

HURRICANES AND COASTAL STORMS OPERATIONS PLAN

2025

I. INTRODUCTION

A. PURPOSE

This appendix outlines the coordinating actions taken by the State Emergency Response Team (SERT) when a hurricane or coastal storm threatens North Carolina.

B. SCOPE

This appendix includes the anticipated actions of the federal, state and local agencies, as well as private sector organizations.

II. SITUATION AND ASSUMPTIONS

A. SITUATION

Due to its geographic location on the east coast of the United States, North Carolina can experience both direct and indirect impacts from tropical cyclones. There are several paths that a hurricane may take, all of which result in varying effects to North Carolina (Fig. 1). A “coastal track” (where the hurricane skirts the coastline) typically results in a threat of heavy rain, high winds and storm surge across portions of central and eastern North Carolina. A “gulf track” (when a hurricane makes landfall on the Gulf Coast and moves northward) often brings heavy rains and flooding to the western portion of the state. A “direct hit” can cause statewide damage from heavy rain, high winds and storm surge and often results in the most widespread impacts.

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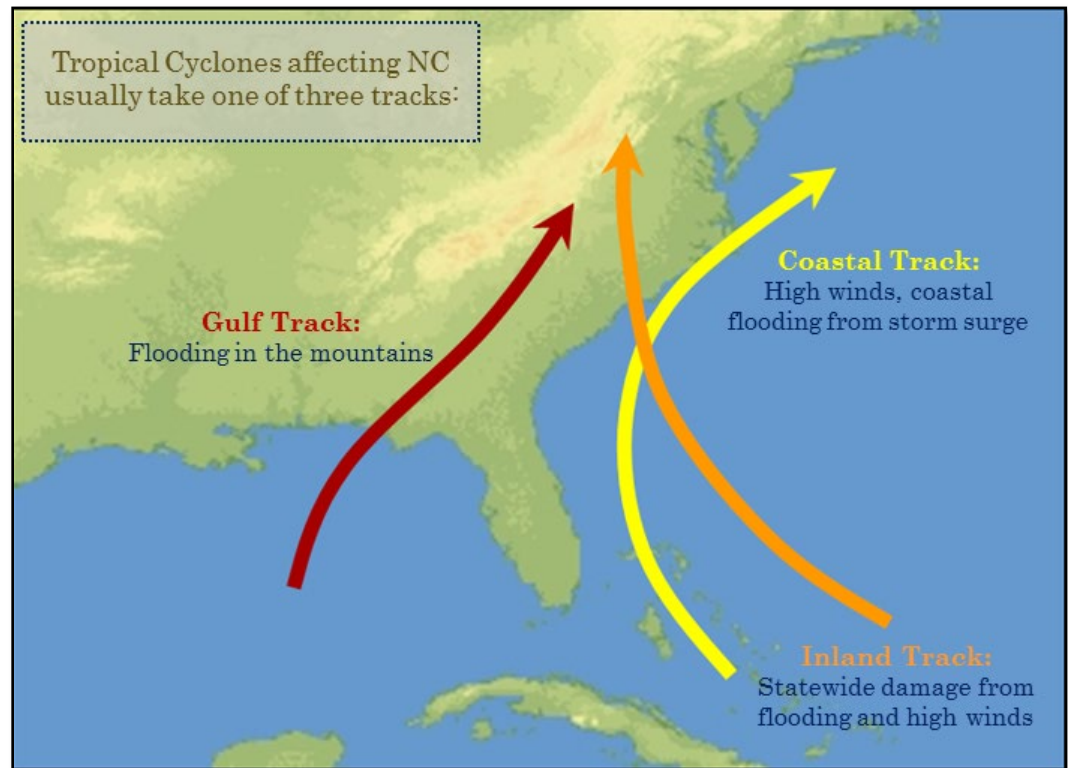


Figure 1: Hurricanes typically take one of the above tracks, all of which result in different impacts to North Carolina. (North Carolina State Climate Office)

Although tropical cyclones can occur during any month of the year, they are most common during the official Atlantic hurricane season (June 1st through November 30th). The peak of hurricane season occurs from mid-August through mid-October, North Carolina's climatologically favored period for tropical cyclones. The low-lying nature of the coast, high number of inlets and sounds, and extensive coastal development makes North Carolina especially vulnerable to tropical cyclones.

NORTH CAROLINA EMERGENCY OPERATIONS PLAN (NCEOP)
ANNEX B | APPENDIX 1
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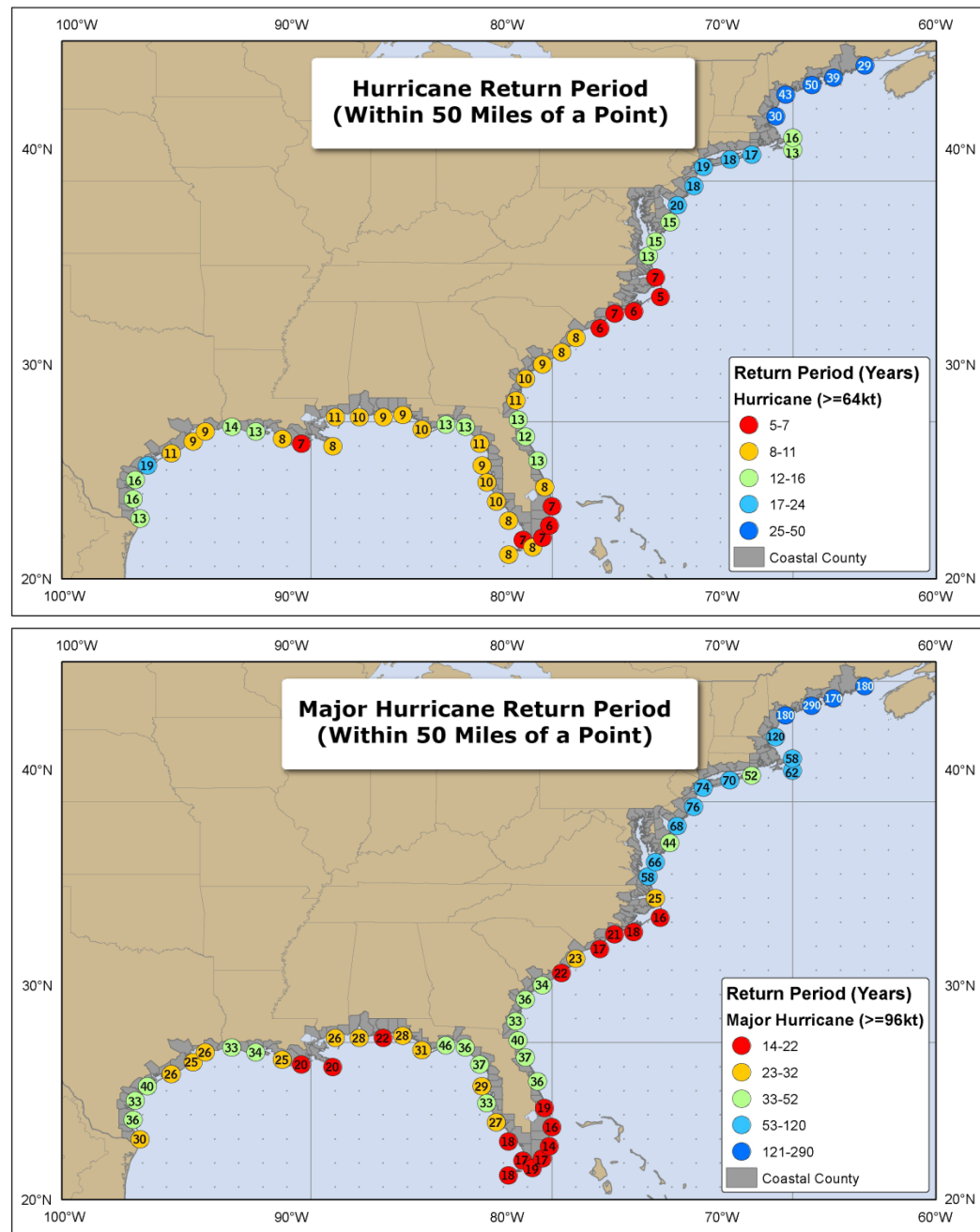


Figure 2a (top), 2b (bottom): North Carolina is home to one of the most hurricane prone coastlines in the country. On average a hurricane passes within 50 miles of the coast every 5-7 years (Fig. 2a). While major hurricanes are less common, on average North Carolina averages one passing within 50 miles of the coastline every 16-21 years (Fig. 2b). Impacts may still be felt if a hurricane makes landfall along an adjacent coastline. (National Hurricane Center)

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B. ASSUMPTIONS

1. Statewide impacts from a dangerous tropical cyclone have occurred, resulting in widespread, significant effects across North Carolina.
2. Catastrophic damage from heavy rains/flooding, high winds and storm surge has occurred across a significant portion of North Carolina. Roads will be impassable, and many structures are severely or completely destroyed.
3. Further inland, significant tree and some structural damage has occurred due to high winds. Roads may also be impassible due to debris.
4. Much or all of the state has received excessive rainfall. Mountainous and smaller rivers and streams flood during and shortly after the storm, while larger rivers will experience major flooding in the days and weeks after the storm has passed. Dam failures will also occur. Sections of interstate and especially secondary roads will be blocked due to washouts and water on the roadway in addition to the threat of landslides for higher mountainous terrain.
5. Flooding rains have caused animal waste ponds to overflow, and sewage treatment facilities have failed. Drinking water may not be potable without boiling after landfall.
6. There are widespread and extensive power outages due to high winds and infrastructure damage knocking down power lines and communication systems across a large area of the state. Due to damages and the extent of power outages, some areas may not have electricity or communication, water systems, etc. for days to weeks.
7. Emergency transportation of resources (inbound response and outbound disposal) may require permits, licenses, or exemptions.
8. Significant impacts from a tropical cyclone will require federal, state and local efforts to perform initial damage/needs assessment concerning the number, type and magnitude of impacts.
9. Weaker storms with less impact may only require the partial activation of this appendix and may involve coordination between North Carolina Emergency Management (NCEM) and other supporting state agencies.

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III. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. LEAD STATE AGENCY

1. NC DEPARTMENT OF PUBLIC SAFETY (NCDPS)

NORTH CAROLINA EMERGENCY MANAGEMENT (NCEM)

- a. Support local government efforts through resource and technical assistance in preparation for and during tropical cyclone emergencies.
- b. Provide real-time projection and analysis of flooding impacts.
- c. Provide aerial imagery (video, photos, and photogrammetry) via unmanned aerial vehicles (UAVs).

B. SUPPORTING STATE AGENCIES

1. NC DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES (NCDA&CS)

- a. Assess incident impact on food, agriculture, agribusiness, animals, and other areas regulated or supported by the mission of NCDA&CS.
- b. Report disaster facts, loss records, response information and other impact data from the agriculture sector to the Agriculture Incident Management Team (AgIMT) and, by way of the Liaison Officer, the SERT.
- c. Protect the safety and security of the commercial food supply.
- d. Respond to and mitigate animal and plant disease outbreaks or potential disease situations and pests.
- e. Coordinate with Public Health officials and other partners to implement strategies for protecting public health and general welfare.
- f. Formulate and coordinate public information, guidance, recommendations, and information through approved channels with appropriate partners to the SERT, industry leaders, agriculture producers, and the public.
- g. Promote and implement actions and strategies that maintain consumer confidence for food and agriculture health and security.

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- h. Provide guidance for the safety and sheltering of companion animals.
- i. Provide general and technical assistance to industries, partners, and other entities within the scope and mission of NCDA&CS.

EMERGENCY PROGRAMS DIVISION

- a. Coordinate with NCEM on behalf of the Commissioner of Agriculture regarding the State of Emergency and applicable transportation waivers.
- b. Activate the AgIMT to manage and coordinate the overall food and agriculture response for the Department, partner and affiliate organizations, and agriculture stakeholders.
- c. Collect and retain disaster facts, loss records, response information and other impact data to the agriculture sector from reliable sources.
- d. Develop recovery strategies and reports and serve as NCDA&CS lead for recovery.
- e. Provide a SERT Liaison for the response to the SEOC.

NORTH CAROLINA FOREST SERVICE (NCFS)

- a. Assist local governments and NCDOT in road clearance operations to reestablish critical access post storm.
- b. Provide personnel and equipment to construct foot bridges and other means of temporary access to reestablish critical access to isolated areas.
- c. Provide personnel to support Incident Management Teams (IMTs).
- d. Provide personnel and equipment to support logistical requirements of the disaster including, but not limited to, bridge mats, high clearance volume pumps, and heavy equipment.

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2. NC DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ)

DIVISION OF AIR QUALITY (DAQ)

- a. Assist with facility outreach prior to storm impacts to prepare and mitigate potential hazardous materials releases as a result of the storm impacts.
- b. Assist with response to high-risk facilities who either fail to respond or require assistance to mitigate hazardous materials release.

DIVISION OF WATER RESOURCES (DWR)

- a. Assist with facility outreach prior to storm impacts to prepare and mitigate potential hazardous materials releases.
- b. Assist with response to high-risk facilities who either fail to respond or require assistance to mitigate hazardous materials release.

DIVISION OF MARINE FISHERIES (DMF)

NORTH CAROLINA MARINE PATROL

- a. Render law enforcement assistance such as force protection for deployed resources as well as provide support to other local and state law enforcement agencies.
- b. Provide resources to facilitate land, sea and air transportation.
- c. Provide personnel and equipment to support enforcement of waterway restrictions.
- d. Provide personnel and equipment to support logistical requirements of disaster such as, but not limited to, high volume pumps, heavy equipment, barges, front end loaders, etc.

DIVISION OF WASTE MANAGEMENT (DWM)

- a. Identify procedures for storage of debris pending disposal.
- b. If debris is determined to be hazardous, provide a vendor list to the responsible party for proper waste management.

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- c. Issue emergency permits for treatment, storage, disposal, and transportation of debris and associated clean-up activities.
- d. Provide vendor list to responsible parties to facilitate cost assessment for proper waste management.
- e. Identify landfills that will accept contaminated solid waste and facilities/vendors that will accept and treat contaminated liquid waste.

DIVISION OF COASTAL MANAGEMENT (DCM)

- a. Disseminate important information to the public through the issuance of press releases and other methods of communication, including activation of the DCM toll-free line (1-888-472-6278) for citizen concerns and inquiries.
- b. Conduct informal assessments of damage to private and public property to determine the extent of damage in the coastal area and make a recommendation to the DEQ Secretary about whether to implement any or all sections of the Emergency General Permit rule [15A NCAC 07H .2500] along portions of the coast that experience damage. *(NOTE: DCM staff do not make formal assessments of storm damage, including estimates of structure damage and losses to beach fill and sand dunes).*
- c. Work with the DEQ Secretary to issue Coastal Area Management Act (CAMA) Emergency Major Permits, as appropriate, for individual projects under emergency provisions as specified by CAMA [G.S. 113A-118(f)] and the State Dredge and Fill Law [G.S. 113-229(e1)]. These may include the replacement of severely damaged roads and bridges, for example.
- d. Respond to inquiries about permit requirements, process CAMA permit applications, and conduct federal consistency reviews for projects as required during the post-storm recovery period. Assist with communication amongst state and federal environment review agencies to conduct environmental reviews of proposed projects as quickly as possible.

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- e. Close Coastal Reserve properties to the public as warranted prior to the storm when threats exist to public safety. Inspect N.C. Coastal Reserve properties shortly after landfall, as soon as it is safe to do so, to assess damage and wildlife needs. Communicate changes in Coastal Reserve status (closure and opening) to the public via press release, Reserve and DCM website, and social media.
- f. Provide guidance, best practices and trained personnel for removing vessels from environmentally sensitive coastal waters and shorelines to vessel owners, salvage companies, and marinas in areas where there are abandoned and derelict vessels.

3. NC WILDLIFE RESOURCES COMMISSION (NCWRC)

- a. Provide personnel and equipment to support law enforcement.
- b. Provide air, water, and land transportation.
- c. Act as liaison between the SERT and interested environmental and conservation groups.
- d. Provide personnel and equipment to support law enforcement of waterway restrictions.
- e. Provide technical support and leadership to support identification and removal of abandoned vehicles.
- f. Provide watercraft and crews to support enforcement of USCG-initiated restrictions on waterway use.

4. NC DEPARTMENT OF NATURAL AND CULTURAL RESOURCES (NCDNCR)

DIVISION OF PARKS AND RECREATION (NC STATE PARKS)

- a. Evacuate state parks when threats exist to public safety.
- b. Coordinate with other law enforcement agencies.
- c. Provide areas on park property for use as assembly or staging areas for equipment and personnel.
- d. Provide transportation and communication within state park areas.

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- e. Determine access points and routes least likely to harm park facilities.
- f. Provide a liaison authorized to grant permission for response and cleanup activities as well as issue any required permits concerning state park facilities.
- g. Provide a liaison and carry out technical consultations with the US National Park Service if a national park/seashore is threatened.

5. NC DEPARTMENT OF HEALTH AND HUMAN SERVICES (NCDHHS)

DIVISION OF PUBLIC HEALTH (DPH)

- a. Coordinate public health nurses to support local and state shelter requirements and provide consolation and maintain communication with deployed public health nurses.
- b. Monitor the health of shelter populations for potential infectious disease outbreaks and provide mitigation recommendations where appropriate.
- c. Conduct well-water testing at the NC State Laboratory of Public Health (NCSLPH) to identify bacterial contaminants of public health concern such as E. coli after flood waters have receded.

DIVISION OF SOCIAL SERVICES (DSS)

- a. Coordinate with mass care support agencies to support local sheltering operations.
- b. Obtain personnel rosters, sheltering listings, and number of shelter managers from county departments of social services responding in affected jurisdictions.
- c. Provide technical assistance, when requested, to county departments of social services in organizing resources to provide food and water requirements for shelter population.
- d. Provide technical assistance, when requested, to county departments of social services in organizing transportation of food from identified warehouses to mass care feeding sites.
- e. Track and report the status of shelter operations.

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- f. Coordinate with partners to answer questions from county departments of social services about accessibility in shelters.
- g. Coordinate all requests for spoken language and American Sign Language interpreters.

DIVISION OF AGING AND ADULT SERVICES (DAAS)

- a. Promote the exchange of technical and statistical information relevant to needs and outcomes of older adults and adults with access and functional needs from NCEM to area agencies on aging and county health and human services departments.
- b. Collaborate with human services agencies to assist counties in meeting the needs of individuals needing functional support sheltering services.
- c. Collaborate with ESF-8, DHSR, and DPH for individuals needing medical support sheltering services.

DIVISION OF MENTAL HEALTH, DEVELOPMENTAL DISABILITIES AND SUBSTANCE USE SERVICES (MHDDSUS)

- a. Coordinate/facilitate the provision of mental health/crisis counseling to victims at shelters, mass care facilities, and community sites.
- b. Coordinate distribution of Naloxone to shelters, mass care facilities, and fixed feeding sites with counties.

DIVISION OF HEALTH SERVICE REGULATION (DHSR)

NC OFFICE OF EMERGENCY MEDICAL SERVICES (NCOEMS)

- a. Provide leadership in coordinating and integrating the overall state efforts that provide medical assistance to a disaster-affected area.
- b. Coordinate and direct the activation and deployment of state resources of medical personnel, supplies, equipment, pharmaceuticals, and assets.
- c. Assist in the development of local capabilities for the coordination of all healthcare services needed for triage, treatment, transportation, tracking, and evacuation of the affected population with medical concerns.

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- d. Establish and maintain the cooperation of the various state medical and related professional organizations in coordinating the shifting of Healthcare Service resources from unaffected areas to areas of need.
- e. Coordinate with the SERT Military Support Branch to arrange for medical support from military partners.
- f. Coordinate the clinical support and/or movement of patients from an impacted area when a higher level of care or evacuation is deemed necessary.
- g. Coordinate the healthcare services for state-operated shelters by implementing the Healthcare Services in Shelters annex.

6. OFFICE OF STATE FIRE MARSHAL (OSFM)

- a. Coordinate firefighting assets to support local response efforts.
- b. Coordinate restoration of firefighting services and protection post storm.
- c. Coordinate personnel to support additional building inspection resources to augment local capabilities for damage assessments.

7. NC DEPARTMENT OF TRANSPORTATION (NCDOT)

DIVISION OF HIGHWAYS (DOH)

- a. Monitor and report on road conditions.
- b. Coordinate with NCSHP on immediate tow activation.
- c. Determine activation of routing room used to provide emergency responders with available routes to reroute damaged areas.
- d. Erect and maintain such signs, lights, barricades or other traffic control devices as deemed appropriate to maintain or control traffic along the affected state-maintained routes or detour routes.
- e. Remove sand/soil debris from state-maintained right of ways.
- f. Provide SERT partners lists of contractors/suppliers to assist in the cleanup efforts of sites outside the state-maintained right of way.

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FERRY DIVISION

- a. Coordinate with USCG the movement of ferries through affected waterways.
- b. Provide transportation to emergency personnel and equipment as needed.
- c. Assist in the evacuation of the affected population.

8. NC DEPARTMENT OF PUBLIC SAFETY (NCDPS)

NORTH CAROLINA NATIONAL GUARD (NCNG)

- a. Provide trained personnel traffic control.
- b. Provide shelter support as needed.
- c. Provide military forces to assist local law enforcement in the emergency area for security, control of entrance to and exit from disaster area, and protection of people and crowd control.
- d. Provide a Reaction Force specially trained for response to public disturbances and riots.
- e. Provide military forces to assist local and state resources in rescues and evacuations as needed.
- f. Provide NCNG mission support packages.
- g. Provide transportation support.

CIVIL AIR PATROL (CAP)

- a. Support and participate in aerial reconnaissance to assess damage immediately after the hurricane strikes.
- b. Provide personnel and equipment to support air and ground transportation.
- c. Provide personnel to provide logistical support to State EOC activation.

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- d. Use Aerial Reconnaissance Teams (ART) to collect quick visual evidence of hurricane damage to allow optimum deployment and distribution of state resources during the hurricane recovery period.
- e. Assist in air search, land rescue, aerial surveillance of surface routes and traffic.
- f. Provide aircraft to support disaster air operations as available.
- g. Provide a CAP liaison officer to support air operations in the State EOC.
- h. Provide ground team support and ground transport.
- i. Support and participate in Point of Distribution (POD) operations.

9. NC STATE HIGHWAY PATROL (NCSHP)

- a. Coordinate traffic control measures and isolation of the impacted area as needed.
- b. Regulate motor vehicle traffic where indicated.
- c. Provide communications support.
- d. Assist with movement of resources in coordination with other state partners, as needed.

10. UTILITY PROVIDERS

- a. Provide decision makers with up-to-date power outage information and estimated restoration times.
- b. Provide support as needed to other utilities if able.
- c. Restore electrical power to residences and business.
- d. Repair and restore any downed power lines and/or transformers.

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C. SUPPORTING FEDERAL AGENCIES

1. US ARMY CORPS OF ENGINEERS (USACE)

- a. Support immediate lifesaving and life safety emergency response priorities.
- b. Sustain lives with temporary emergency power and other needs including temporary housing, temporary roofing, debris management, Urban Search and Rescue (USAR), and Local Government Liaisons (LGLs).
- c. Initiate recovery efforts by assessing and restoring critical infrastructure.

2. US ENVIRONMENTAL PROTECTION AGENCY (EPA)

- a. Provide personnel and equipment to support hazardous materials assessment and response in coordination with DEQ as well as the United States Coast Guard (USCG).

3. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

- a. Provide response resources at the request of the SERT Leader.
- b. If approved, execute programs that provide financial support for damages to property.
- c. Educate state and local officials to inform of the recovery assistance available and how to apply for it.
- d. Monitor recovery process to ensure the timely delivery of eligible assistance and compliance with the law and regulations.
- e. Provide immediate and critical storm information for decision making through the Hurricane Liaison Team (HLT).

4. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

NATIONAL HURRICANE CENTER (NHC)

- a. Issue advisories on the location, strength and movement of tropical storms or hurricanes.

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- b. Provide track and intensity guidance on tropical cyclones up to 120 hours in advance.
- c. Provide detailed storm surge inundation information and maps for the coastline.
- d. Issue tropical storm and hurricane watches and warnings, as well as storm surge watches and warnings.
- e. Provide additional state specific briefings as needed.

NATIONAL WEATHER SERVICE (NWS)

- a. Provide detailed forecast information, such as wind speed and direction, rainfall amount, etc., for locations across the state.
- b. Issue watches and warnings associated with effects from the tropical cyclone such as winds, floods, etc.
- c. Participate in conference calls to provide situational awareness and forecast updates.
- d. Coordinate with the Southeast River Forecast Center and Lower Mississippi Forecast Center to provide forecasts of riverine flooding.

WEATHER PREDICTION CENTER (WPC)

- a. Provide rainfall total forecasts up to 7 days in advance
- b. Outline areas that are likely to experience rainfall that may exceed flash flood guidance up to 5 days in advance.
- c. Issue Mesoscale Precipitation Discussions outlining where flooding rains may occur during the next several hours.

5. UNITED STATES COAST GUARD (USCG)

- a. Provide personnel and equipment to support hazardous materials assessment and response.
- b. Provide search and rescue air assets.

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IV. CONCEPT OF OPERATIONS

A. GENERAL

When an incident is expected to have limited impacts, the State EOC may elevate from Normal Operations to an Enhanced Watch with NCEM Functional Leads meeting daily. NCEM or SERT Functional Leads will notify SERT agency representatives of the potential hurricane or coastal storm impacts and possible SERT activation. Upon a greater threat to the state, necessary SERT agencies will report to the State EOC for a SERT Activation.

HURREVAC provides a graphical plot of the National Hurricane Center Forecast Advisory to assist government officials in making various evacuation decisions. If not obtained through HURREVAC, information on tropical cyclone intensity, forecast track, wind speed and direction, as well as storm surge inundation information will be accessed through the National Hurricane Center website. Coordination and communication with the National Hurricane Center will be arranged by the FEMA Hurricane Liaison Team.

The National Weather Service and National Hurricane Center will be used as the official source of weather information. These offices provide guidance to emergency managers through briefings, conference calls, and webinars to achieve consistency between the forecast and emergency management response.

B. RESPONSE ACTIONS

The change from Normal Operations to an Enhanced Watch and/or to a SERT Activation is dependent upon the observed threat and expected impact. The following are general guidelines that may support a change in activation level. For information on staffing and general responses associated with an activation, refer to the NCEOP Basic Plan.

1. PRE-LANDFALL

The SERT Leader may decide to elevate the State EOC to an Enhanced Watch if the NHC begins issuing advisories on a tropical storm or depression that does not pose an immediate threat but may impact the state. During an Enhanced Watch, NCEM or SERT Functional Leads will notify SERT agency representatives of the potential hurricane or coastal storm threats and possible SERT activation.

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The SERT Leader may decide to elevate the State EOC to a SERT Activation if:

- a. Confidence is increasing that significant impacts from a hurricane or coastal storm are expected;
- b. Major traffic problems, power outages or shelter openings are expected or occurring;
- c. A tropical system has impacted the state causing flooding, road closures and damages to structures; or
- d. Numerous state resources have been requested.

During a SERT activation, all necessary SERT partners will be activated in the State EOC and RCC(s). Movement of supplies before and after the storm will be directed by the SERT Leader and the Logistics Section. Shelters will be opened, as necessary. If needed, the Deputy General Counsel may assist the NC Governor's Office in drafting a State of Emergency to be forwarded to the Governor for signature.

2. POST-LANDFALL

A hurricane or tropical storm has caused impacts to the coast, made landfall and tracked into North Carolina, or a nearby state has been impacted and is requesting mutual aid. The SERT Leader may remain at SERT Activation or may move to an Enhanced Watch based on severity and the likelihood of local capabilities being exceeded.

- a. The Branch Office(s)/RCCs will begin to evaluate the disaster impact and establish priorities related to life, property and the environment at risk. The Field Branch Manager/RCC Incident Commander will coordinate the establishment of priorities with the SERT Leader and/or the Operations Section Chief to ensure consistency between the State EOC and the Branch Offices(s). The State EOC should prepare to receive additional staff from FEMA and other federal and volunteer agencies. At the direction of the Operations Section Chief, the State EOC staff assigns inventory and dispatches resources to the Branch Office(s) in support of response activities.

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- b. Once weather conditions allow, the Civil Air Patrol ARTs will begin an aerial reconnaissance of the disaster area. The Hazard Mitigation section will coordinate with FEMA, National Geodetic Survey and NCDOT for pre- and post-storm aerial imagery data collection. The State EOC determines priorities for immediate assistance using damage reports from the counties and with NASA for remote data sensing collection of aerial reconnaissance information.
- c. If state resources are overwhelmed and additional assets are needed, mutual aid agreements between neighboring states will be implemented. This will be largely dependent on the disaster effect on the neighboring states. Some mutual aid agreements may be implemented prior to landfall, if the threat warrants.
- d. The Joint Field Office (JFO) manages all long-term recovery actions and operates until all priority recovery activities are accomplished.

V. REFERENCES

- A. Chapter 166A of the North Carolina General Statutes, North Carolina Emergency Management Act, as amended
- B. Chapter 130A of the North Carolina General Statutes, Public Health
- C. NCEM Human Services Mass Feeding Plan
- D. NCEM Human Services Shelter Guide