SOUTH CAROLINA

Strategic Statewide Resilience and Risk Reduction Plan

2025 Annual Update

SCOR South Carolina Office of Resilience

2025

SCOR
South Carolina
Office of Resilience

HENRY D. MCMASTER, *Governor*
BENJAMIN I. DUNCAN II, *Chief Resilience Officer*

December 30, 2025

Two years ago, the South Carolina Office of Resilience and our diverse partners celebrated a significant milestone: the release of the state's inaugural Strategic Statewide Resilience and Risk Reduction Plan. This document reflected our shared foresight, offering a comprehensive, data-driven understanding of current and future risks, along with thoughtful recommendations to strengthen the ability of South Carolina's communities, economies, and ecosystems to anticipate, absorb, recover, and thrive in the face of environmental change and natural hazards.

While meaningful progress was made in the first year after the plan's release, 2025 brought new opportunities and challenges that underscored the importance of not only having this plan but actively implementing it and adapting it as conditions change. For the Office of Resilience, much of this year has been spent working directly with communities across the state to support recovery from Hurricane Helene. These efforts have sparked important conversations with residents and local leaders who are ready to begin planning and putting strategies in place to reduce the impacts of future events like Hurricane Helene on their communities, economies, and ecosystems. We have seen increased demand for the planning expertise, data, and solutions outlined in the Resilience Plan, as well as renewed momentum from partners committed to advancing its recommendations.

As the saying goes, "advantages go to those who pay attention." People are paying attention now more than ever. The plan itself signaled that South Carolina was paying attention, but this year I have been especially encouraged by our commitment to turning that awareness into action. The strategic efforts launched over the past year are not simply incremental improvements; they represent a meaningful shift that positions the state to build long-term resilience.

I extend my deepest gratitude to our dedicated staff and to all the partners whose innovation and determination continue to drive resilience across South Carolina. I invite others to join us as we move forward.

Sincerely,

Benjamin I. Duncan II
Chief Resilience Officer

OVERVIEW

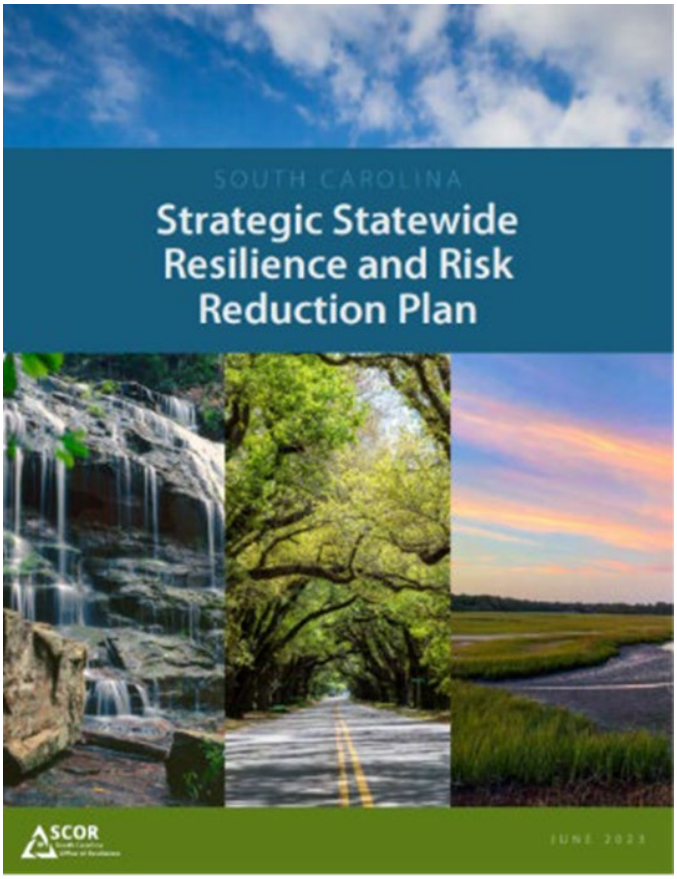
PURPOSE OF 2025 ANNUAL UPDATE

The purpose of this document is to provide an update on activities undertaken to implement the recommendations outlined in the Strategic Statewide Resilience and Risk Reduction Plan (Resilience Plan) released in July 2023.

Significant progress has been made to implement the recommendations of the Resilience Plan. Activities undertaken are intended to increase the ability of South Carolina's communities, economies, and ecosystems to anticipate, absorb, recover, and thrive when presented with environmental change and natural hazards. This document will provide an overview of the recommendations the South Carolina Office of Resilience (SCOR) and other partners have moved forward in the last year and provide addition details on expected next steps. This update covers activities occurring between September 2024 and December 2025.

2023 SOUTH CAROLINA STRATEGIC STATEWIDE RESILIENCE AND RISK REDUCTION PLAN

PLAN OVERVIEW



The South Carolina Strategic Statewide Resilience and Risk Reduction Plan was released in June of 2023. The Plan serves as a framework to guide future state investment in flood mitigation projects and the adoption of programs and policies to protect the people and property of South Carolina from the damage and destruction of extreme weather events. The Statewide Resilience Plan includes 9 chapters and 8 appendices. Since its release, the information found in the Flood Risk and Vulnerability Assessment and Climate Trends chapters have proved great reference materials to inform action at the state, regional and local level. The planning process culminated in the development of over 50 recommendations, developed by SCOR and the over 100 organizations who participated in the planning process. By continuing to coordinate with these partners, as well as new partners, we have seen many of the recommendations acted on through funding, project, programs, and policies. For an overview of the plan, please see the Executive Summary located online here.

This is the second update document to be released since the Resilience Plan was published in 2023. The agency's commitment to ongoing resilience efforts in the first year after the plan's release was demonstrated in the 2024 Annual Update to the Strategic Statewide Resilience and Risk Reduction Plan, which tracked progress on the plan's 54 recommendations in the first year after its release. The update can be viewed here.

RECOGNITION AND ACCOLADES

Since its release, the plan has been recognized at both the state and national level. The South Carolina State Library recognized the plan with a 2023 Notable State Document Award. The judges applauded the extent to which the plan provides information that assists in making informed decisions, noting the plan's "descriptive models, orderly and understandable sections, and lasting reference value."

The American Planning Association (APA) featured SCOR and the Statewide Resilience Plan in their article: Planning for State Resilience: A 50-State Breakdown. A comparison of how states across the country are approaching flood resilience planning and implementation, the article recognized the plan as a major milestone in South Carolina's approach to resilience following several disasters. APA noted how many of the recommendations are already moving forward and how the planning process has included a high level or coordination and cooperation at the state level.

SCOR is often called on by local, state, and national partners to share best practices related to the development and implementation of statewide resilience. SCOR actively engages with national organizations to stay up to date on issues and that impact resilience.

SCOR has also engaged with peers on the international level, meeting with representatives of State of North-Rhine-Westphalia Germany to share best practices.

SOUTH CAROLINA OFFICE OF RESILIENCE

MISSION

The South Carolina Office of Resilience lessens the impact of disasters on the communities and citizens of South Carolina by planning and coordinating statewide resilience, long-term recovery, and hazard mitigation.

In planning and coordinating statewide resilience with the development and implementation of the Statewide Resilience Plan, the office works to identify major flood risks around the state, potential losses that could occur as a result, and use the plan as a framework to guide state investment in programs and policies that increase resilience and provide support to local governments in building resilience.

WHAT IS RESILIENCE

Resilience is a complex term, capturing multiple theories and concepts depending on who is giving the definition. Working with the Advisory Committee, SCOR has adopted the following definition of resilience, guiding our work in the development and implementation of this plan:

> *The ability of communities, economies, and ecosystems within South Carolina to anticipate, absorb, recover, and thrive when presented with environmental change and natural hazards.*

AGENCY HISTORY

SCOR started as The SC Disaster Recovery Office, which was created by Governor Nikki Haley in response to the devastation of the historic 2015 floods. This flooding, caused by extreme rainfall associated with Hurricane Joaquin, resulted in an estimated $1.5 billion in property, infrastructure, and agricultural damage as well as 19 fatalities. In the years directly following the 2015 floods, South Carolinians faced two other disasters that resulted in serious flooding and damages – Hurricane Matthew (2016) and Hurricane Florence (2018). Some portions of the state experienced the impacts of all three of these major storms in a four-year period, which greatly strained these communities and hindered their ability to recover and thrive.

In response to the significant loss sustained by South Carolina due to this series of disasters, Governor Henry McMaster established the SC Floodwater Commission in 2018. The Commission was charged with developing short and long-term recommendations to alleviate and mitigate flood impacts in South Carolina. The SC Floodwater Commission Report was published in 2019 and contained recommendations meant to guide South Carolina's comprehensive, integrated approach to reducing flood risk. In accordance with these recommendations, the Disaster Relief and Resilience Act (DRRA) was passed in 2020. The DRRA created the South Carolina Office of Resilience (SCOR) (which opened in 2021 and absorbed the Disaster Recovery Office) and directed it to develop, implement, and maintain the Strategic Statewide Resilience and Risk Reduction Plan.

The Strategic Statewide Resilience and Risk Reduction Plan was formally published in 2023. Following this milestone, SCOR has played a critical role in addressing the severe impact of Hurricane Helene, which heavily affected the northern part of the state. The agency's work in disaster response and recovery for Hurricane Helene exemplified its full scope of integrated resilience and recovery operations mandated by the DRRA.

UPDATES ON IMPLEMENTATION OF PLAN RECOMMENDATIONS

Throughout the planning process, SCOR and partners worked to ensure that the plan's 55 recommendations were actionable. Many actions and activities related to implementing these recommendations have taken place since the plan's release. SCOR has organized implementation of the plan over the last year into 10 overarching lines of efforts, based on multiple key recommendations that will allow for the implementation of many of the plan's other recommendations:

- Improve Data Collection and Coordination
- Increase Education, Outreach, and Disclosure
- Coordinate Watershed-Based Resilience Planning and Projects
- Incorporate Resilience into Planning, Land Use and Other Regulatory Processes
- Maintain and Strengthen Building Codes
- Incorporate Resilience into Infrastructure Design
- Maintain Natural Flood Protection Through Conservation
- Incorporate Resilience into Housing Recovery
- Establish a Voluntary Pre-Disaster Buyout Program
- Identify and Maximize All Available Funding Sources for Resilience Activities

Each recommendation area has seen advancements in the past year as described below. For a complete listing and description of all 55 recommendations, please visit the compete Resilience plan here: Strategic Statewide Resilience and Risk Reduction Plan.

IMPROVE DATA COLLECTION AND COORDINATION

The foundational step toward greater state resilience requires ensuring that quality data is collected and available for informed decision making. The resilience planning process returned a wealth of datasets maintained by various state, local, and federal entities, but also illustrated the need for strategic efforts to enhance the state's data resources.

Utilizing funds allocated by the legislature, SCOR has established a Data Coordination and Advanced Analytics Program. The Data Coordination Program has made significant progress on increasing base level data needed to make informed decisions as well as increasing the coordination of data at the statewide level

The Plan highlighted the for expansion and modernization of statewide monitoring networks, including increasing the density of weather stations, river and tidal gages, and installing extensometers to monitor vertical land movement.

Furthermore, SCOR identified essential mapping projects, such as updated LiDAR elevation data and new high-resolution land cover datasets, while integrating future-focused climate science by adopting updated NOAA IDF rainfall curves and establishing a Climate Information Evaluation Group. Finally, better governance will be ensured by establishing a Modeling Technical Advisory Group and creating new statewide data standards for property level data, roadway elevations, and subcounty population projections, all of which are essential for informing better infrastructure design, efficient disaster response, and comprehensive land-use planning.

INCREASE DATA COORDINATION

Using funds allocated in the FY24 budget, SCOR initiated a contract with SAS to evaluate how the state currently manages its data and make recommendations on how to make improvements to maximize efficacy and ensure data is available and usable for developing data tools. SCOR and SAS coordinated with a cross section of State agencies to get a clear picture of the current state of data management within the State. Participating agencies included the SC Forestry Commission, Department of Insurance, Arts Commission, Revenue and Fiscal Affairs, Department of Corrections, Confederate Relec Room & Military Museum, Department of Disabilities and Special Needs, Department of Moter Vehicles, Department of Consumer Affairs, Department of Administration, Department of Alcohol and Other Drug Abuse Services and the Department of Environmental Services. The report developed is intended to position the state to take advantage of advanced data tools including machine learning and artificial intelligence.

Following completion of the report, SCOR has coordinated with other State agencies to develop an implementation strategy. Based on those conversations, the Department of Administration

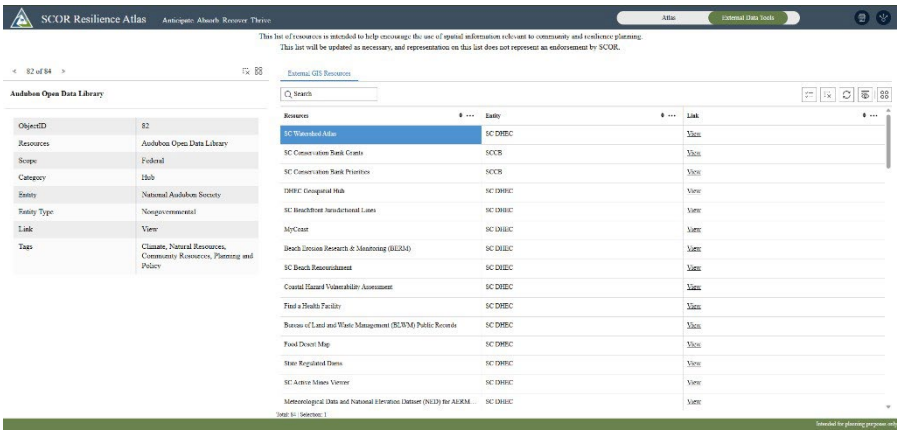
will be seeking funds to establish a statewide Chief Data Officer to work with state agencies to improve data quality and accessibility.

RESILIENCE ATLAS

The Resilience Atlas and training materials are now available on SCOR's website at scor.sc.gov/atlas. SCOR created this tool to expand public access and exposure to GIS data relevant to understanding the state's resilience, and contextualizing and localizing this data for users across the State. The Atlas has seen 3,260 visits this year, which is around 10 people every day.

Resilience Resource List

In addition to the Atlas mapping tool, the Atlas also contains an additional resource list, linking out to other data tools from state, federal, and non-profit sources commonly used for resilience evaluation, planning, and decision making.



DEVELOP RESILIENCE METRICS

SCOR is working with HVRI (Hazards Vulnerability and Resilience Institute) at the University of South Carolina to develop and advance the Social Vulnerability Index (SoVI) and the Baseline Resilience Indicators for Communities (BRIC) index. Both SoVI and BRIC are calculated in a way that provides a final score for every county or census tract relative to the other counties or census tracts studied.

This means that when a subset of counties or census tracts in South Carolina requires its own SoVI or BRIC, the index is recalculated. To support the watershed coordinators and their planning, a SoVI and BRIC were calculated for each planning watershed in South Carolina. The indices for the seven watersheds were calculated first, for only the census tracts that overlap with the watershed, and second, for all the census tracts in counties that overlap with the watershed. The SoVI analysis used updated 2022 data, while the BRIC used the version calculated in 2024. In total, twenty-eight separate shapefiles (fourteen BRIC and fourteen SoVI) were delivered for SCOR use. In addition, a report outlining the results from these index calculations was provided to the watershed coordination team, and a training was conducted

on SoVI and BRIC with that team to provide them with baseline information on both social vulnerability and community resilience metrics. In addition to the watershed-level SoVIs, a new state-level SoVI was also delivered to the state for wider planning and risk analysis.

In 2026, the BRIC index used in South Carolina will be updated with new data, variables, and potentially new calculations to better use the index for planning and decision-making purposes. This work is in its beginning stages, but will incorporate lessons learned from the initial South Carolina adaptation of BRIC as well as the needs of the South Carolina Office of Resilience. This second iteration of BRIC for the state will aid in tracking community resilience over time.

INSTALLATION OF EXTENSOMETERS

Borehole extensometers are key instruments for measuring vertical land movement (subsidence or uplift) by monitoring aquifer compaction or expansion, using anchored rods/pipes and sensors (like potentiometers or vibrating wires) to track changes in depth relative to the stable bedrock. They work by linking the sinking/rising land surface to a fixed point deep underground, revealing groundwater impacts, while newer methods like GPS also track broader land motion.

The plan recommended at least three extensometers along the coast. The State of South Carolina has allocated funds to begin this project. SCOR is working with South Carolina Geologic Survey within the SC Department of Natural Resources (SCDNR), United States Geological Survey (USGS), and other stakeholders on siting and installation.

UPDATE/DEVELOPMENT OF NOAA ATLAS 14 & ATLAS 15 DATA

SCOR, the SC Department of Transportation (SCDOT), and SCDNR have provided funding to include South Carolina in the update of the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 precipitation frequency estimates for the Mid-Atlantic Region. Once completed, the updated estimates for SC will include data gathered after the year 2000, allowing for a better understanding of the probability of rain events. The update is still in progress with an expected delivery date in 2026. Once released, these updated numbers should be used to revise regulations and guidance utilized for planning and design. Until the new Atlas 14 numbers are published, projects should consider the high-end estimate of the currently published Atlas 14 numbers. In addition to the update of Atlas 14, NOAA has been authorized to develop estimates that use downscaled global climate projections to be published as Atlas 15. In the meantime, projects should plan for future climate conditions over the intended lifetime of the project.

NOAA C-CAP HIGH RESOLUTION LANDCOVER DATA

While the existing NOAA C-CAP program is exclusive to the coastal zone, SCOR is working towards securing this this high-resolution land cover dataset for the extended watershed of South Carolina cover by leveraging state and federal resources. The anticipated project completion date is in Summer of 2025. Data will be available through NOAA's Digital Coast. Preliminary layers of Water, Canopy, and Impervious surfaces are available now.

ROAD ELEVATIONS INVENTORY

An enhanced, high-resolution roadway elevation inventory is being conducted by Clemson University with the support of the SC Emergency Management Division and SCDOT. SCOR is also providing the First Street™ Risk Factor® flood model (Flood Version 3.0) to identify potential road flooding to assess the vulnerabilities of the roads across SC. This study is currently underway. Products will be made public as portions of the state are completed.

ESTABLISHMENT OF MODELING AND TECHNICAL ADVISORY GROUP

In order to inventory existing models and technical capabilities, identify data gaps, make recommendations on modeling needs, and evaluate proposals for modeling improvements, the Modeling and Technical Advisory Group was created. It is comprised of specialists that develop, review, and use flood inundation models and other environmental models from Federal and State agencies and academic partners at Clemson University, Coastal Carolina University, College of Charleston, Francis Marion University, and the University of South Carolina.

If you would like to participate in this group, please reach out to Bryan Rabon Bryan.Rabon@scor.sc.gov.

ZONING ATLAS OF ZONING ORDINANCES AND LAND USE

SCOR is working to Establish a South Carolina Zoning Atlas. Zoning data will be compiled in coordination with SCOR's watershed coordinators, and the data integrated with the Resilience Atlas. This data may then further inform state and local plans, programs, and policy. A project scoping process has begun with partners at Clemson University's Planning program and expects to see deliverables in 2027 to satisfy requirements of the expected funding mechanism. To promote responsible land use and improve hazard mitigation through these policies, the state must first understand where these policies exist, how they currently consider risk-based information, and how they impact community resilience by directing growth to high or low risk areas. This project creates a new foundational dataset that will allow the state and local partners to look at zoning statewide, overlay zoning data with other data such as current and future hazard data, and analyze the interaction between zoning and resilience.

RIVER GAGE DENSITY

The Intelligent Rivers BridgeBox™ Pilot is a partnership between Clemson University and the South Carolina Office of Resilience to create a water-sensor system for hydrological studies and to alert the public and emergency officials to flood events. The project involves deploying 125 sensors across the Upper Savannah and Saluda watersheds. This pilot supports the 2023 Strategic Statewide Resilience and Risk Reduction Plan, which identified the need to strengthen South Carolina's data infrastructure and expand hydrological monitoring statewide.

Each BridgeBox is a compact, 5-by-6-inch device mounted to bridges or other structures. The cloud-connected system measures water levels using radar sensors and transmits real-time data through cellular networks. Once fully operational, this sensor network will deliver live water level data and store historical information from upper tributaries of the Savannah and Saluda rivers that currently lack monitoring, to supplement existing USGS stations.

Deployment of the 125 units is nearly complete, and the pilot is expected to meet the December 2025 deadline. Current work is focused on processing the incoming data and developing a visualization platform to display and analyze the results.

COORDINATE WATERSHED-BASED RESILIENCE PLANNING AND PROJECTS

To address natural hazards efficiently and effectively, SCOR is focusing on a watershed-based approach to planning and coordination, leveraging local, regional, and state partnership to identify shared risk and vulnerabilities across jurisdictional boundaries. Watershed based planning and coordination focuses on developing and implementing actionable flood mitigation and resilience solutions and building community capacity, and builds on SCOR's statutory obligation to provide technical planning assistance for state and local governmental entities and include strategies in the Statewide Resilience Plan to provide resources, technical assistance, and other support to local governments for flood risk reduction efforts.

The Watershed-Based Resilience Planning Program focuses on resilience planning on the watershed scale that will enable the development, implementation, and coordination of resilience projects, programs, and policies on the local level. The watershed planning process provides opportunities for stakeholder input from citizens around the state that will be incorporated into the second edition of the Statewide Resilience Plan. This process enables our agency to identify information gaps limiting our state's capacity to adequately evaluate and address flood risk factors and thus further develop recommended strategies to improve resilience.

To ensure timely execution of projects identified through this planning and coordination, the plan recommended the State establish a dedicated Resilience Grant/Loan Program utilizing the

Disaster Relief and Resilience Reserve Fund, with a commitment to recurring funding to facilitate sustained, large-scale mitigation efforts. In the FY26-27 budget, SCOR is seeking recurring funding for mitigation projects.

The Watershed-Based Resilience Planning Program will enable many other recommendations proposed in the plan to be implemented at the local level.

Pilot Project

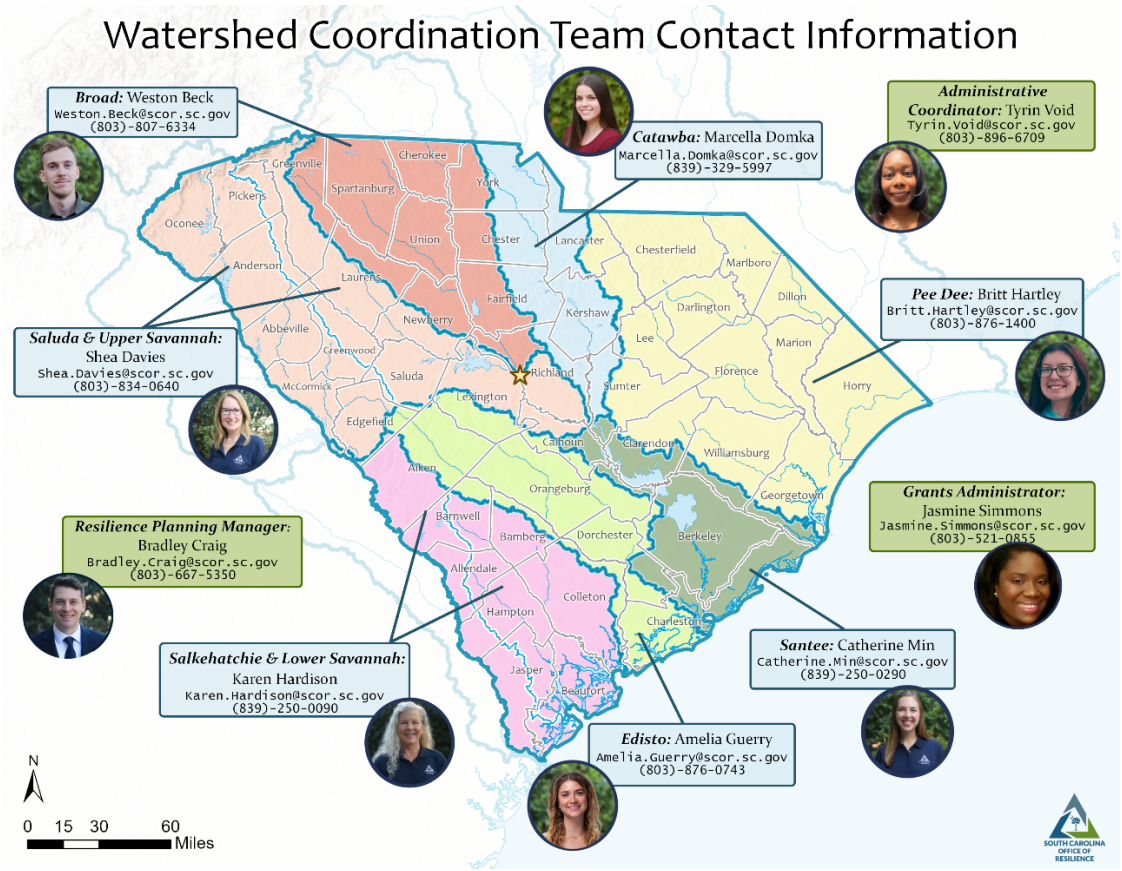
SCOR received a grant from the National Fish and Wildlife Foundation to pilot this process in the Salkehatchie River Basin. The grant funded pilot program began in January 2024 and is a partnership between SCOR, SC Sea Grant Consortium, and SC Beach Advocates. This grant includes funding for the following:

- 10 individual risk and vulnerability reports for communities within the basin
- The creation of a comprehensive watershed-based resilience plan
- The development of a watershed resilience planning handbook for replication of the process

The Salkehatchie Watershed Planning Pilot will be having the final community meetings in early December 2025 to prioritize resilient strategies that each community action team wishes to see in their communities. The risk and vulnerability reports have been finished and once priority actions have been selected by the community action teams have prioritized resilience strategies, the final community reports will be written and the watershed plan will be developed in early 2026.

Funding & Staffing

SCOR sought and received seven full-time positions in the 2025 Fiscal Year Budget to implement Watershed-based Resilience Planning statewide. In 2025, the South Carolina Office of Resilience's Watershed Coordination Program reached full staffing capacity with the addition of five new watershed coordinators, ensuring statewide coverage across all eight river basins. Since onboarding, coordinators have focused on building relationships with communities within their assigned basins to better understand local challenges and priorities related to flooding and other natural hazards.



To establish and strengthen these relationships, coordinators have launched a “Resilience 101” training series designed to introduce the concept of resilience and the role of SCOR in supporting community led resilience building practices. The training provides examples of how communities can build resilience through planning, data-driven decision-making, and implementation of both structural and nature-based solutions. It also connects participants with available state and federal resources to assist in advancing local resilience efforts.

The Resilience 101 training has been approved to fulfill continuing education credits through the Municipal Association of South Carolina (MASC) for staff and elected officials. Sessions have been delivered to county and city staff, as well as to elected officials and planning commissions, creating a foundation for shared understanding and coordinated local action. To date, 17 Resilience 101 trainings with approximately 220 participants have occurred.

Building on this success, the program is expanding training opportunities to reach new audiences. A version tailored for academic partners is under development to strengthen collaboration on research and applied resilience projects.

Through these education and outreach efforts, the Watershed Coordination Program is strengthening relationships, building capacity, and laying the groundwork for coordinated watershed-based resilience planning across South Carolina.

EDUCATION, OUTREACH, AND DISCLOSURE

To build public awareness and foster a culture of resilience, the State has transitioned from planning to active implementation through a multifaceted strategy of education, accessible data, and enhanced risk transparency. A cornerstone of this effort is the launch of the "Resilience 101" training series as described above.

Public access to critical data has been further expanded through the launch of the Resilience Atlas (available at scor.sc.gov/atlas). This tool allows users to contextualize and localize GIS data relevant to their specific communities. In its first year, the Atlas has seen significant engagement with over 3,260 visits, serving as a primary hub that links users to essential state, federal, and non-profit resilience planning resources.

Finally, the State has achieved a major milestone in risk transparency through the June 2025 update of the Residential Property Condition Disclosure Statement. In collaboration with the South Carolina Real Estate Commission, the state now requires sellers to provide a comprehensive disclosure of a property's flood history and associated risks to potential buyers. By ensuring that flood-related vulnerabilities are clearly communicated during real estate transactions, South Carolina is empowering citizens with the knowledge necessary to make informed decisions and better understand their long-term risk exposure.

INCORPORATE RESILIENCE INTO PLANNING, LANDE USE AND OTHER REGULATORY PROCESSES

BEST MANAGEMENT PRACTICES

Through the Watershed-based Resilience Planning effort, watershed coordinators are collecting information about existing plans that integrate resilience, providing information to communities that may be included in the comprehensive plan, and identifying which communities are in the process of developing their plans in order to offer assistance. The Resilient Coastal Communities Collaborative program in the Salkehatchie River Basin, funded by National Fish and Wildlife Foundation, includes the development of a Resilience Planning Handbook that will provide concrete steps to communities statewide that will aid in the development of comprehensive plans or other plans that integrate resilience. As needs and concerns are identified, SCOR will release additional guidance as necessary. There is also a

catalog of data that enables communities to meet the statutory requirements for analyzing their resilience found in the Resilience Atlas.

2025 Update: SCOR is working with Clemson's Department of City and Regional Planning to develop a guidance document and training for community planners on how to integrate the Resiliency Element into Comprehensive Plans as required under Section 6-29-510 of the South Carolina Government Comprehensive Planning Enabling Act. The framework and training should be available mid-2026.

MAINTAIN AND STRENGTHEN BUILDING CODES

To enhance the durability and safety of the built environment, the State should maintain a rigorous schedule for updating Residential and Commercial codes, avoiding modifications that diminish resilience, particularly regarding hurricane and seismic requirements. Concurrently, professional capacity should be built by developing education programs for contractors, architects, and engineers to ensure the use of innovative, resilience-focused Best Management Practices. Furthermore, the State needs to assess the impact of updating the 2009 Energy Code on power grid resilience and public welfare.

Operational consistency will be achieved by requiring the use of the most conservative wind zone maps in cases of uncertainty and ensuring close coordination with the ISO to maximize the State's scoring on the Building Code Effectiveness Grading Schedule (BCEGS).

CODE MAINTENANCE

The South Carolina Building Codes Council adopted the 2021 South Carolina Building Codes in October 2021, with an effective date of January 1, 2023. The Building Codes Council has formed a Code Study Committee for the 2024 code modifications and will meet to evaluate changes to existing codes in accordance with S.C. Code Ann. §6-9-40.

INCORPORATE RESILIENCE INTO INFRASTRUCTURE DESIGN

To ensure the long-term functionality and safety of essential systems, the State is prioritizing the incorporation of future conditions into the design of critical infrastructure. Central to this effort is the update of the NOAA Atlas 14 precipitation frequency estimates for the Mid-Atlantic Region. Funded through a partnership between SCOR, SCDOT, and SCDNR, this update incorporates rainfall data gathered after 2000 to provide a more accurate understanding of storm probability. While the full update is expected in 2026, the State is already promoting resilience by advising projects to utilize high-end Atlas 14 estimates and plan for future climate conditions as defined by the forthcoming Atlas 15 projections. These updated datasets will be

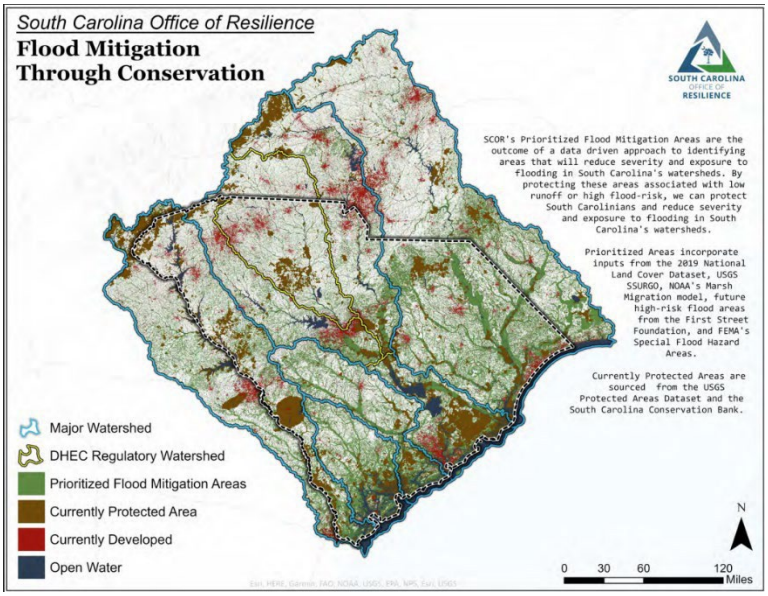
used to revise the regulations and stormwater design standards necessary to manage high-intensity, low-frequency storm events over a project's entire lifespan.

The State is further enhancing its vulnerability assessments through the First Street™ Data Agreement. SCOR is providing the First Street™ Risk Factor® flood model (Flood Version 3.0) to support a high-resolution roadway elevation inventory currently being conducted by Clemson University. This collaboration allows the State to identify specific road flooding risks and assess vulnerabilities across the South Carolina transportation network with unprecedented precision. By combining these advanced datasets with the removal of regulatory barriers for nature-based solutions, the State ensures that infrastructure investments—from local roads to major port facilities—are built to effectively absorb both current and future impacts. Finally, dedicated funding sources for maintenance should be identified prior to construction to guarantee these resilient systems perform as intended for the design life of the system.

MAINTAIN NATURAL FLOOD PROTECTION THROUGH CONSERVATION

CONSERVATION MAPPING: PRIORITY FLOOD MITIGATION

The first version of the SCOR Priority Flood Conservation Map was released prior to the Statewide Resilience Plan. The model identifies lands of highest priority for acquisition based on where floodwaters are expected, where wetlands can help absorb excess water, and where water is most likely to infiltrate the ground as opposed to creating excess runoff. The SCOR Priority Flood Conservation Map has been used heavily since the plan's release to inform the agency's land acquisition activities and is being incorporated into the South Carolina Conservation Bank's conservation priorities. The model will be refreshed in 2024 with updated land cover and flood model data, and a more substantial model update will occur in 2025 to reflect high-resolution land cover data as well as the agency's knowledge of South Carolina's conservation landscape. An interactive version of this map can be found as a layer in the Resilience Atlas.



COORDINATED LAND CONSERVATION PROJECTS

SCOR has partnered effectively with the state's land acquisition agencies and partners, and to date has helped protect 66,880 acres, with another 16,708 acres in potential projects pending. In addition to utilization of the $200M allocation to the Disaster Relief and Resilience Reserve Fund, this year also saw the first utilization of the Resilience Revolving Loan Fund, which allowed The Nature Conservancy to purchase part of a 2,700-acre Lowcountry property that will be later sold to the Forestry Commission to create a new state forest.

Black River – Andrew's Tract – These 1,806 acres of lowland forest connect the Town of Andrews to the Black River's slow moving blackwater. This property will feature as the flagship of the State Park's Black River Linear Park that traces the Black River from Kingstree to Winyah Bay.

Catawba Tract –This new addition to the State Parks system protects 596 acres along the scenic Catawba River and shields traditional clay pits that were used by the Catawba Tribe for their pottery from the rapidly developing area.

North Island – The North Island property protects 115 acres of Daniel Island across the Cooper River from the Charleston peninsula and will be locally managed as a waterfront park. This project exemplifies local conservation and leverages local funds from Berkeley County's Greenbelt Program.

RMS Forest Legacy Easement – South Carolina Forestry in concert with the USDA Forest Legacy Program and SCOR's funding partnership has secured the largest conservation easement undertaken by a state agency with 62,220 acres. This land will continue to be managed for sustainable timber by RMS, ensuring the benefits of protected forests and rivers for generations to come.

Saluda Bluffs – This property's 1,902 acres offer panoramic views up to Table Rock State Park and its neighboring preserves. Bounded by the headwaters of the South Saluda River and Highway 11, this highly sought after tract for potential development represents a tremendous collaborative effort from three state agencies, local utility partners, and the Natural land Trust.

Tyger Oaks – Once targeted for development, this land 5 miles from the center of the city of Spartanburg is now open as the Glendale Nature Park, boasting 945 acres for protection and public access.

Waties Island – This acquisition, comprising of 107 acres, is a part of a larger state strategy to preserve the last unprotected and undeveloped barrier island in the state. There is a rich cultural and natural history associated with the island that would be at risk to development and

flooding in one of the fastest growing regions of the state. A crown jewel of conservation in South Carolina, the property is intended for limited public access to ensure the continued value as a barrier island and seabird and turtle nesting area.

In addition to in-state activities, SCOR has assisted North Carolina in developing a similar flood minded conservation priority map. Prioritizing protecting landscapes that naturally mitigate floodwaters is always a good thing, but having our northern neighbor protect these lands will have direct benefits to our Pee Dee, Catawba, and Broad River basins.

INCORPORATE RESILIENCE INTO HOUSING RECOVERY

To ensure that post-disaster rebuilding contributes to long-term safety, all future disaster recovery and mitigation action plans should align with the principles of the Statewide Resilience Plan. Key mandates include promoting the replacement of manufactured housing units with stick-built or modular homes and requiring the installation of impact windows in all repaired or replaced homes, regardless of their wind zone. For homes in flood-prone areas, replacement structures should be built with a first-floor elevation of Base Flood Elevation (BFE) +3 feet; properties requiring elevation above 10 feet will become ineligible for replacement and be offered a voluntary buyout. Furthermore, housing funds allocated to the State should not be used to repair or construct homes that are designated as FEMA Repetitive Loss Properties, are located in the FEMA Regulatory Floodway, or are situated seaward of the DHEC setback line.

RESILIENT HURRICANE HELENE HOUSING RECOVERY

The Disaster Recovery division has strategically integrated resilient building practices into the Hurricane Helene disaster recovery program.

This approach ensures that every post-disaster investment serves to increase the future capacity of communities to withstand environmental hazards. The specific initiatives undertaken are outlined below.

A. General Contractor shall provide resilient and energy efficient building processes, materials, and mechanical units to ensure the home's ability to withstand future disasters and provide long-term resiliency. Resilience specifications shall be used in all reconstructed homes and in MHU replacements and rehabilitations, where applicable and appropriate.
B. The following resilient measures are recommended for all SCOR reconstructed, replaced, or rehabilitated homes, where appropriate:
    a. Resilient Roof: the preliminary house plans provide for the following enhanced roof specifications:
        i. Roof decking: 7/16" decking.

ii. Decking attached with a minimum 8d ring-shank nails, spaced 4” o.c. within 4’ of the roof edge and 6” o.c. elsewhere.
iii. Decking covered with a full layer of self-adhering polymer-modified bitumen membrane.
iv. Drip edge installed at all eaves and rakes.
v. High wind rated architectural shingles.

b. Impact Glass Windows: the preliminary house plans provide for argon filled (low E glass) impact glass windows (hurricane windows) for all windows.
c. Transfer grilles: Over each bedroom door, as per the preliminary house plans, a transfer grille shall be installed to increase air flow to the interior of the home.
d. Continuous Load Path: the preliminary house plans require the use of continuous load path to mitigate against strong winds, tornados, and hurricanes. Continuous load path requires continuous metal mechanical connections from the foundation to the roof trusses, whereby loads and pressures exerted by high winds are transferred from the roof and wall to the foundation.
e. HVAC system: appropriately sized electric heat pumps are required and shall employ all specifications as required by the preliminary house plans. HVAC electric heat pump systems shall employ an Energy Recovery Ventilator (ERV) to ensure maximum longevity, energy efficiency, and resilience of the unit.

ESTABLISH A VOLUNTARY PRE-DISASTER BUYOUT PROGRAM

To proactively reduce future flood risk and repeated disaster losses, the Plan recommended developing a Voluntary Pre-Disaster Buyout Program. The successful implementation of this voluntary program requires detailed, property-level eligibility analysis, secure funding, and close collaboration with local communities. This interaction is a key part of the Watershed Coordination Program underway.

IDENTIFY AND MAXIMIZE ALL AVAILABLE FUNDING SOURCES FOR RESILIENCE ACTIVITIES

To ensure the successful execution of resilience projects statewide, the State should prioritize maximizing access to and utilization of available financial resources. This will be achieved by developing a Resilience Funding Hub, a central, web-based portal designed to collect, coordinate, and disseminate information on funding opportunities to state agencies, local governments, regional partners, and non-profits. Concurrently, the State will develop and disseminate Best Management Practices (BMPs) to guide communities on how to effectively integrate and implement resilience practices into their programs and projects, thereby satisfying the requirements often mandated by diverse federal and non-federal funding sources.

PALMETTO AIR QUALITY COLLABORATIVE (EPA CPRG)

The Climate Pollution Reduction Grant team has been working on the Palmetto Air Quality Collaborative (PAQC). The Palmetto Air Quality Collaborative (PAQC) is a 4-year planning initiative to promote clean air, economic development, and thriving communities throughout South Carolina. The PAQC is funded through a planning grant from the Environmental Protection Agency (EPA).

Key activities and accomplishments include:

- Development and submission of the Priority Climate Action Plan (PCAP) on March 1, 2024, the first grant deliverable required by EPA. The PCAP includes a statewide greenhouse gas inventory and list of actions that could be implemented to reduce greenhouse gas emissions and bring other benefits to South Carolina's communities.
- Development and submission of two applications for the CPRG implementation Grant competition on April 1, 2024. The PCAP paved the way for SCOR to receive an Implementation Grant as part of the multi-state Atlantic Conservation Coalition. SCOR will receive $50 million for land conservation efforts, and The Nature Conservancy will receive approximately $39 million for conservation and restoration projects in South Carolina. This award will fund activities that enhance carbon sinks, protect natural resources, and increase flood resilience.
- Development of the Clean Air Strategies for South Carolina (CASSC), the second grant deliverable required by EPA. SCOR will finalize the CASSC in early 2026. It builds upon the PCAP and includes an updated greenhouse inventory, projections of future greenhouse gas emissions, and sector-based strategies to reduce emissions and enhance resilience efforts, such as those related to the protection of natural and working lands and community planning and development.
- Engagement with a variety of communities and stakeholders, to include state, regional, and local government agencies; the Catawba Indian Nation; community-based and non-profit organizations; the private sector; and academia. The PAQC engaged with these groups through virtual and in-person meetings, community outreach surveys and events, program newsletters, and a program website.
- The PAQC grant is further supporting SCOR's resilience initiatives by providing partial funding for the development of a high-resolution land cover dataset for South Carolina through the NOAA Coastal Change Analysis Program (C-CAP) and for the development of a South Carolina Zoning Atlas.

ATLANTIC CONSERVATION COALITION

The Atlantic Conservation Coalition (ACC) Climate Pollution Reduction Grant (CPRG) implementation proposal is a regional approach by North Carolina (NC), South Carolina (SC), Maryland (MD), Virginia (VA), and The Nature Conservancy (TNC), led by the North Carolina Department of Natural and Cultural Resources (NCDNCR), to reduce GHG emissions by leveraging the carbon sequestration (CS) power of natural and working lands (NWLs). $200 million of this award is to be deployed by TNC for the identification and implementation of natural climate solution projects with the greatest GHG emission reduction/CS benefits across the coalition states, regardless of state boundaries. In addition, each coalition member will direct approximately $50 million to carbon reduction projects that address the specific nature-based needs in their respective state.

South Carolina intends to acquire NWLs throughout the state to ensure their GHG emission reduction and co-benefits until 2050 and beyond.

GRANT ACTIVITY

Maximizing federal and non-federal funding to South Carolina to implement resilience planning, projects, programs, and policies will require coordination, collaboration, and cooperation among state agencies, local and regional governments, non-profits, special purpose districts, and tribal governments.

As noted throughout this plan, resilience covers a wide range of natural and human systems, requiring coordination between stakeholders that have not traditionally worked together.

Collaboration is essential as federal and non-federal sources require recipients to incorporate resilience practices into their projects. Coordination requires the sharing of information and alignment of efforts to encourage organizations to work outside their traditional boundaries, reduce duplication of effort, and maximize benefits. SCOR will operate as a resilience hub to advance resilience initiatives while coordinating with other groups to increase resilience statewide.

More information about funding related to resilience, including sources and current processes specific to the State and SCOR can be found in Chapter 8: Funding of the Resilience Plan.

As a result of the resilience planning effort, SCOR and its partners have secured the following grants for resilience-related activities:

- Through National Fish and Wildlife Foundation grants the **SC Resilient Coastal Communities Collaborative Program** funded by the National Coastal Resilience. The Program goal is to Advance watershed planning in the Salkehatchie Watershed. The

awarded amount for this program is $896,175, the work started in January 2024 and will continue into 2026. Watershed coordinators have completed information gathering, conducted community engagement, and the project team has completed community informed risk and vulnerability assessments and portfolios of recommended strategies to reduce flooding in the region.

- Under the Infrastructure Investment and Jobs Act (IIJA), FY 2022, NOAA's Transformational Habitat Restoration and Coastal Resilience grants have been used to transform the scale and equity of living shorelines in South Carolina. SCOR partners with TNC to expand the use and adoption of nature-based solutions for coastal resilience. The total funding for this project is $6,222,430 and SCOR receives $240,000, the work started in 2024 and will continue in 2026. SCOR has engaged with project scoping meetings, developing methodology for living shoreline site identification, and initial discussion of nature-based coastal resilience implementation plan.
- Work started on **The Palmetto Air Quality Collaborative (PACQ)** in July 2023. The purpose of this program is to identify measures to reduce greenhouse gas (GHG) emissions and support land conservation, community engagement, workforce and economic deployment opportunities. The program is funded by the EPA's Climate Pollution Reduction Grant (CPRG) program, planning grant with $3,000,000 (SCOR receives $2,423,297). SCOR submitted the Priority Climate Action Plan (PCAP) to EPA on 3/1/24 and applied for a CPRG Implementation Coalition Grant on 4/1/24, resulting in an award of approximately $89 million (between SCOR and the SC chapter of TNC) for land conservation through the Atlantic Coastal Coalition (ACC). Beginning in May 2024, SCOR planned and developed the Clean Air Strategies for South Carolina (CASSC) through stakeholder engagement and intergovernmental and interagency coordination. SCOR plans to submit the CASSC to EPA in December 2025.
- The Atlantic Conservation Coalition (SC, NC, VA, MD) is an ongoing program intended to acquire natural/working lands for land conservation and to leverage their ability to sequester carbon. Each state guaranteed $50 million. NC is the lead grantee. TNC will manage and allocate the remaining $200 million across the 4 states. Work started in April 2025 after finalizing subaward agreement with NC. SCOR has begun the state land acquisition process for Work started in April 2025 after finalizing subaward agreement with NC. SCOR has begun the state land acquisition process for identified properties. Project period: 2024-2029.

ADDITIONAL AGENCY UPDATES

SPOTLIGHT ON SCOR'S HURRICANE HELENE DISASTER RECOVERY EFFORTS

In late 2024, SCOR activated its full operational capabilities to manage the severe impacts of Hurricane Helene, which significantly affected the northern counties of the state. This high-impact event demonstrated the critical role of SCOR in translating long-term strategy into immediate disaster response and recovery actions.

Crucially, the agency's response affirmed the proactive planning efforts outlined in the Strategic Statewide Resilience and Risk Reduction Plan Specifically, the response validated preliminary findings within the Plan that had identified underlying flood vulnerabilities in the Upstate region. Maps contained within the plan, which detailed inundation percentages by county, served as a vital predictive resource, allowing the agency to more effectively prioritize resources and tailor its support for communities that experienced severe damage. This experience showcased the seamless integration of resilience planning with on-the-ground disaster recovery.

DISASTER CASE MANAGEMENT

The Office of Resilience's Disaster Case Management (DCM) Program following Hurricane Helene has demonstrated exceptional efficiency and commitment, marking a significant success in the state's recovery efforts. Our strategic approach focused on not just providing assistance, but guiding survivors to complete, long-term recovery.

Since activation, the DCM program has opened a substantial caseload of 5,666 disaster survivors, utilizing a focused outreach methodology that maximized resources where they were needed most. The key indicator of success lies in the program's ability to facilitate positive closure: 2,018 client cases were closed with documented, full recovery—a testament to the coordinated efforts of our staff and partners to rebuild lives and homes.

Furthermore, our team has actively guided clients through complex aid landscapes, issuing 2,209 referrals to vital resource and support services, ensuring targeted assistance reached specific survivor needs. With 3,342 active cases currently in the recovery pipeline, the department is focused on sustaining this momentum to ensure the highest possible rate of positive outcome and close out the remaining unmet needs. The dedication of our team ensures that recovery is not just rapid, but resilient.

A major success this year was the establishment of four physical, local offices, which provide survivors with direct access to comprehensive assistance, simplifying what is often a complex recovery journey.

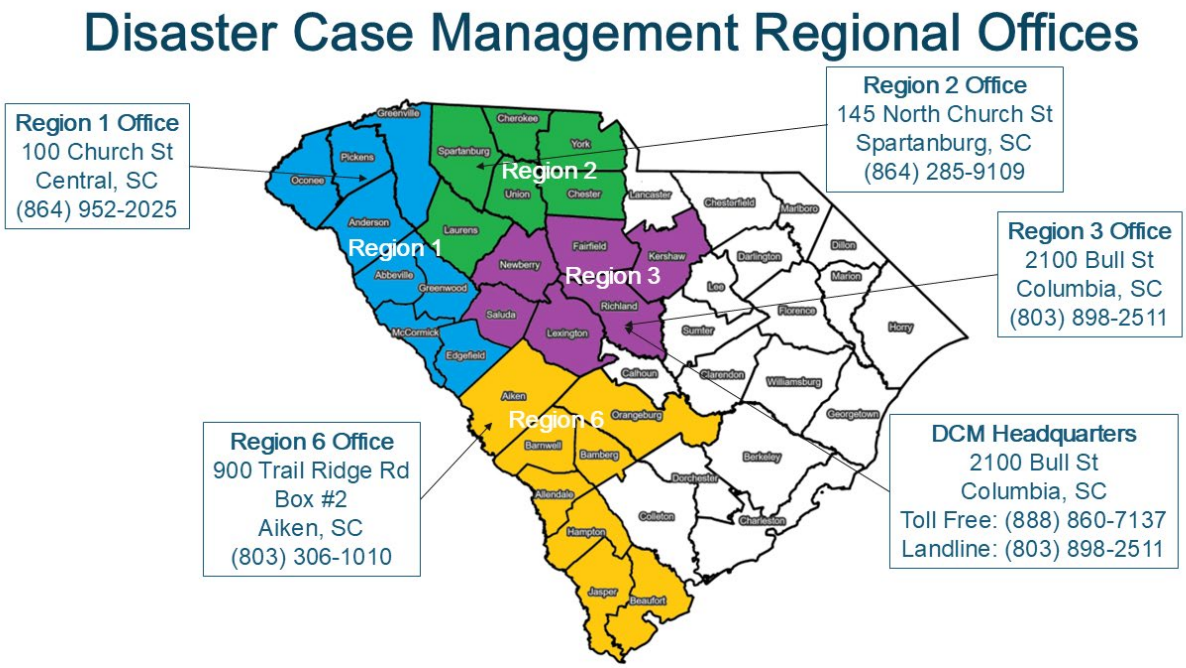
The Hurricane Helene DCM Program is a time-limited process involving a partnership between one of our Disaster Case Managers (DCMs) and disaster survivors (clients) to develop and implement Individualized Recovery Plans (IRPs), helping each survivor achieve the most complete recovery possible in the least amount of time.

This streamlined process is divided into key components, ensuring a clear path for every survivor:

DCM Program Component	**Key Action**
1. Client Outreach	Case managers perform outreach, in coordination with federal and non-federal partners, to connect with clients who could benefit from DCM assistance.
2. Triage Needs	After initial intake, case managers assign a tier level to cases based on the client's severity of need and ability to recover.
3. Assessment	Case managers collect information to assess disaster-caused unmet needs and resources already provided.
4. Recovery Plan Development	Case managers work with clients to develop a preliminary IRP based on identified unmet needs.
5. Advocacy & Referral	Case managers and clients work together to advocate for resources to address the unmet needs and achieve goals outlined in the IRP.
6. Monitoring & Completion	Case managers monitor client progress through regular client contact and case file reviews until the IRP is complete, the client withdraws, or all available resources are depleted.

The four new regional offices—strategically located to serve affected communities—signify a major operational shift toward direct, localized assistance, reducing barriers and providing

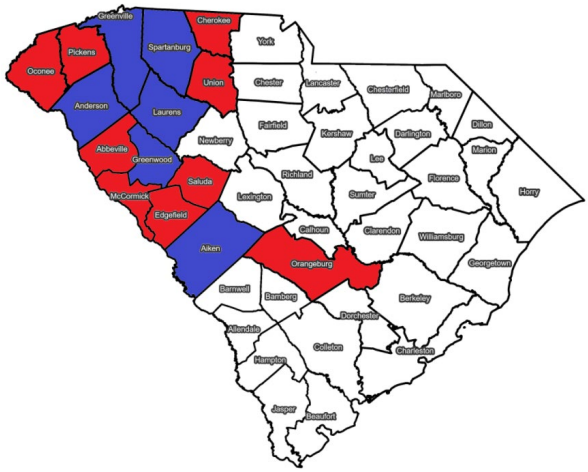
stability for disaster survivors navigating their recovery.



NEW HURRICANE HELENE HOUSING RECOVERY PROGRAMS

Rapid Rebuild Program: Utilizing funds from the Disaster Relief and Resilience Reserve Fund, and recognizing the lengthy process for using federal funds for long-term recovery, SCOR established this program to focus on destroyed homes. This year, SCOR worked through the state procurement process to bring on board contractors. Construction of homes is now underway, with the first home completed in December. The first home completed in the Rapid Rebuild Program, located in Greenwood, is pictured below. This program is also being supported by a $1M investment from Google.

Hurricane Helene HUD CDBG-DR Program: In Summer 2025, HUD approved SCOR's Action Plan for spending the $150M in CDBG-DR funds allocated to the state following Hurricane Helene. Since this approval, SCOR has been working through the federal and state process to develop policies and procedures and onboard an implementing contractor. Construction is set to begin in early 2026 for the repair, replacement, and reconstruction of homes in 15 counties most impacted and distressed from the storm. In the map below, HUD designated counties where 80% of the funds must be used are in blue, while grantee identified counties where the remaining funds can be used are in red. This grant also includes a funding set-aside for local governments in HUD-designated Most Impacted and Distressed counties to apply for mitigation funding for projects that reduce the impact of future disasters ($30M).



COORDINATION WITH VOLUNTARY ORGANIZATIONS ACTIVE IN DISASTER (VOADS)

SCOR places a high priority on leveraging partnerships to maximize disaster recovery efforts statewide, as part of its statutory duty to "coordinate statewide resilience and disaster recovery efforts, including coordination with federal, state, and local government agencies, stakeholders, and nongovernmental agencies." SCOR has hired VOAD Coordinators who play a vital role in connecting community resources with SCOR's Disaster Case Management team, non-profit partners, funding resources, in-kind contributions, and connecting citizens with VOADs that can address unmet financial, physical, or emotional needs.

Summary of 2025 VOAD Initiatives and Achievements

1. Hurricane Helene Recovery Financial Impact: Non-profit Voluntary Organizations Active in Disaster (VOAD) continue to collaborate with SCOR on Hurricane Helene recovery. Organizations such as Anderson Interfaith Ministries, 2nd Saturday USA, Team Rubicon, Catholic Charities, and Habitat for Humanities have repaired storm damaged homes.

2. Data Sharing and Collaboration Agreements: To speed up information sharing and efficiently address unmet needs, SCOR developed the Common Housing Operating Picture (CHOP) initiative. As part of the Hurricane Helene recovery effort, 34 VOAD agencies have agreed to share data and information on disaster recovery efforts in their areas through this initiative.

3. Expansion of VOAD Network: The capacity of the VOAD network has seen dramatic growth in 2025. SCOR VOAD Coordinators established and maintained relationships with twenty-eight (28) community-based Voluntary Organizations Active in Disaster (VOAD) and Long-Term Recovery Groups (LTRG). These groups are made up of 247 non-profit, business, and volunteer agencies throughout the state of SC and the country, bringing hope and restoration to survivors of Hurricane Helene. An example of growing SCOR's partnership capacity is our recent work with Together SC (formerly the SC Association of Non-Profit Organizations). SCOR's efforts to network these non-profits with local recovery groups and connect them with resources have led to Together SC including sessions on disaster response and recovery in their 2026 Nonprofit Summit.

4. Philanthropic Partnerships and Funding Support: A key function of the VOAD Coordinators is to build relationships with businesses, corporations, foundations, and other funding sources to ensure that partners have the resources available to continue with Hurricane Helene recovery and in preparation for the next disaster event. In addition to maintaining an on-going relationship with the One SC Fund (active since 2015), SCOR's VOAD Coordinators have developed partnerships with:

- Food Lion Feeds
- The Community Foundation for the Central Savannah River Area
- The Spartanburg County Foundation
- Duke Energy Foundation
- Greenwood County Community Foundation
- Waccamaw Community Foundation
- Dominion Energy
- Spinx Family Foundation
- Carolina Gas Transmission Corporate Giving
- The Center for Disaster Philanthropy

5. "Friday Fun(d) Day" Resource Newsletter : One of most successful initiatives related to VOAD coordination has been the weekly publication of the Friday Fun(d) Day resource newsletter. This newsletter goes out weekly to our partners and contains information on upcoming training opportunities, community meetings, available in-kind resources, and currently available grants addressing a variety of needs.

MITIGATION DEPARTMENT: REDUCING THE IMPACT OF FUTURE DISASTERS

The Mitigation Department manages a diverse portfolio of projects focused on proactively reducing the impacts of natural hazards across the state. In the past year, the department advanced 87 total projects, demonstrating a broad and comprehensive approach to risk reduction, ranging from large-scale infrastructure construction to essential community planning.

These 83 projects are categorized by their primary funding source and purpose, as outlined below, illustrating the department's successful leveraging of multiple state and federal programs to achieve resilience goals:

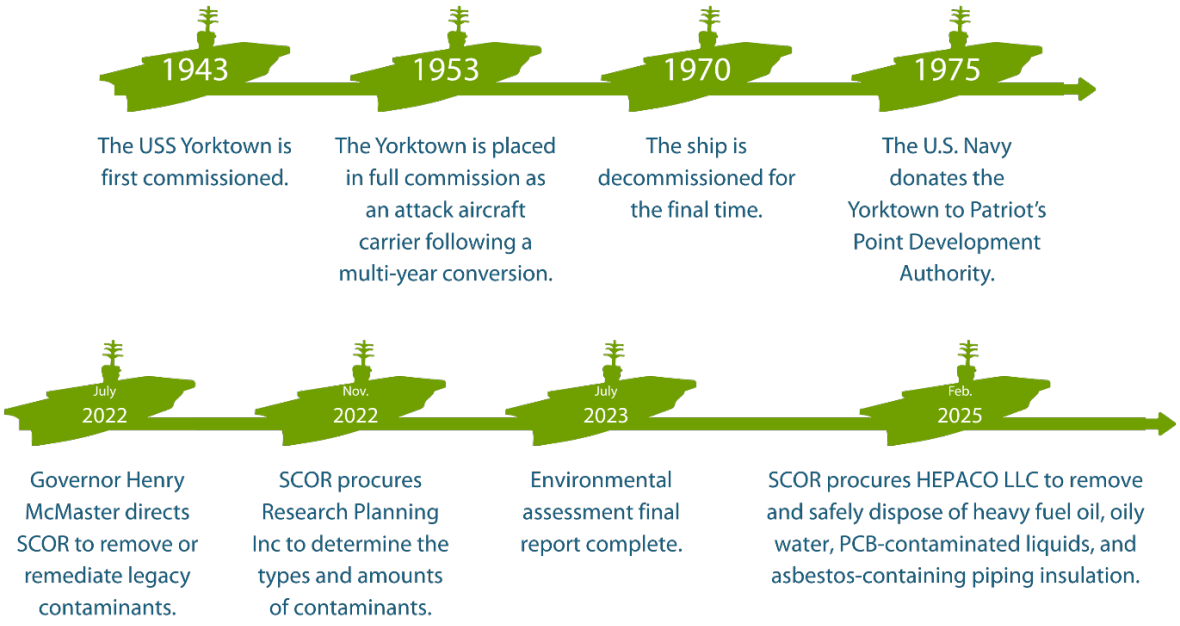
Project Kind (Funding Source & Program)	Number of Projects
CDBG-MIT Infrastructure	24
CDBG-MIT Plans & Studies	23
ARPA Stormwater Infrastructure Program	17
CDBG-MIT Funds Match	8
CDBG-MIT Buyout	6
SCOR State Reserve Fund	4
ARPA Hazard Mitigation	1
Total Projects	83

Focus Project: Completion of USS Yorktown Remediation Project

A central focus of the department's work in this period was the remediation of the USS Yorktown at Patriots Point, a critical project initiated by an Executive Order from Governor McMaster in 2022 to prevent potential environmental catastrophe. The effort was a multi-agency operation that ensured the long-term safety and stability of this historic landmark while protecting the surrounding Charleston Harbor.

The remediation was executed in two primary phases:

- Phase 1 (Assessment and Planning): This phase involved an Environmental Assessment to identify all legacy contaminants aboard the ship. The assessment led to a three-pronged approach for remediation: Remediate, Mitigate, and Isolate. It also included immediate repairs that enabled safe access for cleanup, during which over 560,000 gallons of oily water were disposed of, and 22 tanks/spaces were cleaned.
- Phase 2 (Remediation and Completion): Remediation work began in February 2025 and reached substantial completion on October 23, 2025. The final figures represent a massive environmental cleanup effort:
    - Over 160,000 gallons of heavy fuel oil and hydraulic oil were removed and properly disposed of from over 135 tanks.
    - Over 1.4 million gallons of oily water were treated and properly disposed of.
    - Nearly 1.5 million gallons of freshwater were added for re-ballasting to assure the ship remains stable.
    - More than 80 oily spaces and fluid spills were cleaned, and areas with potential PCB contamination were addressed



The successful completion of the USS Yorktown Remediation Project demonstrates SCOR's ability to manage complex, large-scale mitigation efforts with significant environmental and economic implications for the state.

CONCLUSION

Reflecting on the last two years, the initial blueprint for resilience has evolved into coordinated system for risk reduction. This period of intense work successfully established a robust foundation of data management, legislative support, and inter-agency coordination, which enables the implementation of critical resilience activities across all jurisdictional levels. The Office of Resilience recognizes that resilience is not a static destination but a perpetual cycle of planning, adaptation, and growth. Through ongoing data collection and dedicated local-level coordination, SCOR is committed to providing regular, transparent updates. These efforts ensure the Statewide Resilience Plan remains adaptive, reflects new threats and innovations, and serves as the essential initiative for South Carolina's continued ability to protect its communities, economies, and ecosystems. To that end planning has begun to update the plan by June 2028. Engagement will begin in Early 2026 to allow for increased stakeholder input and coordination. Newsletters and website updates will be continuously put out in a public format to help increase engagement.

Cover Image: Community engagement from December 2025 in the Salkehatchie River Basin.