Small Town Disaster Resiliency

A CASE STUDY FROM THE UPPER COASTAL PLAIN AND EASTERN CAROLINA COUNCILS OF GOVERNMENT

WORKING LANDSCAPES

Eastern Carolina Council

UPPER COASTAL PLAIN COUNCIL OF GOVERNMENTS

CROATAN INSTITUTE

Table of Contents

Understanding Disaster Recovery

This work was made possible by an allocation from the North Carolina General Assembly to the North Carolina Association of Regional Councils of Government (NCARCOG) for the Provision of Local Government Technical Assistance Regarding Disaster Recovery. This allocation to NCARCOG was then sub-awarded to each of the 16 Councils of Government (COGs) across the state, including the Upper Coastal Plain (UCP) and Eastern Carolina (ECC) COGs. In May of 2023, the UCP and ECC COGs executed a contract with Working Landscapes to provide disaster recovery and resilience planning assistance to the regional council's member governments, which span a contiguous fourteen county region. Working Landscapes engaged Croatan Institute as a subcontractor on the project, and this report reflects the joint efforts of the two organizations.

This contract expands on the NC RISE (Regions Innovating for Strong Economies and Environment) program, which was conducted by the North Carolina Office of Resilience and Recovery (NCORR) in 2022. This program developed regional vulnerability assessments and project portfolios for nine eastern COG regions, including UCP and ECC. Other state-wide efforts that provided additional context to this work include the NC Department of Environmental Quality (DEQ)'s North Carolina Climate Risk Assessment and Resilience Plan, the NC DEQ's Resilient Coastal Communities Program, and the NC DEQ's Flood Resiliency BluePrint program.

The primary goal of this work—as outlined by the UCP COG's RFI and the subsequent contract—was to provide local governments with strategic planning assistance to identify their top priority resilience needs and begin to scope new local projects, or advance existing projects, that work to address resilience needs. Given Working Landscapes' research-based engagement model, and our organizational interest in understanding the capacity of Eastern North Carolina to address climate impacts, our work was also guided by three additional questions:

1. What is the current level of knowledge of government leadership regarding current and projected climate impacts, and the associated risk to infrastructure?

2. What are the existing strengths and vulnerabilities—as identified by government leadership—of each municipality, and how can those be utilized in disaster resilience planning?

3. What are the emergent themes and/or areas of potential collaboration on disaster resiliency efforts across the region?

To answer these questions, this project progressed through four stages:

MAY – JULY 2023

SURVEY

Initial quantitative data collection to build a base level of regional knowledge

AUGUST – OCTOBER 2023

WORKSHOPS

Informing municipalities on regional efforts, supporting networks, and gathering qualitative input from participants

NOVEMBER 2023 – FEBRUARY 2024

SUMMARY REPORTS

Analyzing quantitative and qualitative data to identify top disaster resilience priorities at the municipal level

MARCH – JUNE 2024

FOLLOW-UP CALLS

Engaging with individual municipalities on their most pressing disaster resilience needs

These regional resilience planning efforts provided an opportunity for communities in Eastern North Carolina to more fully understand and reflect on the climate impacts the region faces; equipped with this knowledge, they were then able to identify potential disaster resilience projects. Throughout this planning effort, we worked to build upon pressing local issues and community needs, which, while often tied to disaster resilience, may not immediately be recognized as such.

How was this Planning Effort Conducted?

MAY – JULY 2023

SURVEY

Initial quantitative data collection to build a base level of regional knowledge

Our first stage of engagement was an online survey. The COGs sent out the survey through newsletters and promoted it at Board meetings over the course of the summer of 2023. Municipalities were also encouraged to have multiple leaders–including commissioners, mayors, and department directors–fill out the survey to capture a diverse range of roles. The estimated completion time was 15 minutes, which was intentional to try to capture as many responses as possible. For the full survey, please see Appendix A.

The survey had four distinct sections:

- Municipality Information & Participation in Regional Resilience Efforts
- Assessing Climate Impacts, Infrastructure Needs, & Planning Assistance
- Interest in Electric Vehicle Infrastructure & Zoning Updates
- Assessing Community Capacity

AUGUST – OCTOBER 2023

WORKSHOPS

Informing municipalities on regional efforts, supporting networks, and gathering qualitative data through workshops

Building on the information we learned from the survey, the team designed an interactive, 2.5 hour-long workshop to engage member governments on the most pertinent climate impacts and advance resilience project development. Across the two COG regions, we hosted a total of 5 identical workshops (2 in the UCP region and 3 in the ECC region) in various locations throughout the region to encourage region-wide participation.

Each workshop included five components:

- A **slide presentation** on regional resilience efforts, geospatial data tools, and the survey results
- A **documentary film** viewing
- An **interactive discussion** on municipality strengths/assets, and how those strengths may be vulnerable to disasters
- A **slide presentation** on three resilience case studies
- A **second interactive discussion** on existing or planned major municipal projects, and how resiliency can be incorporated into those projects

Throughout the workshop, we provided printed materials for participants on which to take notes and share ideas. These printed materials were then collected at the end of each workshop for analysis.

The educational **slide presentation** lasted for 20 minutes and provided information on regional resilience efforts, relevant geospatial data tools (such as the Climate & Economic Justice Screening Tool, and the Climate Mapping for Resilience and Adaptation), and the results from the survey we conducted. We framed the entire workshop, including the slide presentation, around the increased funding opportunities available to advance resilience planning and project efforts, throughout initiatives such as the Inflation Reduction Act and the White House's Justice40 Initiative. In between our two interactive discussions, we also presented for 10 minutes on three case studies of disaster resiliency. These case studies covered topics such as flood-resilient building design, floodplain mitigation, and regenerative forest management. For the full slide deck, please see Appendix B.

Climate Change in Eastern North Carolina: A Regional Conversation, the **documentary film** we viewed during the workshop was a film created by Working Landscapes using the Community Voice Method (Cumming et al. 2022; Cumming and Norwood 2012). This short, 7-minute film shared perspectives from community leaders across eastern North Carolina on climate change and its impacts on our communities. The film viewing concluded with the first interactive portion of the workshop, where participants were asked to respond to a question on the topic of whether the film related to what they experience in their community.

This initial interactive component then led into our **first 20-minute discussion**, which was titled "Diving Into Vulnerability." This discussion utilized an asset-based, community development approach by first asking participants to identify three existing strengths or aspects of their community they would like to see protected. Once these had been identified, facilitators helped participants parse out how these strengths might be vulnerable to disasters, and who might be a community partner or stakeholder in making those aspects more resilient. Participants were placed into groups primarily by their professional background/ governmental role to encourage conversation across municipalities and help to identify shared interests.

"From Case Study to Funded Project," our

DeAnna Williams in a still from the film *Climate Change in Eastern North Carolina: A Regional Conversation*

second interactive discussion, lasted for 40 minutes. Participants were grouped based on their geography, primarily by county. Participants were encouraged through this discussion to integrate information and ideas shared from their first discussion group. This discussion began by each participant identifying 3-5 existing or planned policies, projects, or programs of interest. With the help of the facilitator, participants then worked to identify a top project they wished to explore in more depth, including identifying the biggest barriers to implementation (outside of funding) and potential community benefits.

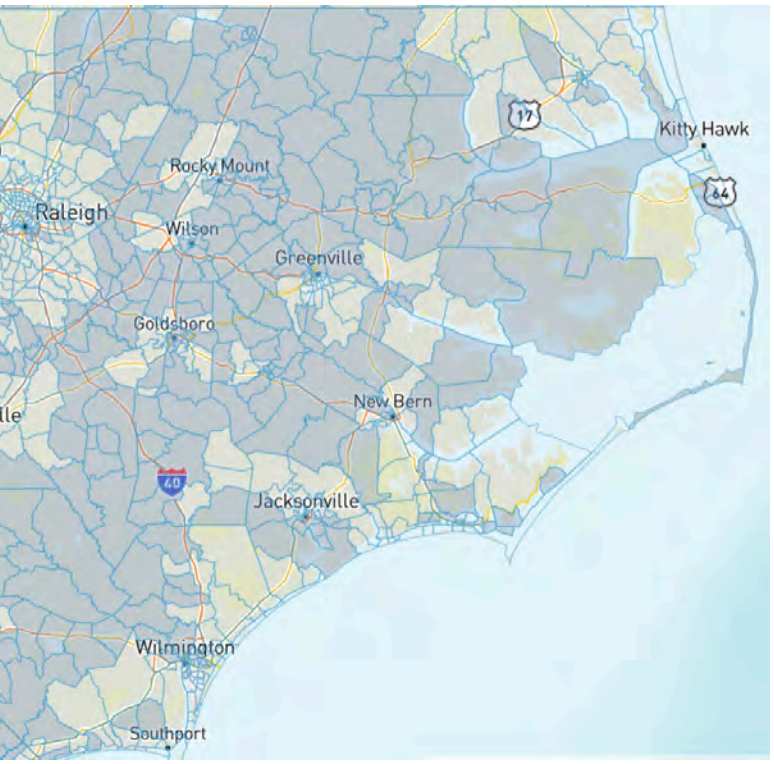
Before participants left the workshop, they were asked to complete an evaluation form where they chose one word to describe their experience, ranked each component of the workshop, and provided additional information on funding opportunities and technical assistance they would be most interested in receiving.

NOVEMBER 2023 – FEBRUARY 2024

SUMMARY REPORTS

Analyzing quantitative and qualitative data to identify top disaster resilience priorities at the municipal level

Using the data collected during the workshops, we provided each municipality that participated with a personalized summary report. This summary report was intended to serve as a foundational document for future scoping of their top priority project. It included grounding concepts and case studies, as well as quantitative and geospatial data.



Eastern North Carolina Climate and Economic Justice Screening Tool

Each summary report also included:

- An introductory letter from the Executive Director of the COG
- A geospatial map of which Census tracts within the county or municipality are “disadvantaged”
- The municipality’s strengths and vulnerabilities
- The municipality’s additional priority projects
- Two appendices on methods
- An appendix providing quantitative data and a map on climate impacts, from the U.S. Climate Resilience Toolkit

Each municipality’s summary report was between 12 to 15 pages, to provide the municipality with an approachable amount of information to use for future project proposals. All summary reports were both physically mailed and emailed.

MARCH – JUNE 2024

FOLLOW-UP CALLS

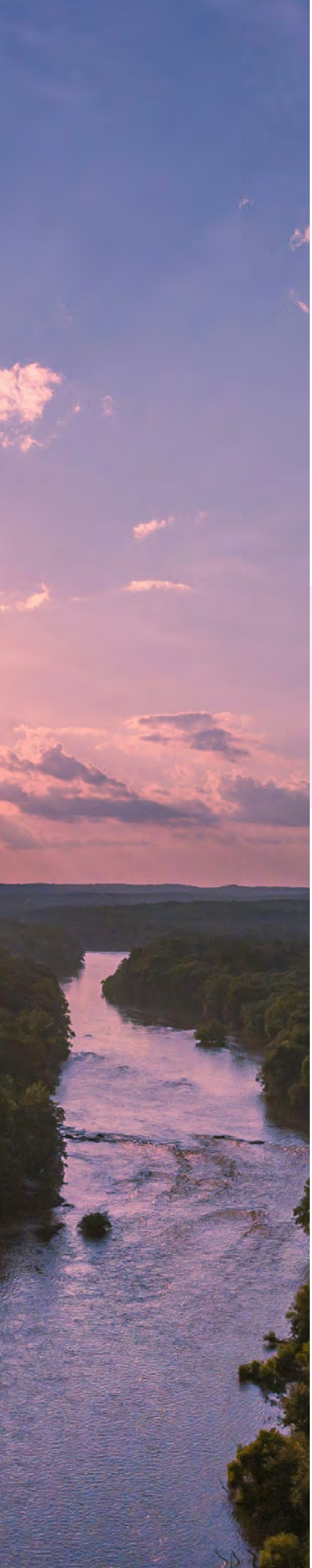
Engaging with individual municipalities on their most pressing disaster resilience needs

At the end of the summary reports, municipalities were strongly encouraged to schedule an 30 minute follow-up call to discuss their top priority project, as well as ask questions and provide feedback on their report. These follow-up calls reviewed a municipality's top priority project by discussing in more detail the steps they have taken towards advancing this project, and what they see as the next step.

Using the next steps identified in the call, the project team worked to connect the municipality to resources and additional information in the form of a site visit, a presentation, or grant writing assistance.





What are the Emergent Themes Across the Region?

MAY – JULY 2023

SURVEY

Initial quantitative data collection to build a base level of regional knowledge

Across the two COG regions, we received a total of 60 responses. Every county in the UCP region was represented, and all but two counties in the ECC region were represented.

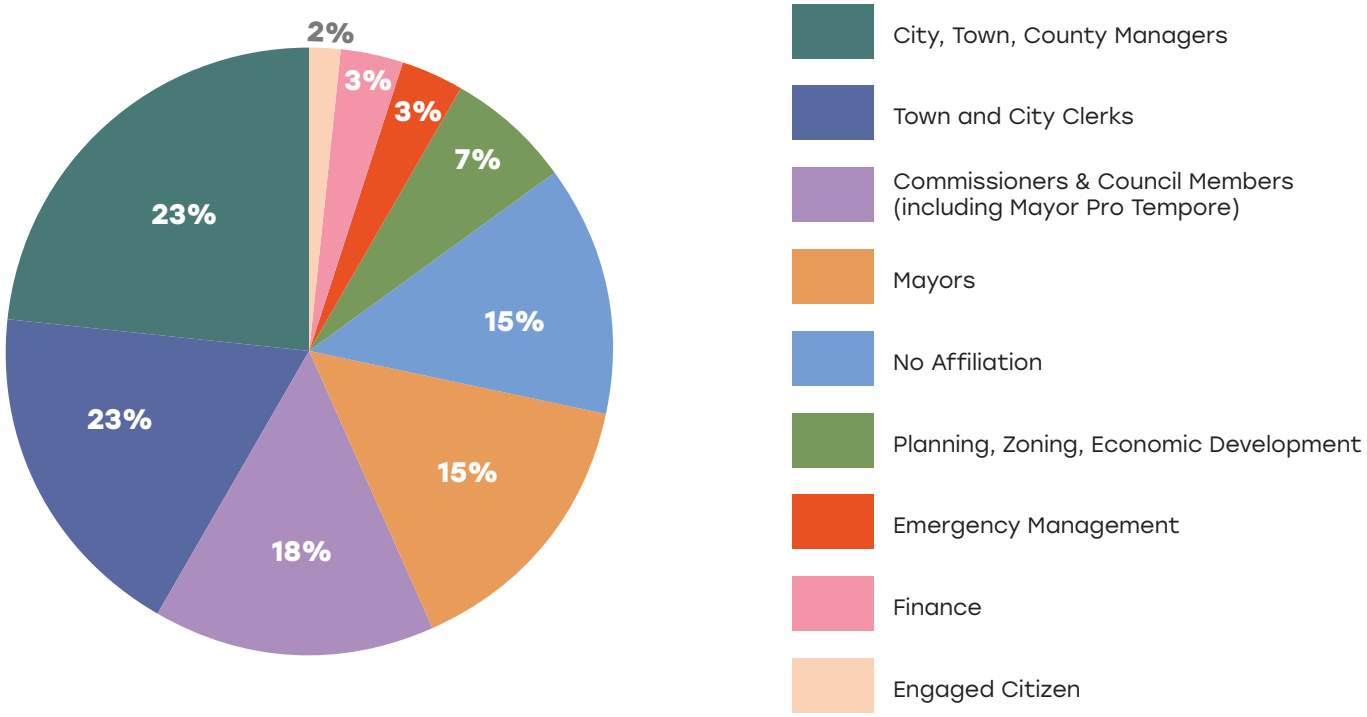
The roles of those who responded to the survey were diverse: ranging from county, town, and city managers (14 responses); town and city clerks (11 responses); mayors (9 responses); commissioners and council members, including mayor pro tempore (9 responses); planning, zoning, and economic development professionals (4 responses); finance professionals (2 responses); and an engaged citizen (1 response). Despite their overwhelming presence in the Regions Innovating for Strong Economies and Environment Program (RISE) process, emergency management professionals made up only 3% of respondents (2 responses). Eight respondents did not provide their professional affiliation. It should be noted that several

respondents noted holding multiple roles, such as acting as both the Mayor Pro Tempore and Town Manager, or Town Clerk and Finance Officer.

Of those who responded, the vast majority had not attended a meeting from the RISE process (51 respondents, or 85%), and an additional 6 (10%) only attended a single RISE meeting. Although few respondents had attended a RISE meeting, more respondents (23, 38%) had reviewed their region's resulting vulnerability assessment. Respondents were also asked to rank the projects that emerged in their region from the RISE process: respondents in the UCP COG identified **planning for flood resilient roadways** as their top priority project, and ECC COG identified a **regional drainage capacity assessment** as their top priority project.

Respondents were also asked to rank a series of climate impacts—adapted from the two regional vulnerability assessments, as well as the NC Climate Risk Assessment: from 1 (an impact of least concern) to 5 (an impact of greatest concern). To determine a top regional concern, the total number of responses for each ranking was multiplied by the numeric value of that ranking. Each rank multiplier was then added together, to

Professions Engaged in Project



create a raw score for each impact. For example, if drought and rainfall received 2 responses of 1, 7 responses of 2, 12 responses of 3, 8 responses of 4, and 3 responses of 5, the raw score would be 99 (2*1 + 7*2 + 12*3, etc). The raw scores of each climate impact were then compared to determine regional trends.

For both regions, the top three most pressing concerns were: **severe thunderstorms** (the top concern regionally for the UCP COG), **hurricanes and tropical storms** (the top concern regionally for the ECC COG), and **rainy-day flooding**. Sea level rise was the impact of least concern for both regions (it should be noted that four of the fourteen counties are coastal).

Respondents were also asked to rank a series of infrastructure types from low risk to high risk due to climate impacts. As with climate impacts, each infrastructure received a raw score based on its multiplied ranking. Across the two COG regions, the most at-risk infrastructure varied greatly: in the UCP COG, **water infrastructure** was deemed the most at risk, including stormwater, wastewater, and drinking water. In the ECC COG, **accessing food and other needs during emergencies** was identified as the most at risk, followed by **housing and electrical infrastructure**. For the UCP COG, fuel and natural resources was deemed the least at risk, whereas in the ECC COG agricultural infrastructure and drinking water was deemed the least at risk.

Finally, respondents expressed strong interest in receiving technical assistance, and identified the following as areas of particular need: **GIS mapping**, **designing projects that meet multiple goals simultaneously**, **project development and implementation** (particularly in the UCP COG region), and **grant funding identification and writing**. These results informed the content of the workshops and summary reports, as well as the types of technical assistance we provided.

Cities and Counties Engaged in Project

Town or County	Survey	Workshop	Technical Assistance
Alliance	✓		
Bailey		✓	
Beaufort		✓	
Beulaville	✓		
Bogue	✓		
Cape Carteret		✓	
Carteret County		✓	
Cedar Point	✓		
Conetoe	✓	✓	✓
Dortches	✓		
Dover	✓		
Edgecombe County		✓	
Elm City	✓		
Faison	✓		
Fremont	✓	✓	
Garysburg		✓	
Gaston	✓		
Greene County		✓	
Greenevers	✓		
Halifax County		✓	
Hookerton		✓	
Jackson	✓		
Jacksonville	✓	✓	
Jones County		✓	
Leggett	✓		
Lenoir County		✓	
Littleton	✓	✓	
Magnolia		✓	
Middlesex	✓		
Momeyer	✓		
Morehead City	✓		

Town or County	Survey	Workshop	Technical Assistance
Mount Olive	✓		
Nash County		✓	✓
Nashville	✓	✓	✓
Newport	✓	✓	✓
Northampton County		✓	
Onslow County		✓	✓
Pamlico County		✓	✓
Pine Knoll Shores	✓	✓	✓
Pinetops	✓		
Pollocksville	✓	✓	
Princeville	✓		
Richlands	✓		
Roanoke Rapids	✓		
Saratoga		✓	
Scotland Neck	✓		
Seaboard		✓	✓
Seven Springs	✓	✓	✓
Severn	✓	✓	
Sharpsburg	✓		
Sims	✓		
Snow Hill		✓	
Stantonsburg	✓		
Tarboro	✓		
Trent Woods		✓	
Wallace	✓		
Wayne County		✓	
Weldon	✓	✓	
Whitakers	✓		
Wilson	✓		
Wilson County	✓		

AUGUST – OCTOBER 2023

WORKSHOPS

Informing municipalities on regional efforts, supporting networks, and gathering qualitative data through workshops

Workshops were well attended, with a total of 68 attendees across the 5 workshops. These 68 attendees represented a total of 31 municipalities.

Although each municipality identified a unique and site specific project, projects could be grouped into larger thematic categories, or "project types." Each project type was also assigned a "resilience strategy," which indicated what element or elements of resilience were being used in the project. Examples of resilience strategies included implementing green infrastructure measures, utilizing renewable power sources, and collaborating with other sectors or municipalities.

Across the region, there were a total of 19 project types, which utilized a total of 14 resilience strategies. Resilience strategies ranged from those that only one or two municipalities expressed an interest in—such as economic resilience or capacity building—to strategies that more than half of the municipalities identified as critical.

The three regional resilience strategies that emerged as the most common were the need for **critical facility power to remain on during times of disaster** ("power generation"), the need to **address surface runoff and drainage issues** ("flood mitigation"), and **the need for inter-jurisdiction cooperation** ("collaboration").

Power generation emerged for 17 municipalities (55%) in two primary project types: **maintaining sewer and water infrastructure** (such as the need for adding backup generators to pump stations) and **maintaining emergency and other critical facilities** (like adding solar panels to town hall or another critical facility). Some municipalities expressed interest in renewable or dual sources of power for generation, while others described a need for more traditional generators.

10 municipalities (32%) identified **implementing green infrastructure**—although rarely described in those terms—as a resilience measure in projects that address surface runoff, drainage, and a need for places of recreation. Projects that included green infrastructure included adding shade trees around critical facilities such as fire stations;

Two Common Project Types

There were over 24 project types identified, but these two often emerged across the region:

Green Infrastructure

Implementing green infrastructure includes small projects, like providing residents with rain barrels, to larger projects like sustainable land conservation and maintaining rural zones. Improving public green spaces can also be a valuable first place to start, as they can help bolster community approval by providing spaces for recreation and gathering.

Resilience Centers

Across the U.S., communities are expanding disaster shelters into "Community Resilience Centers" or "Resilience Hubs." These centers offer year-round educational programming, job training, cooling centers, free or low-cost broadband, or storage facilities. Many resilience centers have also been retrofitted with solar panels and more efficient appliances and system upgrades, to reduce their electrical usage. These sites have an opportunity to be a place of community gathering, conversation, and resources, even during non-disaster times.

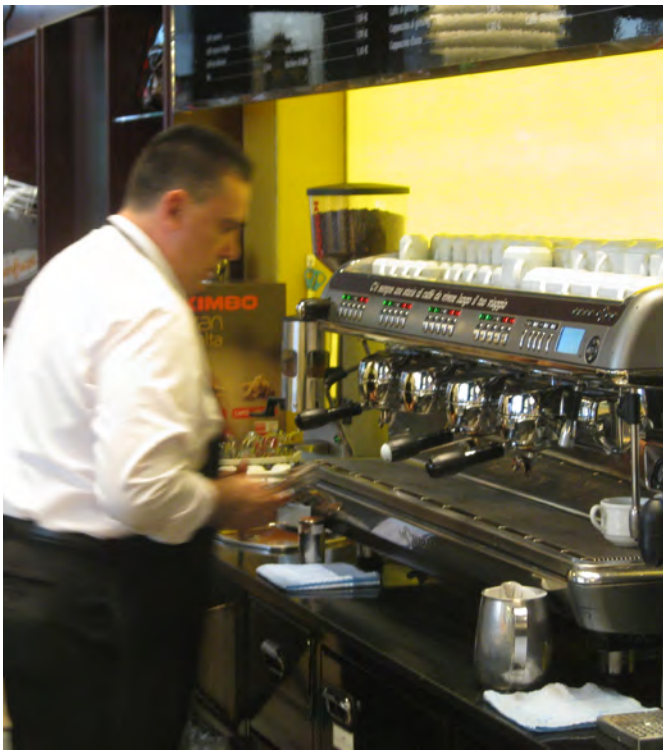
conserving green space, particularly in flood-prone areas; and using native plants and trees in parks and new development.

Finally, 8 municipalities (26%) also identified **collaboration** as a key resilience strategy, particularly in projects such as communication and education and in planning efforts. As was noted in our evaluation forms, limited capacity of smaller municipalities also indicates strong support for continued efforts of regional collaboration. Several municipalities also identified other actors that will be needed in project development, such as water authorities, and corporations, such as CSX.

In addition to identifying the project types across the region, we also categorized the projects by the types of infrastructure being addressed in the project. These infrastructures types were:

- **institutional infrastructure** (which 26 municipalities addressed in their projects), or projects that increased the institutional capacity of municipalities to address disasters, such as installing generators, upgrading emergency fleets, or renovating critical facilities to function more effectively during times of disaster
- **water infrastructure** (identified in 23 municipalities), or projects that addressed either expanding, upgrading, or repairing both drinking water and sewer infrastructure or mitigating flooding risk around rivers or in other flood-prone areas

- **social infrastructure** (identified in 18 municipalities), or projects that increase awareness and shared understanding of disasters through planning, more effective communication and education, and providing social services
- **natural infrastructure** (identified in 17 municipalities), or projects that addressed recreation, agriculture, or nature-based solutions
- **network infrastructure** (identified in 16 municipalities), or projects that addressed either increasing the redundancy of the electrical grid (through installing backup generators or solar panels) or increasing the connectivity of other networks such as transportation through sidewalks, roads, or greenways



- **physical infrastructure** (identified in 12 municipalities), or projects that addressed improving critical facilities, such as conducting renovations or moving to a higher ground site
- **economic infrastructure** (identified in 4 municipalities), or projects that also incorporated an economic or community development component.

Understanding these infrastructure as regional vulnerabilities may be valuable in framing future areas of collaboration, research, or funding.

Municipalities that participated were also asked to describe their community's strengths. The most common strength expressed by member governments was their **utility infrastructures**, such as being able to manage their own water lines during times of disaster. Although utility infrastructures are a natural strength for local government leadership to highlight when thinking about disaster response, other common strengths were more intangible: both **historic and cultural assets** and **community relationships** were highlighted by 12 municipalities (38%); 9 municipalities (28%) highlighted **disaster resilience** itself, commenting that the town or county's previous experience with hurricanes such as Matthew and Florence have provided them insight into how to become more resilient moving forward; finally, 8 municipalities (25%) highlighted **agriculture** as a strength.

MARCH – JUNE 2024

FOLLOW-UP CALLS

Engaging with individual municipalities on their most pressing disaster resilience needs

Of the 31 municipalities that received a summary report, 9 (29%) choose to engage further, either on the phone, on a Zoom call, or over email. Of these 9, 3 were counties and 6 were towns. These follow-up conversations reiterated the limited capacity of towns in writing and managing grants related to disaster resiliency, as grant writing was the most common next step identified by towns. Several municipalities, however, also identified increasing collaboration and communication—either between towns in the region, or within different sectors of a county government—as key next steps towards advancing resilience goals.

Technical assistance also began to hone in on advancing projects that address **social infrastructure**—such as establishing community centers—as these projects can both strengthen community ties, which emerged as a top strength of many of the municipalities we worked with, and advance disaster resilience goals.

If equipped with backup power and stocked with supplies, community centers can serve a dual purpose: acting as "resilience hubs." In these spaces, community members can seek refuge during a crisis while also supporting other critical infrastructures like **institutional** and **network systems**.

Where Do We Go From Here?

In the introduction, we posed three research questions this planning effort sought to address. Those were:

1. What is the current level of knowledge of government leadership regarding current and projected climate impacts, and the associated risk to infrastructure?
2. What are the existing strengths and vulnerabilities—as identified by government leadership— to their municipality, and how can those be utilized in disaster resilience planning?
3. What are the emergent themes and/or areas of potential collaboration on disaster resiliency efforts across the region?

CURRENT LEVELS OF KNOWLEDGE

Overall, municipalities in this region are aware of climate impacts, and understand the pressing need to respond to them. Part of this knowledge is based on historic impacts, such as from Hurricanes Matthew and Florence, as well as participating in previous regional planning efforts such as Resilient Coastal Communities or NC RISE.

In both the survey data and in the proposed projects from the workshops and summary reports, flooding and power loss during disasters emerged as two of the most common climate

impacts municipalities are considering and working to address, which may indicate a need to strengthen education and communication about other climate impacts, particularly extreme heat, droughts, and wildfire. Despite modeled climate impacts indicating North Carolina's coasts are "virtually certain" to experience additional sea level rise (NC Climate Risk Assessment), this impact remained a low priority throughout this planning effort.

Throughout the planning process, it should be noted that the language of "climate change" was minimally used, although when it was integrated into workshop presentations, participants did not appear to disengage with the material.

STRENGTHS, VULNERABILITIES, AND PROJECTS

Several common strengths emerged from our engagement with municipalities, including municipalities' management of its utility infrastructure—which directly relates to concerns related to power loss and flooding. Educating and working with local government leadership on the ways in which renewable energy sources and green infrastructure can be integrated into addressing these concerns will be a critical next step, particularly given the appetite for implementing projects related to these impacts.

Other, more intangible themes, such as historic and cultural assets, community relationships, and existing resilience also frequently emerged, which indicates a need to center community-based resilience strategies in eastern North Carolina communities. Projects such as **resilience hubs**, which can bring together the community even during times of non-disaster to share knowledge and strengthen relationships, can be a valuable way to enhance community-level resilience. Adaptive reuse of buildings, while incorporating resilient building design practices, can also work to strengthen cultural and historic assets and spur community revitalization.

Several municipalities also described an agricultural presence as a community asset, although only one municipality identified an agricultural-focused disaster resilience project. Given agriculture's significant potential to increase (or harm) landscape-level climate resilience, deeper engagement is needed to harness the power of climate-smart agriculture and food systems, as well as green infrastructure more broadly, as a tool for local government leaders.

TRANSLATING EMERGENT THEMES INTO FUNDING

Throughout this planning effort, communities reiterated the immense challenges in advancing disaster resilience due to limited capacity. One solution that emerged to issues of capacity is to increase opportunities for collaboration that allow

for more creativity in accessing funding. This could take shape in three ways:

1. **Collaborating on larger funding proposals**: For funding opportunities with caps of $20,000,000 (or more), smaller towns often get left out of the picture because their financial needs are much smaller, and that amount of money is challenging to manage; collaborating with other municipalities (or using the COG as a grant manager) on proposals provides a smaller amount of funding and an opportunity to share resources and best practices; and

2. **Collaborating with community groups and organizations**: Working directly with community groups or non-profit organizations—as one municipality we engaged has done—also allows for municipalities to access new sources of funding, some of which may be more flexible; and

3. **Participating in regional planning efforts**: Engaging in region-wide planning efforts is also critical for establishing shared need and identifying next steps, while still receiving direct support and engagement on municipality-specific issues. Given that many disasters are felt regionally—and may include individuals moving from one part of the region to another—continuing to advance regional plans will also be crucial to supporting local-scale resilience.

CONCLUSION

In conclusion, this planning effort provided a strong foundational groundwork for advancing Eastern North Carolina's regional resilience. More work—including the continued development of disaster resilience plans and the implementation of plans and project ideas through funding—is needed for the region's communities to be ready to address the impacts of climate-induced disasters. Significant steps must be taken to make the region more resilient. Nevertheless, municipalities are also well aware of the potential impacts of climate change, and many have begun to think creatively about how to address the acute and present needs of their citizens in ways that also better prepare them to adapt and respond to disasters.

Overall, engaging in participatory community development work centered around community assets through a convening body, like the Council of Governments, has proven to be a valuable model for advancing local and regional disaster resilience. This type of work should be replicated in other re[illegible] 21 , and by other institutions - such as community-based organizations - interested in engaging stakeholders in rural communities on topics such as climate adaptation and disaster resilience.

CREDITS

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Report Design
Miel Creative Studio

Sources and Links

Page 3: Upper Coastal Plain (UCP): https://www.ucpcog.org; Eastern Carolina (ECC): https://eccog.org; Working Landscapes: https://workinglandscapesnc.org; Croatan Institute: https://croataninstitute.org; NC RISE: https://www.rebuild.nc.gov/resiliency/resilient-communities/rise

Page 7: Climate and Economic Justice Screening Tool (CJEST): https://screeningtool.geoplatform.gov/en/; Climate Mapping for Resilience and Adaptation: https://resilience.climate.gov; White House Justice40: https://www.whitehouse.gov/environmentaljustice/justice40/

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APPENDIX

APPENDIX A

Upper Coastal Plain: Disaster Resiliency – Interest Survey

Summer 2023

Eastern North Carolina has experienced several major natural disasters, including overlapping events such as hurricanes and floods. These disasters are becoming more prevalent. Impacted units of local government need to continue to plan and implement tools, programs, and policies to improve disaster resilience, response, and recovery. To support the successful and efficient implementation of these efforts, funds were allocated by the State of North Carolina.

In the State's 2021 Budget, the North Carolina General Assembly included an appropriation to the North Carolina Association of Regional Councils of Governments (NCARCOG), known as the *Provision of Local Government Technical Assistance Regarding Disaster Recovery*, to support local governments in effectively managing and building capacity for disaster recovery, mitigation, and resiliency efforts. NCARCOG has sub-awarded grants to the State's sixteen (16) Regional Councils, including the Upper Coastal Plain Council of Government (UCP), to provide specific planning and project management services in support of this statewide effort.

The overall intent of the effort is to expand the capacity of local governments that are susceptible to natural disasters so they can effectively plan for, mitigate, respond to, and recover from declared disaster events, to restore community services back to pre-disaster conditions, and to make communities more resilient in dealing with future disaster.

ADDITIONALLY, in the wake of Hurricane Florence in 2018, the State of North Carolina Department of Public Safety established the Office of Recovery and Resiliency (NCORR) to lead the state's efforts in rebuilding smarter and stronger. NCORR's Regions Innovating for Strong Economies and Environment (RISE) Program was created to further support resilience in North Carolina. NCORR's RISE Regional Resilience Portfolio Program was established and covers nine areas, which align with the North Carolina Council of Government eastern regions. The two main deliverables for each region participating in the RISE Regional Resilience Portfolio program include:

- A Vulnerability Assessment (See UCP assessment here) that is appropriate for integration into regional and local plans, grant applications, public presentations, educational opportunities, and other planning tools; and,
- A Project Portfolio (See UCP portfolio here) that identified priority projects through community input and expert consultation. This separate document also outlines funding opportunities and paths to project implementation.

This survey is being conducted to help UCP evaluate and prioritize local government needs, as they relate to disaster resiliency, other UCP funding areas, and the RISE process.

The survey can be taken individually by both elected and appointed officials and any community members they wish to include. Results will be evaluated and used to build workshops related to these topics, as well as follow up technical assistance and support for local governments and community partners who respond. **When filling out the survey, you will have the opportunity to indicate if you would be interested in receiving updates regarding the date, time, and content of these workshops.**

PLEASE NOTE: Local governments in the UCP region that do not respond to this survey will still be included in any developed region-wide initiatives but may NOT be considered for more direct, individualized technical assistance.

This survey should take no longer than **15 minutes** to complete. For additional guidance or questions regarding the survey, please connect with the UCP COG staff member **Ben Farmer** (bfarmer@ucpcog.org or 252-234-5966) or the Working Landscapes project partner, **Jenni Rogan** (jenni@workinglandscapesnc.org or 404-824-3309). Please complete this survey before **Friday, June 30th**.

Municipality and Hazards:

● Please write the name of the county in which you are based:

● If applicable, enter the name of the municipality in which you are based:

● If applicable, what specific community (i.e. unincorporated community) do you represent or identify with?

● Please write the following:

Name:

Title (if applicable):

Organization:

Email:

Phone Number:

Did you attend any stakeholder engagement meetings for the North Carolina Office of Recovery and Resiliency (NCORR) Regions Innovating for Strong Economies and Environment (RISE) program?

□ Multiple meetings □ One meeting □ No meetings

● Did others in your community directly participate in the NCORR RISE program?

□ Yes □ No □ Unsure

● Have you reviewed your community's RISE Vulnerability Assessment?

□ Yes □ No

● Have you reviewed your community's RISE Project Portfolio?

□ Yes □ No

● Have you reviewed your community's Hazard Mitigation Plan?

□ Yes □ No

● Please rank the perception you have of these hazards in your community, as identified in your region's RISE vulnerability assessment.

1 = hazard of least concern 5 = hazard of greatest concern

	1 least concern	2	3	4	5 greatest concern
Drought & Uneven Rainfall	□	□	□	□	□
Erosion	□	□	□	□	□
Extreme Temperature	□	□	□	□	□
Flooding: Rainy Day	□	□	□	□	□
Flooding: Sunny Day	□	□	□	□	□
Sea Level Rise	□	□	□	□	□
Severe Storms: Hurricanes and Tropical Storms	□	□	□	□	□
Severe Storms: Thunderstorms (lightning, wind), Heavy Rainfall	□	□	□	□	□
Severe Storms: Winter Mix (sleet/snow), Hail	□	□	□	□	□
Tornado	□	□	□	□	□
Wildfire	□	□	□	□	□

Planning & Infrastructure Needs Assessment:

● What infrastructures or opportunities are at risk in your community?			
	Low risk	Somewhat at risk	High risk
Water infrastructure	□	□	□
Wastewater infrastructure	□	□	□

Stormwater infrastructure	□	□	□
Road/Transportation infrastructure	□	□	□
Electrical infrastructure	□	□	□
Fuel infrastructure (gas, diesel)	□	□	□
Economic development opportunities	□	□	□
Telecommunications/ Internet infrastructure	□	□	□
Emergency shelter facilities	□	□	□
Emergency medical care/Medicine	□	□	□
Access to food/related needs during emergency	□	□	□
Housing infrastructure	□	□	□
Watershed/natural resource maintenance	□	□	□
Tree/natural disaster cleanup (post-disaster response)	□	□	□
Farm/agricultural infrastructure	□	□	□
Food distribution infrastructure	□	□	□

(optional) If interested, please describe more about the areas you have identified as “high risk”:

Disaster Resiliency Needs:

● Would your community benefit from further assistance in managing and building capacity for disaster planning?

In this question, ***disaster planning*** is defined as identifying areas of **future concern** and conducting assessments and/or implementing programs or policies that address those future concerns. This includes both ***disaster mitigation*** and ***disaster resiliency*** planning.

□ Yes □ No □ Unsure

● Would your community benefit from assistance in managing and building capacity for disaster mitigation?

In this question, ***disaster mitigation*** is defined as identifying strategies to reduce the direct harm caused by disasters, or to respond to disasters after they happen. For this work, examples of ***disaster mitigation*** include expanding green infrastructure or creating clear pathways for community members to seek disaster relief.

□ Yes □ No □ Unsure

● Would your community benefit from assistance in managing and building capacity for disaster resiliency efforts?

In this question, ***disaster resiliency*** is defined as identifying opportunities to increase a community's ability to respond to disasters to reduce the potential for direct harm. For the purposes of this work, examples of ***disaster resiliency*** include exploring innovative economic development or educating community members on disasters threats and their options.

□ Yes □ No □ Unsure

RISE:

● Please rank the priority of the projects in your region's RISE project portfolio. To read an overview of this project, please visit the page indicated in the project portfolio.

1 = lowest priority 5 = highest priority

	1 lowest priority	2	3	4	5 highest priority
Housing Needs Assessment (pg. 13-16)	□	□	□	□	□
Regional Emergency Shelter Feasibility Analysis (pg. 17-20)	□	□	□	□	□
Electrical Assessment and Transfer Switches for Emergency Shelters (pg. 21-23)	□	□	□	□	□
Flood-Resilient Roadways for Critical Facilities (pg. 24-28)	□	□	□	□	□
Heat Wave Response Protocol Template (pg. 29-32)	□	□	□	□	□
Comprehensive Plans and Zoning Ordinances Address Climate Change Implementation (pg. 33-35)	□	□	□	□	□

Inform Elected Officials about Climate Resilient Decision-Making Implementation (pg. 36-38)	□	□	□	□	□

If there are other high priority needs related to disaster recovery and resilience, please provide them here:

● Would your municipality and/or community benefit from learning more about the NCORR RISE program results including the Vulnerability Assessment and Priority Project Portfolio?

□ Yes □ No □ Unsure

Zoning and Compliance:

● Are your community's land development ordinances 160D-compliant?

□ Yes □ No □ Unsure

● Does your community have a current/up-to-date comprehensive or land use plan?

□ Yes □ No □ Unsure

● Is there any interest in ordinance updates that account for a change in weather patterns (including increasing storm and/or drought conditions) in your community?

□ Yes □ No

● Is there interest in expanding electric vehicle (EV) charging infrastructure within your community?

□ Yes □ No

● Is there interest in expanding renewable energy (solar, wind, geothermal) infrastructure within your community?

□ Yes □ No

Community Capacity and Capabilities:

● Please rank your organization's strengths in the following areas.

1 = no experience in this area, 5 = substantial experience in this area

	1 No experience	2	3	4	5 substantial experience
Engaging community members through educational or outreach programming	□	□	□	□	□

Funding identification and grant writing	□	□	□	□	□
Financial management of grants (reporting, budgets)	□	□	□	□	□
GIS/mapping work & quantitative data analysis	□	□	□	□	□
Designing projects that can meet multiple community goals at the same time	□	□	□	□	□
Project development and implementation	□	□	□	□	□
Successful collaboration with other entities (nonprofits, businesses, other governments, etc)	□	□	□	□	□
Ordinance and plan compliance					
Designing and implementing community assessments around high priority issue areas					

● Are there other topics you would be interested in learning more about?

● Would your municipality and/or community benefit from attending a workshop and potentially receiving free technical assistance on these issues?

□ Yes □ No □ Unsure

● If there are others in your organization who you would like to be informed about workshops or potential technical assistance, place provide their name and contact information here:

Name:

Title:

Email:

Phone Number:

● In your area, are there community groups or organizations that could serve as partners for advancing projects related to disaster resilience and preparedness? These could be community groups, non-profits, or non-governmental entities.

□ Yes □ No □ Unsure

● If known, who are those partners?

Thank you for taking the time to complete this survey! The UCP COG and its project partners will reach out with more information regarding how municipalities and their community partners can access educational workshops and tailored technical assistance later this summer.

Please share this survey with any group or individual (within or outside of your organization) who may have something to contribute!

APPENDIX B

click to view full presentation

This report was a collaboration of the following organizations

For more information:

www.workinglandscapesnc.org

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