

APPENDIX 1
(SOUTH CAROLINA HURRICANE PLAN)
TO THE SOUTH CAROLINA EMERGENCY OPERATIONS PLAN

I. INTRODUCTION

- A. This plan follows state and federal regulations requiring a posture of preparedness for any emergency or disaster, including tropical cyclones, which South Carolina is at a high risk of experiencing each year.
- B. The term ‘tropical cyclone’ includes tropical depressions, tropical storms, and hurricanes. These types of tropical cyclones are differentiated by the strength of their sustained winds.

II. PURPOSE

- A. Prevent or minimize injury to people, damage to property, and environmental impacts resulting from a tropical cyclone.
- B. Plan and coordinate state and local resources for warning, evacuating, and sheltering South Carolina citizens and visitors.

III. SCOPE

- A. The South Carolina Hurricane Plan will be utilized once there is a threat from a tropical cyclone to South Carolina.
- B. The South Carolina Hurricane Plan addresses operations to be conducted in accordance with the South Carolina Emergency Operations Plan (SCEOP) and South Carolina Recovery Plan (Appendix 6 to the SCEOP).
- C. Establishes specific roles and responsibilities for state and county agencies unique to tropical cyclone preparedness, response, reentry, and recovery.
- D. Covers relevant terminology, the utilization of the Hurricane Evacuation Study, and the evacuation planning timeline.

IV. FACTS AND ASSUMPTIONS

- A. Facts
 - 1. Tropical cyclones pose a significant threat to South Carolina.
 - 2. According to the SC State Climatology Office, there have been 45 recorded South Carolina tropical cyclone landfalls since 1851. 25 were hurricanes, 14 were tropical storms, and 5 were tropical depressions. 4 major (Category 3+) hurricanes have made landfall in South Carolina: the 1893 Great Charleston Hurricane, Hazel (1954), Gracie (1959), and Hugo (1989). There are no Category 5 impacts to South Carolina on record.

3. South Carolina has also been impacted by tropical cyclones that did not make landfall in South Carolina.
 - a. The 1893 Sea Islands hurricane had the impact of a major hurricane in South Carolina after making landfall in Georgia.
 - b. More recently, Hurricane Irma (2017), Hurricane Florence (2018), and Hurricane Dorian (2019) caused impacts that justified a coastal evacuation despite not making landfall in South Carolina.
 - c. Hurricane Helene (2024) approached western South Carolina after making landfall along the northern Gulf coast and became the deadliest SC hurricane since Hurricane Hugo (1989) with 50 South Carolinian fatalities. Peak wind gusts ranged from 70mph to over 100mph resulting in 1.3 million power outages. Recording 21 tornadoes during the event, Helene produced the largest tropical tornado outbreak since Frances (2004). Major damage was recorded in the Midlands and Upstate, causing over \$1.1 billion in Public Assistance response costs. With historic rainfall on September 25 and 26, 3 counties in the Upstate set new 24-hour rainfall records. The highest amount of rainfall in the State was in Greenville County, SC with a total of 21.66 inches during the event, ranking third highest on record for a tropical cyclone in South Carolina. Due to the high rainfall totals, new river crest records were set in the Midlands and Upstate.
4. South Carolina has 187 miles of general coast along the Atlantic Ocean split among six coastal counties: Beaufort, Charleston, Colleton, Georgetown, Horry, and Jasper.
5. South Carolina typically has a lead time of several days prior to a tropical cyclone impacting the state. However, there is the potential for tropical cyclones to form with much less notice, such as in 2004 when Hurricane Gaston generated 140 miles off the South Carolina coast and increased in severity from a tropical depression to a Category 1 hurricane in 48 hours.

B. Assumptions

1. The state and counties will use all available lead-time to prepare plans, protocols, and procedures predefined and coordinated in this and other plans. State agencies, county and municipal governments, and other entities will support preparations for tropical cyclones.
2. Mutual Aid Compacts and agreements will enable assistance in the areas of personnel, equipment, and logistics; state-to-state, county-to-county, and municipality-to-municipality. Federal support may be available pre-storm and during recovery if South Carolina receives a presidential disaster declaration.

3. For many of the preparedness and response actions, South Carolina will be under a State of Emergency.
4. The Governor may order evacuations based upon the forecasted path and impacts of the tropical cyclone.
5. The response capabilities of local jurisdictions may be overwhelmed. Local first responders may be among those affected, impacting their ability to perform their duties.
6. A tropical cyclone may result in large numbers of casualties and/or displaced persons that can quickly overwhelm local and state capabilities. Large numbers of people may be left temporarily or permanently without housing and will require long-term housing assistance.
7. Federal resources may not be available to provide significant lifesaving or life-sustaining capabilities until after the event.
8. Environmental conditions may be negatively affected.
9. Local emergency response, medical, and public health capabilities will be impacted.
10. A tropical cyclone affecting South Carolina may have significant impacts on evacuations, housing, transportation, supply chain, search and rescue, and law enforcement in other states.

V. SITUATION

- A. According to both the South Carolina's 2023 Hazard Mitigation Plan and 2024 Hurricane Evacuation Study (HES), the entire state has the potential to experience the effects of tropical cyclones, with the greatest hazard potential present along the immediate coast.
- B. The potential to be impacted by a tropical cyclone each year is high. The South Carolina State Climatology Office notes that there is an 88% chance of being impacted by a tropical system in any given year. Based on the period 1851 – 2024, the Climatology Office also notes that:
 1. 288 tropical cyclones or tropical cyclone remnants have impacted the state
 2. 135 storm centers have tracked through the state
 3. 45 tropical cyclones have made landfall along the SC coast
 4. 25 of those landfalls were hurricane strength

5. 5 storms have brought major (Category 3+) hurricane impacts to the state, with 4 of those being SC landfalls
- C. South Carolina is most likely to be impacted by a tropical cyclone in August or September, which aligns with the statistical peak of hurricane season (June 1 to November 30).
- D. South Carolina must prepare for storms to impact the state from any direction. A storm does not have to make a direct landfall in South Carolina to have devastating impacts.
 1. Storms that originate in the Gulf of Mexico or track westward past Cuba and the southern tip of Florida can impact South Carolina's inland areas by following an inland track through the Southeast. Hurricane Helene (2024) followed an inland track, had peak wind gusts over 100mph, caused widespread flash and river flooding, and spawned tornadoes throughout South Carolina.
 2. Storms that remain offshore and follow a 'coastal runner' type of track may still cause impacts significant enough to warrant a coastal evacuation. For example, Hurricane Dorian (2019) remained offshore, but prompted evacuations in South Carolina.
 3. Storms that make landfall in other states may cause devastating impacts in South Carolina. For example, Hurricane Florence made landfall in North Carolina in 2018, but it caused devastating flooding in South Carolina. Additionally, Hurricane Irma made landfall in Florida in 2017, but it caused significant storm surge in South Carolina.
- E. The National Hurricane Center (NHC) uses the Saffir-Simpson Hurricane Wind Scale to categorize hurricane intensity based on maximum sustained wind speed. Storm surge inundation, rainfall, and barometric pressure are **not** directly associated with the Saffir-Simpson Scale. The categories are:
 1. Category 1: Some Damage, Winds: 74 – 95 mph
 2. Category 2: Extensive Damage, Winds: 96 – 110 mph
 3. Category 3: Devastating Damage, Winds: 111 – 129 mph
 4. Category 4: Catastrophic Damage, Winds: 130 – 156 mph
 5. Category 5: Catastrophic Damage, Winds: Greater than 157 mph
- F. Tropical cyclones can cause a variety of hazards, some of which can occur far outside coastal areas.
 1. Storm Surge

- a. Storm surge is the abnormal rise of water generated by a storm and is expressed in terms of height above ground in feet.
 - b. Historically, storm surge has posed the greatest threat to life and property in a tropical cyclone.
 - c. Eight South Carolina counties have evacuation zones that are closely designed around their storm surge risk:
 - (1) Horry
 - (2) Georgetown
 - (3) Charleston
 - (4) Berkeley
 - (5) Dorchester
 - (6) Colleton
 - (7) Beaufort
 - (8) Jasper
 - d. The storm surge inundation risk for a given area depends heavily on the shape and elevation of the area's coastline. The storm surge inundation forecast for any particular storm depends on the storm's intensity, forward speed, wind radius, central pressure, and angle of approach to the coast.
 - e. The severity of storm surge caused by a particular tropical cyclone is **not** solely dependent on storm category, nor does it provide any information about the rainfall or freshwater flood risk posed by a storm.
 - f. Reference the South Carolina Hurricane Evacuation Study for more information on an area's storm surge risk.
2. Heavy Rain and Flooding
- a. Tropical cyclones can bring significant rainfall, causing both flash flooding and freshwater/river flooding.
 - b. Recently, flooding from heavy rain has been the leading cause of hurricane related deaths. According to the National Oceanographic and Atmospheric Administration (NOAA), the combination of storm surge inundation and inland flooding accounts for nearly 90% of all fatalities associated with tropical cyclones in the United States.

- c. Flooding impacts from a tropical cyclone are not dependent on the category of the storm.
 - d. For more information on how the state would respond to a river flooding threat, reference Appendix 19 of the SCEOP (South Carolina Flood Response Plan).
- 3. Wind
 - a. Hurricane category is determined by a storm's maximum sustained winds.
 - b. High winds can down trees, as well as damage or destroy buildings, mobile homes, and other property. High winds can also cause injury and/or death.
 - c. Residents in mobile or manufactured homes are more vulnerable to high winds than those living in permanent structures.
- 4. Tornadoes
 - a. Tropical cyclones can spawn tornadoes. These are primarily seen in the northeastern quadrant of a given tropical cyclone.
 - b. Tornadoes can damage or destroy buildings, mobile homes, and other property. They can also result in injury and/or death.
 - c. Tornadoes spawned by tropical cyclones are typically rated lower in EF-scale and are typically shorter-lived than those caused by other weather systems.
- G. South Carolina is experiencing dramatic population growth throughout the state, with some of the most significant increases in population density found along the immediate coastline. The greater the population density in these low-lying areas, the greater the state's overall tropical cyclone vulnerability and potential traffic congestion during a large-scale evacuation.

VI. HURRICANE EVACUATION STUDY

- A. The 2024 South Carolina Hurricane Evacuation Study (HES) was prepared by SCEMD with support from the National Hurricane Program. The HES establishes a foundation of information with which to utilize for the update and development of the South Carolina Hurricane Plan. The HES is a widely used and recognized reference tool for states at risk of tropical cyclone impacts. There are five key components of the HES. Summaries of each component are provided below:
 - 1. Hazard Analysis

- a. Explores the hurricane hazards that South Carolina can experience from a tropical cyclone to include wind, riverine flooding, tornadoes, and storm surge.
- b. Maps and examines the recent Sea, Lake, and Overland Surge from Hurricanes (SLOSH) model output of storm surge inundation estimates including directional models and worst-case models.
- c. Outlines the new evacuation zones for coastal South Carolina and clarifies the criteria used to guide evacuation zone creation.

Detailed descriptions of the hurricane evacuation zone criteria and zones are located in Annex C (Evacuation Zones and Clearance Timing).

2. Vulnerability Analysis

- a. Identifies areas, populations, and critical infrastructure vulnerable to storm surge and freshwater flooding.
- b. Examines the social vulnerability and overall hurricane vulnerability throughout the study area, identifying key areas with highest overall vulnerability.

3. Behavioral Analysis

- a. Compiles hurricane evacuation behavior information from academic sources to contribute to the understanding of hurricane evacuation within the state.
- b. Summarizes the results of the 2023 hurricane evacuation behavioral survey that was conducted in the eight counties containing evacuation zones. Over 3,000 responses were collected.
 - (1) The behavioral survey asked respondents about their previous tropical cyclone experience, risk perception, and anticipated evacuation behavior for future tropical cyclones.
 - (2) Key Findings:
 - (a) Approximately 43% of people do not know their evacuation zone.
 - (b) 12% of people plan to never evacuate under any circumstances.
 - (c) Citizens focus most heavily on hurricane category when they make evacuation decisions rather than focusing on storm surge risk, which is the primary reason for ordering hurricane evacuations.

- (d) 50% of people plan to evacuate for major hurricanes, whereas less than 10% of people plan to evacuate for Category 1 or 2 hurricanes.
 - (e) 67% of people are more likely to evacuate if the Governor orders it.
 - (f) 41% of people only plan to evacuate if a direct SC landfall is in the forecast.
 - (g) Roughly 4 – 6% of people plan to utilize public evacuation shelters when evacuating for a storm.
 - (h) Approximately 2 – 6% of people would potentially need transportation assistance evacuating.
- 4. Shelter Analysis
 - a. Utilizes data from the Behavioral Analysis to estimate the population that will seek shelter within each evacuation zone.
 - b. Examines the storm surge vulnerability of every identified shelter location to verify its potential use.
- 5. Transportation Analysis
 - a. Outlines over 150 evacuation scenarios based on the following variables:
 - (1) Overnight Visitor Occupancy Level
 - (2) Lane Reversal
 - (3) Expected Resident Evacuation Compliance
 - b. Models evacuation clearance times for every evacuation scenario. Evacuation clearance times are expressed as a number of hours that would be required to evacuate for a given scenario.
 - c. Identifies congestion points for traffic planning.
 - d. See Annex B (Critical Transportation Needs) for more information on critical transportation needs planning.
 - e. See Annex C (Evacuation Zones and Clearance Timing) for more information on Transportation Analysis scenario variables and clearance time outcomes.

VII. CONCEPT OF OPERATIONS

A. General

- 1. Hurricane preparedness and mitigation efforts occur throughout the year.

2. South Carolina Emergency Management Division (SCEMD) is the primary agency for coordination during tropical cyclones.

B. Plan Activation

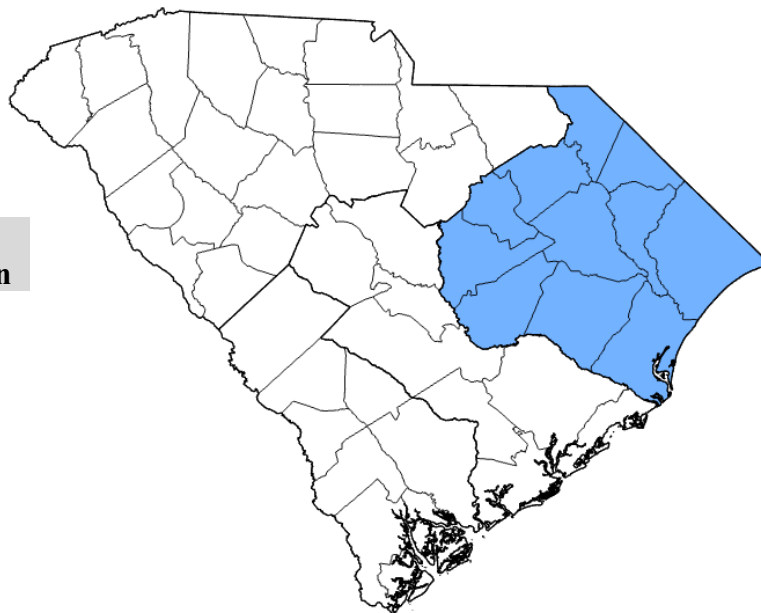
1. The South Carolina Hurricane Plan will be activated in accordance with the SCEOP when there is a threat of a tropical cyclone to South Carolina that requires additional support and coordination for an effective response.

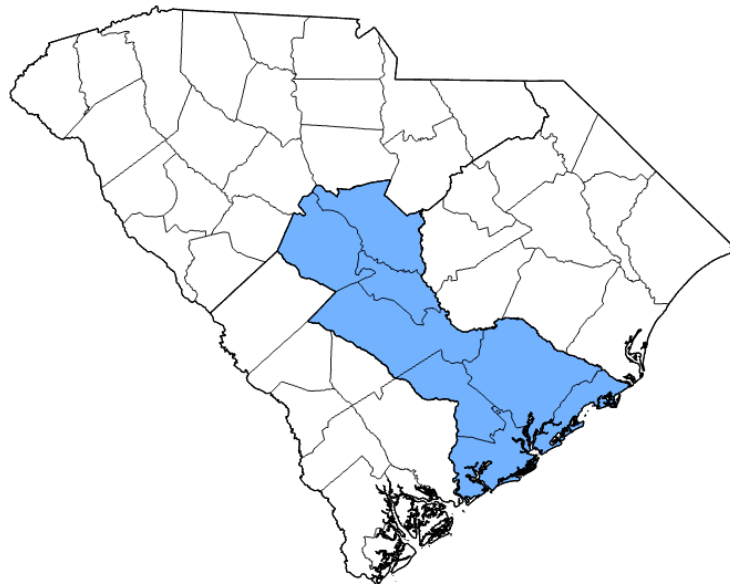
C. Hurricane Regions

1. State and county emergency management utilize a regional approach to better prepare for, respond to, and recover from tropical cyclones.
2. With this regional approach, the state is organized into four hurricane regions: Northern, Central, Southern, and Western. Each county within a hurricane region relies on the other counties in their hurricane region to assist in protecting, evacuating, sheltering, and returning its citizens from hurricane evacuations. Additionally, evacuation routes are facilitated at the state level corresponding with these regions. Maps depicting the regions are provided below.
3. The SEOC may deploy Regional Emergency Managers (REMs) to county EOCs in the area of greatest concern.

**Northern
Hurricane Region**

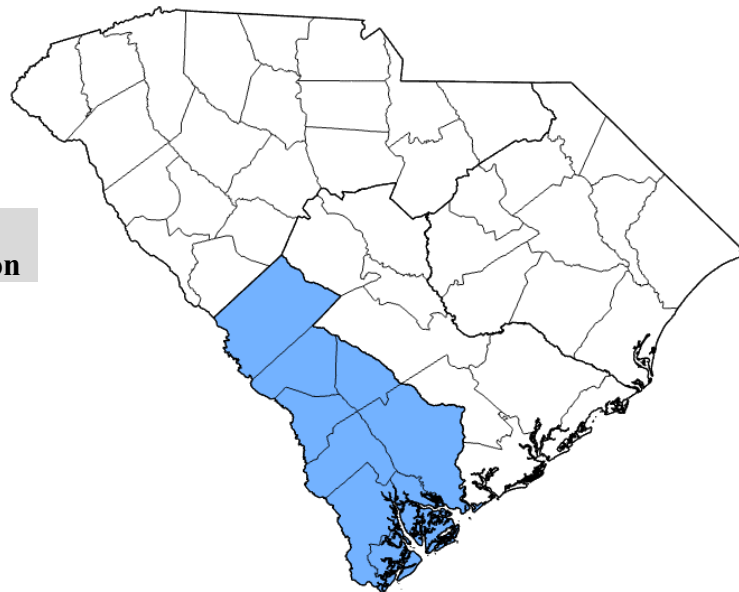
Horry
Georgetown
Williamsburg
Marion
Florence
Dillon
Clarendon
Sumter
Darlington
Lee
Marlboro





**Central Hurricane
Region**

Charleston
Berkeley
Dorchester
Orangeburg
Calhoun
Richland
Lexington

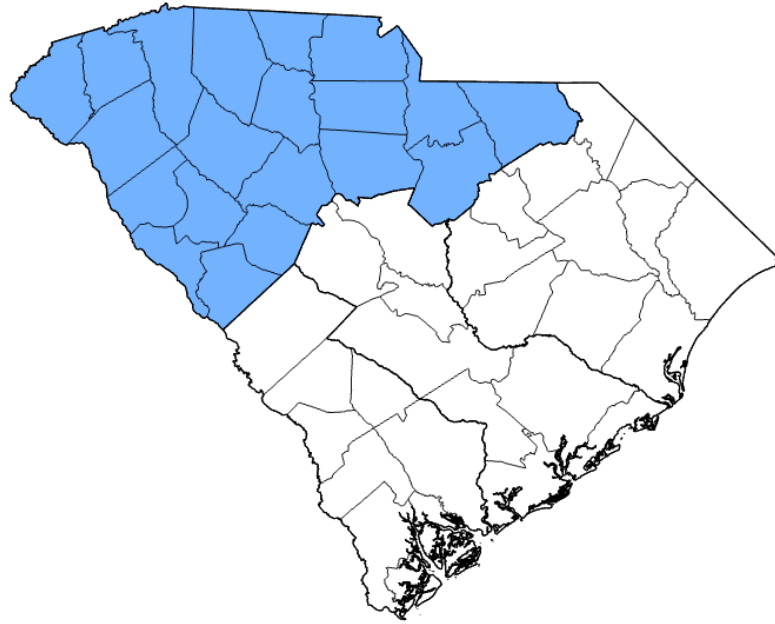


**Southern
Hurricane Region**

Beaufort
Jasper
Colleton
Hampton
Allendale
Bamberg
Barnwell
Aiken

**Western Hurricane
Region**

Abbeville
 Anderson
 Cherokee
 Chester
 Chesterfield
 Edgefield
 Fairfield
 Greenwood
 Greenville
 Kershaw
 Lancaster
 Laurens
 McCormick
 Newberry
 Oconee
 Pickens
 Saluda
 Spartanburg
 Union
 York


D. Hurricane Evacuation Timeline Decision and Response Timelines

1. South Carolina utilizes planning timelines to coordinate hurricane response. Two types of timelines are utilized:
 - a. Decision and Response Timeline with Evacuation
 - (1) This timeline is used at the start of hurricane response operations that approach from the Atlantic Ocean and may require evacuation.
 - (2) South Carolina utilizes evacuation planning timelines for situations where an evacuation is likely. There are 4 options to utilize- 48-hour, 36-hour, 24-hour timelines, or a compressed 18-hour timeline depending on the anticipated clearance time and major activities to complete. Prior to a storm, times are expressed in “E-Hour” format, which is the number of hours prior to beginning evacuation operations. “H-Hour” is defined as arrival of tropical storm force winds.

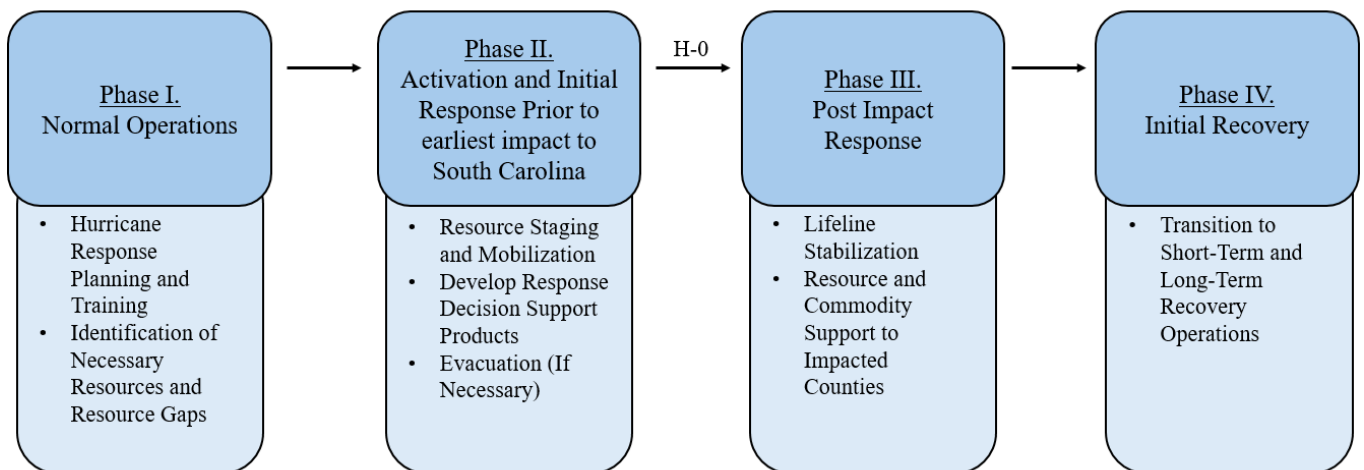
- (3) For more information, see Annex A (Evacuation Decision and Response Timelines)

b. Decision and Response Timeline without Evacuation

- (1) Upon determination for a tropical cyclone approaching from the Gulf of Mexico and does not require evacuation, South Carolina will switch to using the planning timeline without evacuation.
- (2) Reference Annex A, Attachment 2 (Decision and Response Timeline without Evacuation) for key actions in a hurricane event without an evacuation.

E. Operational Phases

1. Hurricane Response Operational Phases



a. Phase I. Normal Operations

This phase is associated with preparedness actions that take place day-to-day, prior to monitoring a storm that has potential impacts to South Carolina. This includes:

- (1) Year-round participation in hurricane planning, training, and exercises.
- (2) Pre-incident mission analysis to identify potential risks, areas that could become isolated, and resource gaps.

b. Phase II. Activation and Initial Response Prior to H-0

This phase begins with the SEOC activation and continues until the onset of tropical storm force winds at H-0.

- (1) During Phase II, state and local responders conduct assessments and initiate response actions in anticipation of tropical cyclone impacts.
- (2) Disaster Intelligence products will be developed for local and state partners for response decision support.
- (3) The initial priority for the State Emergency Response Team (SERT) agencies is to prepare to mobilize and stage resources in support of impacted jurisdictions including, but not limited to search and rescue assets, high water vehicles, critical care operations, and evacuation support assets.
- (4) Any potential evacuations will be discussed between local and state partners.

c. Phase III. Post Impact Response

- (1) State and local responders conduct assessments and initiate response actions in support of saving and sustaining lives. A storm's specific hazards and impacts (flooding, storm surge, wind, and tornadoes) will shape the response phase.
- (2) The priorities for SERT partners include developing situational awareness, assessing affected lifelines, debris removal, power restoration, points of distribution support, establishing communications, supporting search and rescue operations, conducting shelter operations, and rapid damage assessment.

d. Phase IV. Initial Recovery

- (1) During Phase IV, response activities transition to short-term and long-term recovery operations. This transition may be initiated and conducted simultaneously with response activities in Phase III.
- (2) The timing for the start of Recovery may be different based on the location and longevity of the impact of the tropical cyclone to South Carolina.
- (3) The priorities for SERT partners include continuing to stabilize affected lifelines and conduct initial damage assessments.

F. Regional Coordination

1. SCEMD will coordinate with neighboring states to include Georgia, Florida, and North Carolina.
2. The FEMA Hurricane Liaison Team (HLT) will deploy to the National Hurricane Center. The HLT provides information directly to SCEMD from the National Hurricane Center and other FEMA Region 4 states.

G. Evacuation and Lane Reversal

1. In conjunction with the Counties and SERT, an evacuation may be recommended to the Governor.
2. The recommendation for an evacuation is determined by storm track, intensity, and forecasted storm surge.
3. An evacuation may be conducted with or without a lane reversal along specified evacuation routes.
4. Evacuation activities will be a joint effort by state and local agencies. Emergency Support Function (ESF)-16 (Emergency Traffic Management) will coordinate the evacuation, monitor evacuation status, and recommend actions regarding evacuation.
5. In the time prior to an Evacuation Order being announced by the Governor, SCEMD, ESF-16, ESF-1 (Transportation), and the coastal counties will convene to determine a recommendation on lane reversals for the Governor. This recommendation will be based on the following factors:
 - a. Traffic numbers leaving Florida and Georgia
 - b. Historical South Carolina traffic on evacuation date
 - c. Current estimated occupancy rate for overnight visitors in the state
 - d. Evacuation zones/total population being ordered to evacuate within the Governor's Order
 - e. Estimated evacuation compliance
6. Throughout the duration of all operational phases, state and local agencies will monitor if there is a necessity to evacuate. In this case, a recommendation will be made to the Governor as soon as possible.

H. Evacuation Rescission and Reentry

1. Upon local determination that it is safe for the public to return, a recommendation will be made to the Governor to rescind the Evacuation Order.
2. Once rescinded, no reentry restrictions from the State will exist; however, reentry restrictions from the county or municipality may still be in place.
3. Reentry operations will be conducted by local authorities, in coordination with the SEOC and with support from the SERT.
4. See the SCEOP, Section VII.I (Access Control and Reentry Operations) for further details.

VIII. DISASTER INTELLIGENCE AND COMMUNICATIONS

- A. See the SCEOP, Section VIII (Disaster Intelligence and Communications), which describes the processes the State uses to acquire, coordinate, and disseminate disaster information.
- B. See Attachment E of the SCEOP for information regarding the Disaster Intelligence Group (DIG).
- C. Public Information
 1. General:
 - a. All levels of government will provide consistent, coordinated, accurate, and timely information to the at-risk public to prevent or minimize hurricane-related loss of life, damage to property, and harm to the environment in South Carolina.
 - b. The information flow will begin long before the existence of an imminent hurricane threat, will intensify as a hurricane approaches, and will continue in the storm's aftermath.
 - c. Pre-impact and reentry issues are the main focuses of dissemination of information.
 2. See Annex 15 (Public Information) of the State Emergency Operations Plan
 - a. Upon the Declaration of a State of Emergency by the Governor, ESF-15 (Public Information), with the advice and consent of the coordinating element in the dissemination of public information during emergency and disaster operations.

The State Emergency Operations Center (SEOC) will request State-level activation of the Emergency Alert System (EAS) when appropriate.

D. Conference Calls and Briefings

1. The SEOC will schedule conference calls with the Counties and SERT as early as 120 hours prior to arrival of tropical storm force winds (H-120). Conference calls will continue as needed.
 - a. Purpose for calls:
 - (1) Share critical disaster intelligence including the evacuation timeline, planning scenarios, critical resource shortfalls and potential tropical cyclone impacts to South Carolina.
 - (2) Anticipated unmet needs from counties and/or SERT.
 - b. Format for calls:
 - (1) Opening comments from the SCEMD Director.
 - (2) National Weather Service (NWS) Columbia (other local NWS offices as necessary) will brief the latest forecast and current conditions. The NHC may also be on the call.
 - (3) SCEMD Disaster Intelligence Group (DIG) products will be briefed. These products include, but are not limited to, planning scenarios, evacuation timelines, lifeline analysis and HURREVAC storm surge planning recommendations and wind timing reports.
 - (4) SCEMD Chiefs will brief key section actions.
 - (5) SERT will brief key agency actions.
 - (6) County Directors will report anticipated resource requests, potential shortfalls, suggested response actions, critical transportation needs compliance spreadsheets (if required), and evacuation recommendations.
 - (7) The SCEMD Director will discuss decisions and recommendations that will be provided to the Governor, such as evacuation decision or reentry status.
 - c. If needed, there may be separate conference calls with coastal counties to discuss specific evacuation operations.
2. Executive Group conference calls and decision briefings will be held as requested by the Governor.
 - a. Purpose for calls:

- (1) Ensure the South Carolina Governor has all necessary information to make operational decisions.
 - (2) Provide recommendations to the Governor for State of Emergency, evacuation, and disaster declaration request.
- b. Format for calls:
- (1) South Carolina Governor will make any opening comments.
 - (2) NWS Columbia will brief the latest forecast and current conditions. NHC may also be on the call.
 - (3) SCEMD DIG products will be briefed. These products include, but are not limited to, planning scenarios, evacuation timelines, lifeline analysis and wind timing reports.
 - (4) The state agency directors will provide status of agency operations, to include recommendations on State of Emergency, evacuation, lane reversal, reentry, etc.
 - (5) The SCEMD Director will make recommendations to the Governor.

E. Lifeline Sector Analysis

The table below lists possible impacts to the state's lifeline sectors associated with a tropical cyclone event. While not all-inclusive, this list assists the SERT's ability to respond effectively by proactively identifying possible areas of concern before impacts occur.

Lifeline	Scope of Possible Impacts
	• Evacuation of coastal communities may be required for community safety. • Response personnel may need to support evacuation and search and rescue activities. • Responders may see increased calls for assistance. • Response and emergency management agencies may see extended operating/shift periods, and specialized equipment or training may be required. • Response times may be extended for all public safety responders due to road closures and debris on roadways.

	• Food retailers may be damaged, without power, or inaccessible. • Search and rescue activities may be necessary for livestock in impacted areas. • Extended power outages could disrupt food processing and distribution operations. • Initial impacts of wind and power outages and longer-term damage to the state's housing stock may call for a large-scale sheltering mission. • Agricultural supply chain impacts may occur due to high winds, heavy rainfall, or flooding during and after a tropical cyclone event. • Power outage may cause food spoilage, and any delays in disposal options may further impact the supply chain and economy.
	• Mandatory evacuation of medical facilities pre-storm may be required depending on storm. • Hospitals may see an increased number of patients seeking care. • EMS response time for non-evacuation-related operations may be impacted. • Disruptions of EMS services may be caused by road closures or debris on roadways. • Healthcare facilities may be damaged or made inaccessible by high winds, storm surge, or flooding and may be affected by power or communication outages. Individuals may have to delay seeking care or identify a different provider. • People who rely on medical equipment and medications that require power may face challenges with extended power loss. • Staffing shortages at medical facilities are possible due to personal property damage of staff, impacts from the event, and accessibility issues at facilities. • Impacts to medical supply manufacturers or distributors may lead to disruption of medical material availability. • Pharmacies and outpatient facilities may close due to evacuation or impacts from the storm. • Public health impacts from contaminated water are possible due to power outages and flooding. • Veterinary medical services may experience significant local impacts depending on the extent of the event.

	• High wind, storm surge, and flooding may damage power generation, transmission, or distribution facilities, equipment, or systems. • Fuel stations may be damaged, inaccessible, or without power, causing additional challenges for responders. • Control systems may be affected by power or communication outages. • Generator dependencies for continuity of power may lead to a shortage in generator or fuel supply. • The potential for a bulk release of petroleum products may be present during and after a tropical cyclone event.
	• Telecommunications and broadband equipment and systems may be damaged by high wind, storm surge, and/or flooding, which would cause communication disruptions or outages. • Additional disruption may occur because of power outages. • Outages could impact public sector information sharing platforms, dispatch centers, media transmissions, and the financial sector.
	• Transportation routes may be altered because of lane reversal to support evacuations, road closures or damage, bridge closures or damage, and/or railway closures or damage. • Port and airport operations may be disrupted, and infrastructure may be damaged or destroyed. • Blocked or damaged roadways may inhibit the restoration of power and the delivery of commodities or services. • Reentry capabilities will be impacted based on the level of damage to the transportation network. • Sand, debris, and floodwater on roadways may prevent or impede transportation in impacted areas.
	• Hazardous materials storage and transportation equipment and systems may be damaged by high wind, storm surge, and flooding, potentially resulting in release of hazardous materials, further complicating any response efforts. • Damage to storage containers, including pesticides and fertilizers, or transportation infrastructure could cause environmental, human, and animal health risks. • Response times for Environmental Emergency Response Teams may be extended due to road closures and debris on roadways.
	• Water and wastewater systems may be offline due to power outages, river flooding, or excessive turbidity. • Treatment and storage facilities could be damaged by high winds. • Distribution or collection lines crossing flooded bodies of water may be damaged.

	• Storm surge and heavy rains may impact surface water intakes, creating a need for desalinization of water sources. • Boil water advisories may be needed due to water infrastructure impacts. • Improperly cased wells that experience flooding may be contaminated, thus causing groundwater issues. • Sanitary sewer overflows will likely be widespread.
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IX. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

- A. See Section IX (Organization and Assignment of Responsibilities) of the SCEOP for the general roles and responsibilities to all hazards for State and Federal agencies in preparation, response, and recovery from a disaster impacting the State.
- B. Emergency Support Functions (ESFs). Coordinating agencies will conduct an annual review of their ESF-specific hurricane responsibilities with primary and supporting agencies.
 1. ESF-5 (Emergency Management)

South Carolina Emergency Management Division (SCEMD)
(Coordinating Agency)

- (1) Notify SCEMD staff, SERT, and counties of all Atlantic tropical cyclones and their possible impacts to SC via email.
- (2) Organize and facilitate county and SERT conference calls leading up to and during an event. Depending on assessed threats, initial calls may consist of select counties and select SERT agencies.
- (3) Determine appropriate operating condition (OPCON) level of the SEOC commensurate with the anticipated response needed.
- (4) Coordinate Emergency Management Assistance Compact (EMAC) planning with ESF-4, ESF-9, and others as applicable to the threat.
- (5) Assess storm forecast and potential state/regional impact using hurricane-tracking tools, such as HURREVAC.
- (6) Coordinate with FEMA Region 4 Threat Assessment Unit and HLT.
- (7) Develop storm scenarios in conjunction with NWS.

- (8) Publish EMAC Sitrep in EMAC Operations System (EOS). Request EMAC A Team as required.
- (9) Select tentative Logistical Staging Areas (LSA) to support state and EMAC requests.
- (10) Participate in Federal and/or multi-state conference calls coordinating regional operations.
- (11) Pre-stage resources, to include EMAC teams, if required.
- (12) Establish warehouse operations.
- (13) Coordinate and distribute disaster intelligence products as needed.

2. ESF-1 (Transportation)

a. South Carolina Department of Transportation (SCDOT)
(Coordinating Agency)

- (1) Coordinate and compile damage assessments and estimated clearance time of roads and bridges.
- (2) Coordinate road clearance priorities.
- (3) Position traffic barriers, cones and/or signage (variable message boards, road markers) to facilitate reentry, as required.
- (4) Contact SCDOT Agency Coordination Center (ACC) to determine status of all bridges, roadways, SCDOT equipment, personnel, and facilities affected by the storm, as required.
- (5) Establish Air Coordination Group (ACG) for coordination and management of aerial operations; coordinate as required with ESF-4, ESF-13, and ESF-19 for aviation assets.
- (6) Establish Emergency Refuel Group with SCDE and other partners.
- (7) Coordinate with SCEMD, coastal counties, and ESF-16 to provide lane reversal recommendations to the Executive Group.

b. South Carolina Department of Public Safety (SCDPS)

- (1) Coordinate with SCDOT to activate the SCDOT message boards with evacuation messaging.
 - (2) Provide personnel for onsite correctional facility command, control, and reporting of sandbag operations.
 - c. South Carolina Department of Education (SCDE)
 - Provide buses to assist with evacuation of critical transportation needs populations if required.
 - d. South Carolina National Guard (SCNG)
 - Provide assets for lane reversal and/or road clearance assistance if necessary.
 - e. South Carolina Department of Corrections (SCDC)
 - Provide personnel and equipment for sandbag operations.
- 3. ESF-2 (Communications)
 - South Carolina Department of Administration (Coordinating Agency)
 - (1) Assess communications needs, prioritize requirements, and make recommendations to deploy equipment and personnel to affected areas, as required.
 - (2) Coordinate with ESF-16 to ensure readiness of pre-planned radio and airborne repeater equipment as needed.
 - (3) Coordinate communications to critical needs (e.g., 911/dispatch, public safety responders, EOCs, and hospitals).
- 4. ESF-3 (Public Works and Engineering)
 - a. South Carolina National Guard (SCNG) (Coordinating Agency)
 - (1) Lead coordination for the specialized flood fight equipment from the USACE as needed.
 - (2) Maintain awareness of water system statuses across impacted areas.
 - b. South Carolina Rural Water Association (SCRWA)

- (1) Maintain situational awareness of water and wastewater facility impacts and provide sector assessments to the SEOC.
- (2) Identify priority water and wastewater facilities for provision of back-up power generation and refueling, as needed.

5. ESF-4 (Firefighting)

South Carolina Department of Labor, Licensing, and Regulation (SCLLR) (Coordinating Agency)

- (1) Request swift water assets through the SC Firefighter Mobilization process and stage at the State Fire Academy or designated pre-staging locations until assessment and resource requirements are determined. Coordinate deployment of assets as required.
- (2) Provide communications, heavy equipment, and personnel to support search and rescue efforts as requested.

6. ESF-6 (Mass Care)

a. South Carolina Department of Social Services (SCDSS) (Coordinating Agency)

- (1) In accordance with Annex G (Hurricane Response Shelter Management), coordinate with SCEMD and the counties to determine the required number and location of evacuation support shelters.
- (2) Maintain awareness of shelter status, to include communications, occupancy, accessibility, power, unmet needs, and ongoing issues.
- (3) Assess shelter requirements based on potential long-term feeding needs.
- (4) Coordinate with ESF-11 regarding post-storm emergency fixed and mobile feeding sites as required.
- (5) Develop staffing to support shelters and/or establish sheltering task force for coordination.
- (6) Determine post-storm sheltering needs based on damage assessment information.

- (7) Assess availability of SCDSS employees, and Red Cross/other Voluntary Organizations Active in a Disaster (VOAD) volunteers to manage shelters.
 - (8) Implement shelter closing and consolidation procedures in coordination with American Red Cross and affected counties.
 - b. South Carolina Department of Public Health (SCDPH)
 - (1) Be prepared to open and operate Medical Equipment Power Shelters (MEPS) at E-Hour in coordination with local emergency management as required.
 - (2) See Annex G (Hurricane Response Shelter Management), subsection III.G for more information.
 - c. American Red Cross
 - (1) Establish, manage, and support shelter operations as requested.
 - (2) Support Family Assistance Center efforts as requested.
 - (3) Provide services to help family members reconnect (reunification/welfare inquiry services).
 - (4) Provide meals at fixed sites and through mobile feeding units as requested and in coordination with ESF-6 partners.
 - (5) Distribute emergency supplies and provide cots for distribution plan.
 - d. County
 - (1) Identify shelters available for post-storm use.
 - (2) Project shelter closing and consolidation procedures in coordination with SEOC Operations, SCDSS, and American Red Cross.
 - (3) Coordinate and assess ADA and functional and access needs as needed.
- 7. ESF-7 (Finance and Administration)
 - South Carolina Emergency Management Division (SCEMD)
(Coordinating Agency)

- (1) Determine availability of critical resource items from commercial vendors.
 - (2) Activate vendor contracts for equipment and supplies and process orders as requested by Support Branch Director.
 - (3) See Annex 7 (Finance and Administration) of the SCEOP.
8. ESF-8 (Health and Medical Services)
 - a. South Carolina Department of Public Health (Coordinating Agency)
 - (1) Coordinate with SCEMD to determine if a Mandatory Medical Evacuation recommendation to the Governor is appropriate.
 - (2) Monitor census reduction and movement of patients from hospitals in evacuation zones.
 - (3) Coordinate with the South Carolina Hospital Association to communicate Mandatory Medical Evacuation Order(MMEO) issuance to membership and to facilitate bed matching if required.
 - (4) Coordinate EMS transportation with healthcare facilities as needed. Coordinate with the South Carolina EMS Association as required.
 - (5) Determine status of public health and healthcare support systems.
 - (6) Monitor healthcare facility conditions and needs.
 - (7) See Annex H (Mandatory Medical Evacuation Operations) of the State Hurricane Plan for more information.
 - b. South Carolina Department of Behavioral Health and Developmental Disabilities, Office of Mental Health
 - (1) Coordinate delivery of behavioral health services to affected individuals, families, communities, and responders.
 - (2) Provide assistance to law enforcement and other agencies in coordinating crisis and behavioral health services.
9. ESF-9 (Search and Rescue)
 - South Carolina Department of Labor, Licensing, and Regulation (SCLLR) (Coordinating Agency)

- (1) Integrate the South Carolina Firefighter Mobilization Plan to support search and rescue efforts in affected areas.
- (2) Coordinate activation of the South Carolina Emergency Response Task Force (SCERTF) Incident Support Team (IST) for agency coordination at the South Carolina Fire Academy or deployment to affected areas for all-hazard assessment and incident support as required.
- (3) Request and stage the State Urban Search & Rescue (US&R) Task Force at the State Fire Academy until assessment and resource requirements are determined. Coordinate deployment of assets as required.

10. ESF-10 (Environmental and Hazardous Materials Operations)

South Carolina Department of Environmental Services
(Coordinating Agency)

- (1) Provide information regarding any known Hazardous Material (HAZMAT) threats.
- (2) Coordinate response action for spills and releases of oil and hazardous substances as required.
- (3) Communicate with state regulated dam owners about lowering water levels as required.
- (4) Monitor status of state regulated dams.
- (5) Work with local officials to approve Disaster Debris Management sites.

11. ESF-11 (Food Services)

South Carolina Department of Social Services (Coordinating Agency)

- (1) Estimate feeding requirements based on shelter populations.
- (2) Coordinate with the South Carolina Department of Education (SCDE) Food Distribution Program Team (FDP) Lead and local School District Nutrition Directors to assess food inventory and staffing capabilities for on-site congregate feeding.

- (3) Coordinate with the SCDE FDP Team Lead to gain inventory availability of all on hand USDA Commodity Foods available in the state contracted warehouse.
- (4) Coordinate with SCDE FDP Team Lead to request delivery of USDA Commodity Foods to designated congregate feeding sites, if warranted and approved.
- (5) Provide support to the SC Mass Care Feeding Task Force upon activation or convening with ESF-6.

12. ESF-12 (Energy)

Office of Regulatory Staff (ORS) (Coordinating Agency)

- (1) Activate Evacuation Fuel Plan as required.
- (2) Coordinate implementation of Annex F(Hurricane Evacuation Fueling and Refueling Operations) as required.
- (3) Provide status of consumer fuels/resupply.
- (4) Track status of natural gas pipelines and natural gas supplies.

13. ESF-13 (Law Enforcement)

a. South Carolina Law Enforcement Division (SLED) (Coordinating Agency)

- (1) Coordinate with ESF-16 for law enforcement support along identified evacuation routes and reentry control points in impacted areas.
- (2) Provide disaster intelligence and reports of observed critical facilities, roads, or bridges that have sustained damage.
- (3) Coordinate law enforcement activities for evacuated areas as required.

b. South Carolina Department of Public Safety (SCDPS)

- (1) Provide security presence in accordance with ESF-13 requirements.
- (2) Coordinate with SLED and local emergency managers to facilitate reentry operations.

c. South Carolina Department of Natural Resources (SCDNR)

- (1) Provide security presence in accordance with ESF-13 requirements.
 - (2) Coordinate with SLED and local emergency managers to facilitate reentry operations.
 - d. South Carolina Department of Probation, Parole and Pardon Services (SCPPP)
 - (1) Provide security presence in accordance with ESF-13 requirements.
 - (2) Coordinate with SLED and local emergency managers to facilitate reentry operations.
 - e. South Carolina Criminal Justice Academy (SCCJA)
 - (1) Provide security for the SEOC during activation as required.
- 14. ESF-14 (Initial Recovery and Mitigation)
 - South Carolina Emergency Management Division (SCEMD)
(Coordinating Agency)
 - (1) Set up incident-specific damage trackers.
 - (2) Communicate relevant disaster recovery program information to county partners.
 - (3) Request residential, public infrastructure, and business damage assessment information.
 - (4) Track and compile damage assessment and cost information to support requests for federal assistance.
 - (5) Coordinate Joint Preliminary Damage Assessment process, including scheduling, staffing, and data management.
 - (6) Begin scoping recovery needs.
 - (7) Support transition from ESFs to Recovery Support Functions (RSFs) in conjunction with Federal partners.
 - (8) Coordinate submission of damage assessment information to FEMA and Small Business Administration (SBA) as needed.
 - (9) Prepare and submit for Governor's signature a request for a Presidential major disaster declaration if needed.

- (10) Coordinate requests for and implementation of federal assistance programs including Joint Field Office (JFO) staffing.
- (11) Support implementation of multi-agency shelter transition activities.
- (12) Engage counties in identifying temporary housing sites, developing temporary housing plans, and implementing federal housing assistance programs if needed.
- (13) Facilitate information sharing with VOADs and Long-Term Recovery Groups (LTRGs) to address unmet needs to survivors.
- (14) See Appendix 6 (South Carolina Recovery Plan) to the SCEOP.

15. ESF-15 (Public Information)

South Carolina Emergency Management Division (SCEMD)
(Coordinating Agency)

- (1) Coordinate with Public Information Officers (PIOs) in the local EOCs and SEOC regarding need to issue coordinated information about when and where it is safe for residents to return to the area. Joint press releases may be necessary across various jurisdictions for reentry purposes.
- (2) Coordinate media efforts to inform the public of potential effects of the tropical cyclone and of actions necessary to safeguard lives and property, advise them of prudent protective actions, and provide information for evacuees of when and on what routes they can return home.
- (3) Collaborate with State agencies, County Emergency Management agencies and SERT partners for all news releases issued during activation information of greatest public interest that emphasizes one, unified message from State Government. Collect and coordinate accurate information for the public during a hurricane and during a coastal evacuation and reentry.
- (4) See Section VII (Disaster Intelligence and Communications) of the State Emergency Operations Plan for information regarding the dissemination of Public Information.

16. ESF-16 (Emergency Traffic Management)

a. South Carolina Department of Public Safety (SCDPS)
(Coordinating Agency)

- (1) Mobilize evacuation support personnel and resources.
- (2) Direct and oversee staffing of Traffic Control Points (TCPs) for traffic control.
- (3) Stage resources in preparation for lane reversals and implement lane reversal if ordered.
- (4) Monitor evacuation status and traffic flow (speed, traffic counts, accidents, and critical intersections).
- (5) Coordinate with SCEMD, coastal counties, and ESF-1 to provide lane reversal recommendations to the Executive Group.
- (6) If lane reversal was not initiated with the evacuation order, maintain staging of lane reversal resources and initiate lane reversal operations if ordered.
- (7) Provide post-disaster intelligence and infrastructure status reports to local EOCs and the SEOC.
- (8) Prepare for and execute traffic control procedures for reentry as needed based on county plans and policies.
- (9) Monitor reentry traffic.
- (10) Manage traffic at critical intersections post-impact with priority given to emergency service vehicles, transportation of supplies/equipment, and access to critical facilities.
- (11) Assist public and private organizations with traffic control during restoration of infrastructure services.
- (12) See Annex E (Traffic Management) of the State Hurricane Plan for more information.

b. South Carolina Department of Transportation

Monitor evacuation status and traffic flow (speed, traffic counts, accidents, and critical intersections).

17. ESF-17 (Agriculture and Animals)

a. Clemson Livestock Poultry Health (CULPH) (Coordinating Agency)

- (1) Disseminate information related to emergency stabling options to support evacuation of horses.
 - (2) Disseminate storm preparedness guidance to livestock and poultry owners and agricultural producers.
 - (3) Coordinate resources to support local field activity as requested.
 - (4) Coordinate resources to support food/agriculture/animal impacts.
 - (5) Assist with dissemination of information regarding reentry with critical food and agriculture businesses.
 - (6) Coordinate available resources to assist with recovery for storm related agriculture and animal issues.
- b. Clemson Extension
 - (1) Conduct agriculture and animal related damage assessments.
 - (2) Coordinate resources to support food/agriculture/animal impacts.
- c. All ESF-17 partners

Coordinate resources to support food/agriculture/animal impacts.
18. ESF-18 (Donated Goods and Volunteer Services)

South Carolina Department of Administration (Coordinating Agency)

 - (1) Oversee all donations management.
 - (2) Prepare and coordinate donated resources and volunteer services and activities.
 - (3) Request volunteers, as needed.
19. ESF-19 (Military Support)

South Carolina National Guard (SCNG) (Coordinating Agency)

 - (1) Conduct critical equipment readiness and locate replacements for any non-operable equipment.

- (2) Maintain personnel status based on deployments.
- (3) Select tentative logistical staging areas for support of National Guard forces.
- (4) Identify routes for deployment and support in collaboration with SCDOT and SCDPS.
- (5) Deploy Civil Support Team communications platforms in support of state missions as required.
- (6) Deploy liaison officers to county EOCs as requested.

20. ESF-24 (Business and Industry)

Department of Commerce (Coordinating Agency)

- (1) Serve as a liaison between the public sector and SC business community to ensure the communications of the latest disaster information, business status, and any unmet needs.
- (2) Leverage private-public partnerships to assist with unmet needs for the State Emergency Response Team (SERT) and local emergency managers.
- (3) Work with the private sector to assist in re-establishing commercial operations.
- (4) Process post-disaster business reentry requests.

X. CONTINUITY OF GOVERNMENT (COG). See the SCEOP Basic Plan, Section VII, paragraph L (Continuity of Government).

XI. CONTINUITY OF OPERATIONS (COOP). See the SCEOP Basic Plan, Section VII, paragraph M (Continuity of Operations).

XII. PLAN DEVELOPMENT AND MAINTENANCE

- A. This plan is the principal source of documentation concerning the State's tropical cyclone activities.
- B. SCEMD and the SERT will annually review this plan prior to the start of each hurricane season (1 June).
- C. The SCEMD Hurricane Program Manager will coordinate the efforts of all responsible departments and agencies for plan revisions and updates.

XIII. ADMINISTRATION, LOGISTICS AND FINANCE

- A. See the SCEOP Basic Plan, Section X (Administration, Logistics and Finance).
- B. See SCEOP Basic Plan, Attachment A (SC Logistics Plan).

XIV. AUTHORITIES AND REFERENCES. See the SCEOP Basic Plan, Attachment C (Authorities and References).

XV. ACRONYMS AND GLOSSARY. See SCEOP Base Plan, Attachment B (Acronyms and Glossary).