves (i.e., subduction zones such as the Cascadia Subduction Zone), but rather are typically the result of slumping or landsliding associated with local earthquakes or with wave action associated with strong storms such as hurricanes. Other possible causes of tsunami-like activity along the East Coast could include explosive decompression of underwater methane deposits, the impact of a heavenly body (i.e., an asteroid, comet or oceanic meteor splashdown) or a large underwater explosion. One significant contributing factor to tsunami-related damage is the massive amount of moving debris possible during a tsunami event—including manmade debris such as boats and also on-shore debris as the tsunami strikes land.

There is still uncertainty as to the severity of the tsunami threat to the East Coast. With only 40 events recorded since 1600, plus the more recent event in Maine, the probability of future occurrences, while possible, is unlikely. (p. 4:106)

Vulnerability Assessment

According to the qualitative assessment performed using the PRI tool, the tsunami hazard scored a PRI value of 2.6 (from a scale of 0 to 4, with 4 being the highest risk level).

QUALITATIVE ASSESSMENT FOR TSUNAMIS				
PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION
Unlikely	Catastrophic	Moderate	Less than 6 Hours	Less than 6 Hours

Source: Southside Hampton Roads Mitigation Planning Committee. Please refer to Table 5.1 for an explanation of the terms used.

Losses that could occur based on a tsunami event would probably be similar to those experienced by coastal flooding or storm surge event as discussed earlier in this section. However, because of the lack of information on previous occurrences, it is not possible to determine an annualized loss estimate.

Concept of Operations

Direction and Control

Initial Incident Command is assumed by the Norfolk Emergency Operations Center most likely as the recipient of a tsunami alert product from the National Weather Service. The EOC will then disseminate the necessary notifications through Norfolk alert to both the area to be impacted as well as Team Norfolk response agencies.

Alert / Initial Briefing

Tsunami messages are issued by the Tsunami Warning Centers to notify emergency and other local officials, the public and other partners about the potential for a tsunami following a possible tsunami-generating event. For the U.S. and Canadian coastlines, these messages include the following alerts:

The National Weather Service uses the following terms while issuing watches and warnings:

Tsunami WARNING: TAKE ACTION – Danger! A Tsunami that may cause widespread flooding is expected or occurring. Dangerous coastal flooding and powerful currents are possible and may continue for several hours or days after initial arrival. **Follow instructions from local officials. Evacuation is recommended. Move to high ground or inland (away from the water).**



Tsunami warnings are broadcast through local radio and television, marine radio, Wireless Emergency Alerts (WEA), NOAA Weather Radio and NOAA websites (like Tsunami.gov).



In an effort to augment Tsunami Warning Center Tsunami Warnings which reach cell phones via WEA, Team Norfolk EOC will send out geographically-targeted Norfolk Alert messages to reach landline telephones.



Norfolk does NOT utilize warning sirens.



There may not always be enough time for an official warning, so it is important to understand natural warnings. If while at the coast one feels a strong or long earthquake, see a sudden rise or fall of the ocean or hear

a loud roar from the ocean, a tsunami may follow. TAKE ACTION AND MOVE TO A SAFE PLACE! Do not wait for official instructions.

Tsunami ADVISORY: TAKE ACTION – A tsunami with potential for strong currents or waves dangerous to those in or very near the water is expected or occurring. There may be flooding of beach and harbor areas. **Stay out of the water and away from beaches and waterways. Follow instructions from local officials.**

Tsunami WATCH: BE PREPARED – A distant earthquake has occurred. A tsunami is possible. **Stay tuned for more information. Be prepared to take action if necessary.**

Tsunami Information Statement: Relax – An earthquake has occurred, but there is no threat or it was very far away and the threat has not been determined. In most cases, there is no threat of a destructive tsunami.

Note: Tsunami warnings, advisories and watches may be updated or cancelled as information becomes available. Advisories, watches and information statements may be upgraded if the threat is determined to be greater than originally thought.

Operational Periods and Situational Reports

Operational periods will be determined at the onset of the incident.

Situational Awareness and Coordination

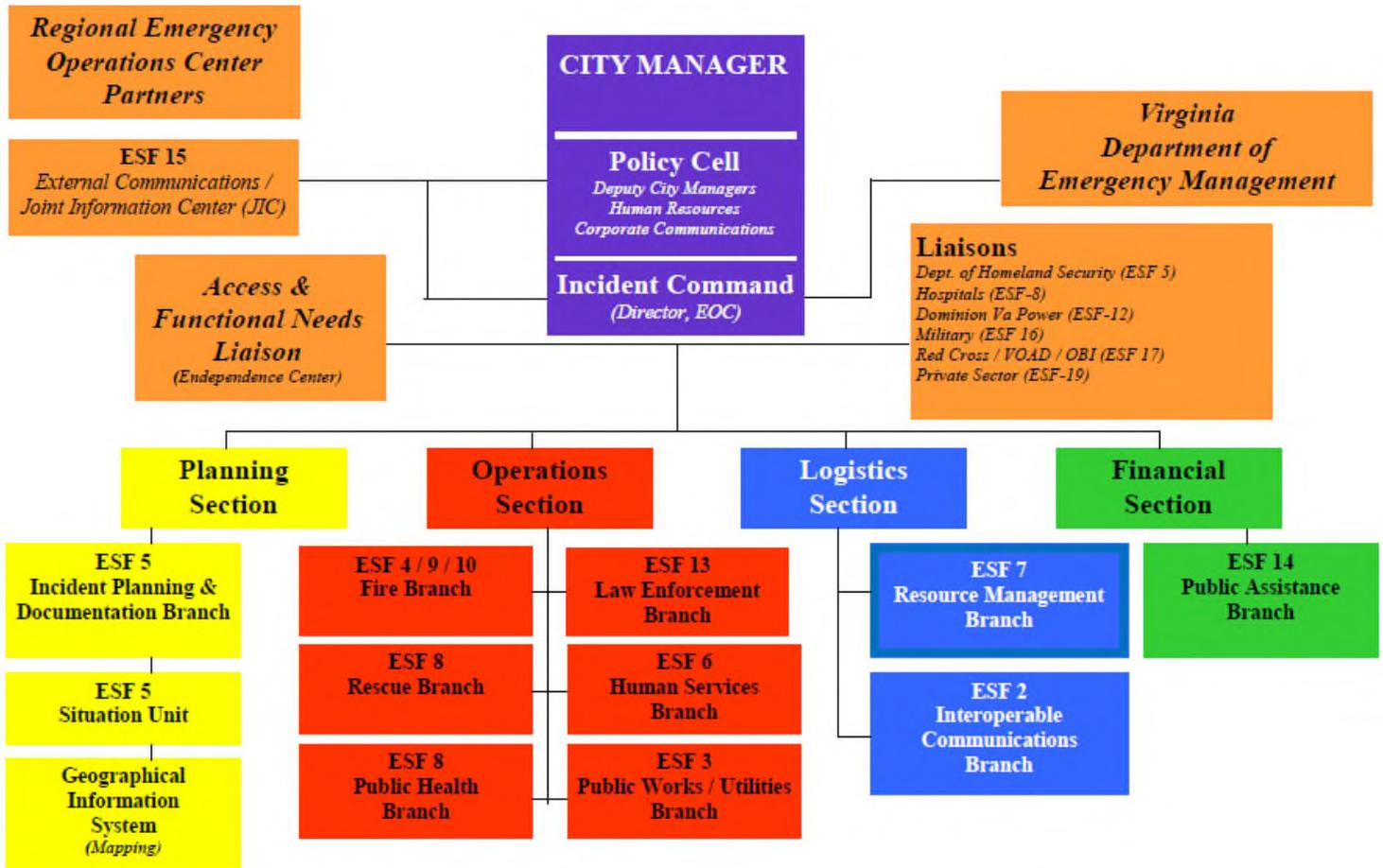
Emergency Preparedness and Response will coordinate EOC briefings and communicate goals and objectives for each operational period.

Other useful sites in addition to those listed in the Basic Plan:

NWS Tsunami
<https://tsunami.gov/>

Organization

With the formal adoption of NIMS and ICS, and the ESF approach to disaster planning, the Norfolk Emergency Operations Center utilizes a variation of the following ICS / ESF hybrid template to all incidents.



Roles and Responsibilities

INDIVIDUAL / HOMEOWNER / BUSINESS OWNER

1. Register for Norfolk Alerts at <http://www.norfolk.gov/norfolkalert> or by calling Norfolk IMPACT at 757-664-6510.
2. Check on friends and neighbors, particularly those who may have medical, access or functional needs.
3. Report power outages to Dominion Energy at dominionenergy.com or by calling 1-866-DOM-HELP (1-866-366-4357)
4. During power outages, use generators with caution and never inside the home or garage.

5. Prepare yourself against unscrupulous contractors; use licensed local contractors backed by reliable references. You can go to <http://www.dpor.virginia.gov/LicenseLookup/> to confirm a valid license.
6. Get engaged by volunteering when requested.

Emergency Support Function 1 Transportation

Norfolk Public Works, Division of Operations

1. Ensure the ability for public safety vehicle to pass local streets.
2. Towing and Recovery Division to ensure sufficient towing capabilities for removal of parkers or stalled vehicles blocking traffic lanes.

Emergency Support Function 2 Communications

Emergency Communications Center / 911

1. Serve as primary answering point for emergency calls.
2. Maintain situational awareness in STORM.
3. Provides appropriate notifications of emergency incidents to agencies
- 1 Assign tactical dispatcher(s) to the Norfolk Cares Call Center as requested to address any emergency-related calls.

Norfolk Geographic Information Service (GIS)

1. Brief the EOC on mapping tools and product information which help paint a common awareness and operational picture.
2. Download any NWS flood files for a more accurate depiction of the watch/warning areas within locality.
3. Display emPOWER data provided by Public Health. When power outages exist, overlay the emPOWER data with Dominion Energy files as well.

Emergency Support Function 3 Public Works, Utilities & Engineering

Norfolk General Services

1. Coordinate with RPOS and PW to address ingress/egress for City buildings

Norfolk Neighborhood Development

1. Conduct damages assessments using STORM and STORM Mobile and provide report to the EOC.

Emergency Support Function 4 Fire and Rescue

Norfolk Fire-Rescue

1. In addition to maintaining daily operations, respond to fire incidents in impact area.

Emergency Support Function 5 Emergency Management

Emergency Management

1. Monitor conditions and provide updates; maintain and monitor WebEOC and coordinate with IMPACT to review STORM Mobile entries.
2. Announce the incident and implement the appropriate plans.
3. Activate virtual emergency operations center
4. Establish incident in STORM (*Minimum 5-day time period*); request iVIEW be activated on Norfolk.gov
5. Notify Team Norfolk and schedule incident briefings.
6. Provide Command and Control; coordinate with City Manager's Office.
7. Complete Organization Assignment List (ICS 203) and Incident Action Plans
8. Recommend declaration of a local emergency if appropriate
9. Maintain communications with, and provide situation reports to, the Virginia Emergency Operations Center

Emergency Support Function 6 Mass Care, Housing & Human Services

Human Services / Community Services Board

1. Coordinate any sheltering operations as needed (upon request from EOC), particularly for those who might have homes flooded and/or lost power.
2. Share service information with JIC and 211 Virginia

Office to End Homelessness

1. Address the conditions and needs of homeless residents in the affected area.

Emergency Support Function 7 Logistics and Resource Support

Emergency Management

1. Serve as Logistics Section Chief; submit resource requests to the Virginia Emergency Operations Center (VEOC) via the VDEM WebEOC.

Emergency Support Function 8 Health and Medical

Hospitals

1. Coordinate with the Norfolk EOC, Norfolk Fire-Rescue, Eastern Virginia Healthcare Coalition's Regional Healthcare Coordination Center (EVHC RHCC) and the Norfolk EOC ESF-8 desk.
2. Maintain Virginia Hospital Alerting and Status System (VHASS) reflecting facility operations status and available bed space.

Eastern Virginia Healthcare Coalition Long-Term Care Preparedness Coordinator

1. Make contact with licensed healthcare facilities in impact area to ensure awareness of the situation and any resources which might be available. A post-incident follow-up call may also be requested.

Norfolk Fire-Rescue

1. Provide medical response and technical rescue as needed

Norfolk Public Health

1. Provide aggregate data on disabilities/dependencies, etc. by zip code (not individual data) using the DHHS/ASPR emPOWER map tool. (<https://empowermap.hhs.gov/>).



In order to receive the identified data, **a Governor's Declaration must be in place or anticipated**. The data is broken down by zip codes within the city. While the identified data does not guarantee 100% coverage of functional and access needs population, it is a good planning tool with above 95% accuracy rate.

2. NHD provides health and safety info to City PIO for distribution to all populations.
3. Provide guidance or otherwise approve Joint Information Center (JIC) messages for post-flood cleanup.
4. Maintain situational awareness regarding sheltering status and needs.
5. Maintain communication and status of hospitals and alternate care facilities

Emergency Support Function 12 Power

Dominion Energy

1. Provide EOC staff forecast and priority information.
2. Restore power / downed lines.
3. Maintain Emergency Management outage view on dom.com

Emergency Preparedness and Response

1. Track outage information for EOC / WebEOC Situational Awareness

Norfolk Fire and Rescue

1. Liaison with Dominion Energy; prioritize restoration needs.

Norfolk Public Works

1. Liaison with Dominion Energy

Emergency Support Function 13 Public Safety and Security

Norfolk Police Department

1. Report roadway conditions to EOC upon request
2. Maintain daily operations and assume command of incidents involving criminal activity
3. Provide security to any emergency shelters activated
4. Provide traffic control at affected intersections as necessary.

Virginia State Police

1. Provide support to local law enforcement
2. Manage ingress to Interstate

Emergency Support Function 15 External Affairs

211 Virginia

1. Relay information and referrals to area service providers.
2. Augment City's non-emergency information line (Norfolk Cares Call Center, 664-6510)

K-12 and Education Institution Public Information

1. Coordinates with JIC regarding media information
2. Coordinates communication with students, staff, and parents

Norfolk Cares Assistance / IMPACT Call Center (664-6510)

1. Serve as the primary answering point for non-emergency calls from the community; answer/direct questions as needed
2. Share call patterns with the EOC and JIC to better inform press release information.



Deviation from the 7am to 6pm Monday through Friday may be necessary.

Public Relations / Communications / Joint Information Center (JIC)

1. Ensures all communications are accessible, to include certified sign language interpreters for all press conferences.
2. Coordinates with the EOC for issuance of media releases and social media postings
3. Coordinate information bullets and share with Norfolk Cares Call Center and 211 Virginia
4. Coordinate messaging with VEOC, region's JIC's and Team Norfolk partners
5. Provides executive and legislation briefing information
6. Coordinates media, VIP visits and press conferences.

Emergency Support Function 16 Military Affairs

1st Battalion, 111th Field Artillery Unit

1. Assist with the transport of essential personnel and medical evacuees based on request and VEOC ESF-16 approval.

Naval Region Mid-Atlantic / Naval Station Norfolk / Naval Support Activity HR

1. Share Fleet Weather Center forecast information
2. Maintain situational awareness using WebEOC

Emergency Support Function 17 Volunteer & Donations Management

Norfolk Community Emergency Response Team (CERT)

1. Upon request and working with MRC, contact vulnerable individuals in impact area to ensure well-being.

Operation Blessing

1. Coordinate and manage unaffiliated volunteers upon request from the EOC.

Operation Brother's Keeper (Participating Houses of Worship)

1. Assist Logistics Section
2. Assist with information dissemination to congregants
3. Communicate unmet needs to the EOC

Red Cross, Eastern Virginia Region

1. Solicit needs and provide support to the locality; monitor WebEOC

Salvation Army

1. Manage donations (monetary and materials) upon request from the EOC.

Tidewater Four-Wheelers

1. Provide assistance upon request and availability / ability with transporting essential personnel to critical infrastructure sites.

Voluntary Organizations Active in Disaster (VOAD)

1. Assist Logistics Section
2. Coordinate and otherwise manage tactical / affiliated volunteers upon request from the EOC.

Emergency Support Function 18 Education (K-12 / Higher Education)

School Administration

1. Maintain situational awareness with Norfolk EOC.
2. Determine operating status for schools/facilities in impact area; inform EOC
3. Coordinates student, staff, and/or parent information issues
4. Clear entrances and parking lots at all school facilities.

Emergency Support Function 19 Private Sector

Private Sector Partners

1. Assist Logistics Section
2. Maintain situational awareness with Norfolk EOC.

Supporting Plans and Policies

- Southside Hampton Roads Hazard Mitigation Plan (2011): Tsunami Hazard Identification / Risk Assessment
- Southside Hampton Roads Hazard Mitigation Plan (2011): Tsunami Vulnerability Assessment

Norfolk's Historical Resources

The Sargeant Memorial Collection (SMC) is the local history and genealogy collection for the City of Norfolk. The SMC contains a wealth of historical research information that focuses on the City of Norfolk and surrounding region, including more than 24,000 books, 10,500 microforms, 150,000 photographs, 3,000 maps, and 2,500 linear feet of archives and manuscript collections. The collection offers a wide variety of resources chronicling major events in Norfolk's history, including floods, hurricanes, snowfalls, and other storms such as the Ash Wednesday storm; fires and other major disasters such as the great Berkley fire; epidemics and health crises such as the yellow fever epidemic; and civil disturbances such as protests during the civil rights era. Some content is available online through the Norfolk Public Library's website; however, many of our resources must be accessed through an in-person visit to the library. The Sargeant

Memorial Collection is located in the Slover Library and is open to the public seven days a week. You can search online resources at the following address:

<http://www.norfolkpubliclibrary.org/local-history-genealogy/databases-and-links>