

Evaluation of the North Carolina Resilient Coastal Communities Program

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Prepared by Miyuki Hino, Isabel Kwass-Mason, Claire Côté, Michelle Tan,
Addison Vlastnik, and Aditya Roy

Department of City and Regional Planning

University of North Carolina at Chapel Hill

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Introduction and Program Overview

Introduction

The North Carolina Resilient Coastal Communities Program (RCCP) provides grants and technical assistance to local governments to support resilience planning and projects. Since its inception in 2020 through 2025, the RCCP has disbursed nearly \$16M to municipal and county governments within the state's 20 coastal counties. This report results from a comprehensive external evaluation of the RCCP, conducted from 2024-2025.

This report addresses three primary questions:

- **Who is the RCCP serving?** To understand who is benefitting from the RCCP, we compared the pool of eligible communities to those who have applied and those who have been selected. We assessed whether communities of all sizes and income levels were represented in who the RCCP is serving.
- **How rigorous and relevant are the RCCP's Resilience Strategies?** We conducted a detailed review and scoring of four RCCP communities' risk assessments and resilience strategies. We supplemented this quantitative analysis with in-depth interviews with local government staff, contractors, and other key stakeholders.
- **What are the impacts of the RCCP on community capacity, policy and plans, and investments in resilience?** We evaluated impact through a fiscal analysis of local government spending to identify investments in resilience. We also used interviews to identify resilience grants applied for and received, changes in local awareness, capacity, and political will.

This report contains a brief program overview, followed by our analysis for each of the three questions above.

Program Overview

The RCCP was initiated by the state legislature with \$830k of funding in 2019 and \$1.14M from the National Fish and Wildlife Foundation's Emergency Coastal Resilience Fund after Hurricane Florence. The program subsequently received an additional \$16.2M in funding from the state and the National Fish and Wildlife Foundation. Run by the Division of Coastal Management (DCM), the RCCP aims to facilitate a community-driven process that builds local capacity for a proactive, sustainable, and equitable approach to coastal resilience planning and implementation. Program objectives include addressing barriers to coastal resilience at the local level, assisting communities with risk and vulnerability assessments, developing customized portfolios of well-planned and prioritized projects,

advancing those projects to shovel-ready status, and continuing to link participating communities to funding streams for project implementation. The inclusion of the latter steps, developing and implementing shovel-ready projects, is unusual; according to a survey of local officials, resources are predominantly dedicated to vulnerability and risk assessments and stop short of moving onto implementation (Nordgren et al., 2016). To accomplish these goals, the program is organized into four phases:

1. *Community Engagement and Risk & Vulnerability Assessment*: Phase 1 consists of a data- and community-driven risk and vulnerability assessment. This forms the first part of the Resiliency Strategy, the main deliverable for Phases 1&2. These documents provide communities with a baseline for resilience planning.
2. *Planning, Project Identification, and Prioritization*: Phase 2 uses a data-driven approach to identify and prioritize transformative actions that address immediate and potential long-term coastal hazards identified by the community. The resulting Project Portfolio contains well-planned and prioritized solutions to address risks and is the second part of the Resilience Strategy.
3. *Engineering and Design*: Phase 3 enables the detailed engineering and design of prioritized projects, ensuring they are ready for permitting and implementation.
4. *Project Implementation*: Phase 4 provides competitive grants to communities that have successfully completed the previous phases, supporting project implementation.

Phases 1 and 2 are completed concurrently. Phases 1&2, 3, and 4 are separate competitive applications. All counties, municipalities, and tribes within the 20 counties governed by the Coastal Area Management Act (CAMA) are eligible to apply to and participate in the RCCP. Local governments are generally required to proceed through the phases sequentially (i.e., they are not eligible for Phase 3 until they have completed Phases 1&2), unless they have largely completed the work of Phases 1&2 in a separate process.

From 2020-2024, \$1.86 million was awarded for Phases 1&2 in 41 communities; \$5.46 million was awarded for Phase 3 projects; and \$3.54 million was awarded for Phase 4 projects. As of November 2025, the RCCP has disbursed over \$15 million in funds to over 90 grants.

Who is the RCCP serving?

The RCCP serves a wide range of North Carolina's coastal communities, and its reach is expanding over time. As of March 2025, there were 119 eligible municipalities and counties. 41 participated in Phases 1&2, 32 in Phase 3, and 10 in Phase 4. There was a

subsequent wave of funding in August 2025 that added 15, 3, and 2 communities to Phases 1&2, 3, and 4, respectively. We evaluated who the RCCP is serving by comparing the demographic and socioeconomic characteristics of participating and non-participating communities. We augmented this quantitative assessment through interviews to learn more about the application process, facilitators and barriers to participation, and recommendations to expand the reach of the program.

Overall, the RCCP is reaching communities across levels of economic development, income, and racial composition. The program's structure is key to this success: the application process is straightforward, there is no local match required, and DCM minimizes the administrative burden on communities. At the same time, communities with the smallest populations remain underrepresented in the program, indicating there is still room to grow in reaching communities with the least capacity.

Comparing participating and non-participating communities

For each county or municipality within the 20 CAMA counties, we collected data on income, population, racial composition, and economic development tier. The American Community Survey provides estimates of total population, population by race, and median household income at county and municipal scales for 2022. County populations include the populations of the municipalities they encompass. For some municipalities, the population was too small for the ACS to release estimates of median household income; in those cases, we used median household income from the census tract that most closely pertained to the municipality. We used the 2022 NC Department of Commerce classification of economic development tiers to assign counties to Tier 1, 2, or 3. Tier 1 represents the most economically distressed counties based on unemployment rate, median household income, percentage change in population, and adjusted property tax base per capita. Municipalities were assigned to the tier of the county, with the higher tier assigned to municipalities that straddle multiple counties. Due to lack of comparable data, the Meherrin Tribe was not included in the analysis that follows.

Next, we organized local governments based on their furthest RCCP phase completed (i.e., Phases 1&2, Phase 3, or Phase 4), as well as the total amount of funding they had received from the RCCP. We used the most advanced phase reached to classify communities; for example, if a community had received Phase 4 funding, and then subsequently applied for Phase 3 for a different project, they were classified as having reached Phase 4. All of the analyses described herein use participation statuses and funding amounts as of March 2025; the wave of funding disbursed in fall 2025 was not included.

Participation in the RCCP is relatively even across levels of economic development, income, and racial composition, and low-income, diverse communities are benefiting from RCCP resources (Figure 1; Figure 2). Nearly half of the eligible Tier 1 communities are participating in the program, though none has reached Phase 4 as of October 2025. The share of Tier 1 communities participating is greater than the share of Tier 3 communities participating.

Communities of all income levels and racial composition are represented in the RCCP at similar proportions. When examining the amount of funding received by each community (Figure 2), it is clear that levels of funding are not skewed toward the most advantaged communities. While budgets are naturally higher for communities that have reached Phase 4, many of the communities with the highest funding levels are relatively low-income and diverse.

However, communities with populations under 1,000 are participating at lower proportions than communities with larger populations (Figure 1, bottom right). Of the communities with populations under 1,000, only 18% (9/49) have participated. In comparison, of communities with populations greater than 1,000, 46% (31/67) have participated. This finding raises questions about demands on local government and whether capacity constraints impeded participation, which we examine further in depth through interviews in the next section.

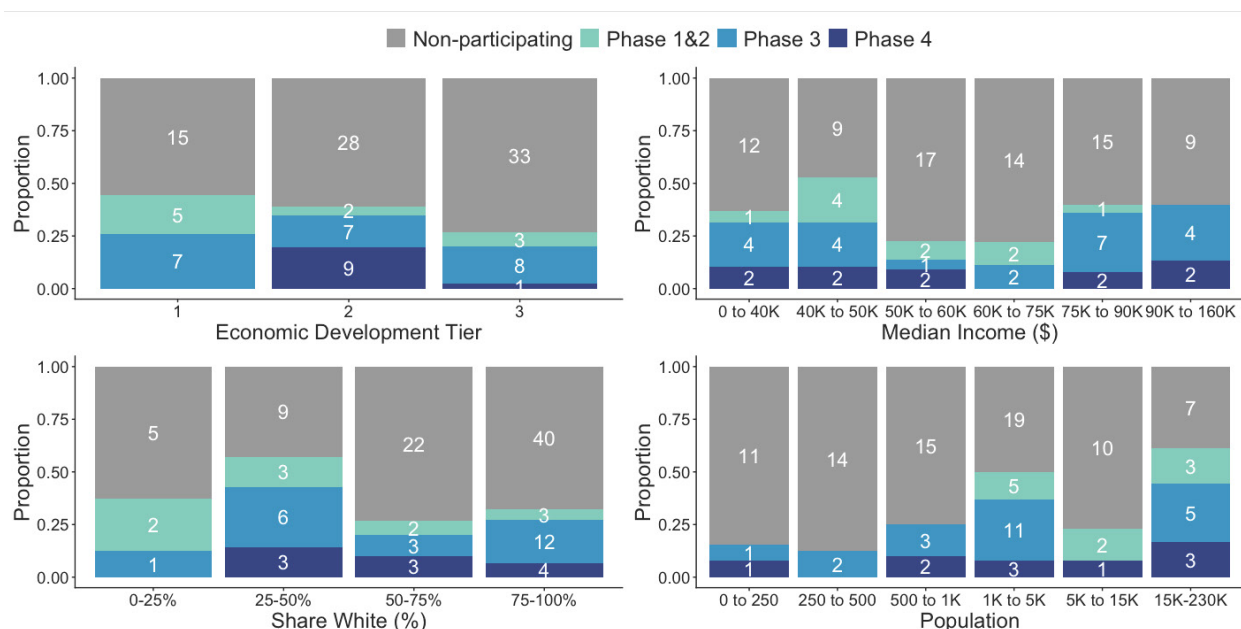


Figure 1: Participation in the RCCP is relatively even across development tiers, income, and racial composition, but communities with the smallest populations are under-represented. Communities eligible for the RCCP are organized by development tier

(top left), median income (top right), racial composition (bottom left), and population (bottom right) with 2022 data from the American Community Survey and NC Department of Commerce. Colors indicate if they have not participated (gray), reached Phases 1&2 (light green), reached Phase 3 (blue), or reached Phase 4 (dark blue).

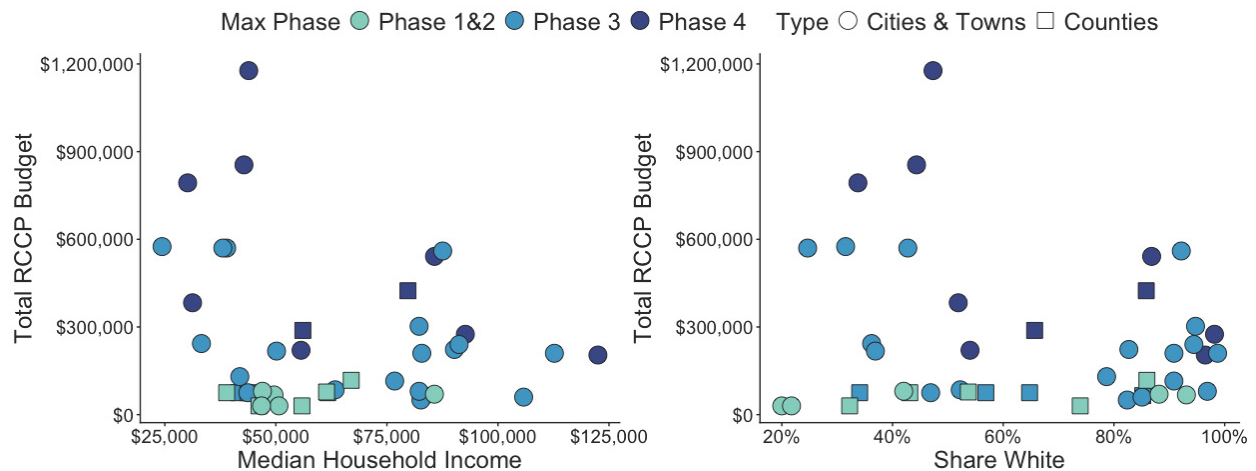


Figure 2: Communities with relatively low median household incomes and high shares of non-White populations have benefitted from significant RCCP funding. Plot shows total RCCP budget awarded by median household income (left) and share of the population that is white (right). Squares denote municipalities, and circles denote counties.

Application process

One key aspect of the program facilitating broad participation is the straightforward and transparent application process. Contractors, communities, and other stakeholders all reported that the application was clear and simple; as one participating community summarized, “the application was straightforward and easy,” while another participating community, when asked if there were any challenges in the application process, responded, “absolutely not... not at all.” Interviewees compared the RCCP application to applications for federal programs with stricter requirements, noting the contrast: “sometimes the application and documentation is so onerous that it's just not worth it... I'd much rather deal with state money than federal money.” The simplicity and clear expectations of the application enabled other stakeholders, such as the NC Office of Recovery and Resiliency and a regional Council of Government, as well as contractors, to provide free assistance to communities due to the low time investment and likely payoff of the application.

However, there was some uncertainty among contractors around their role in assisting communities with Phase 3 applications as well as DCM’s process for pairing contractors

and communities. While some contractors described actively recruiting communities to the program by reaching out and offering to submit applications for no cost, other contractors expressed some concern over conflicts of interest, especially in applying for later phases with higher budgets. Many contractors described supporting applications to later phases when communities reached out to them, but in some cases contractors could not provide the kind of support that communities sought: “they were coming to us to ask us like how to put it out to bid... some communities might just need a little bit more support in that realm [from DCM or peer communities].”

Contractors also expressed some confusion around the pairing process, saying they did not receive any information about why they were selected and paired with certain communities. One contractor paired with fewer communities in a subsequent round of the program said they “didn’t really get a lot of feedback... so we didn’t know if that was a result of negative performance” or other factors. While the ease and clarity of the program application brought in a wide range of applications and enabled support from government agencies and contractors, some contractor uncertainty remains around DCM’s expectations for their support of community applications to later phases and their reasoning behind the pairing process.

Facilitators to participation

The RCCP removes common barriers to participation for low-capacity communities by not requiring matching funds from communities and, for Phases 1&2, managing the contracting process at DCM. These aspects of the program ease administrative and financial burdens that often come with grants. A staff member of a participating community told us that told us that they’re careful with grants because they “never feel like [they] can take on that much,” but in deciding whether to apply for Phases 1&2 of the RCCP, “having a consultant... on board” allowed them to take a supportive rather than leading position on the project and facilitated their decision to participate in the program. We heard from many interviewees that the absence of a match requirement was key, considering that even low match requirements can be out of reach for low-capacity communities: “even a 10% match on a large project is going to stop a lot of these small towns from [participating]... they just don't have the money.” These elements of the program can effectively level the playing field for communities operating at different capacities; as staff at a state agency told us, “low-capacity communities get to a place that they can easily do the same level of work and have an action plan like any other community.” With both barriers of managing the contracting process and providing matching funds removed, low-capacity communities are more able and likely to participate in the program. As one interviewee stated, “I’m not going to say anything negative about

the program...I think it's been a huge positive. I appreciate...the legislature funding it. Because I think it's really helping these smaller communities that don't have the financial resources to do a lot of these things."

Additional facilitators to participation in the program include the supportive staff at DCM and peer learning from other participating communities. We heard from communities, contractors, and government agencies that the availability of staff at DCM, along with their resources and trainings, makes program participation easier. As one contractor explained, the program provides a "helpful" planning handbook, and DCM staff are "available to participate throughout the process," even traveling to a lot of community meetings. A staff member of a participating community described a similar experience: when a question comes up "you talk to somebody [at DCM] and you know they're going to help you." Another facilitator of program participation is learning from the examples of other participating communities. One contractor told us about a community that was concerned about their capacity to participate in the program but was encouraged to apply by "great examples of small towns" that had gone through previous rounds of the program. As the RCCP goes through multiple rounds, adding new communities to each phase, communities that have already participated become a valuable source of information about the program.

Non-participation and remaining barriers to participation

While it was difficult to gather information about why communities were choosing not to participate, we identified several communities that simply had too much on their plate to take on anything new, as well as communities waiting to participate until they had more staff time or space in their budget. We heard multiple examples of communities unable to participate because of administrative and financial restraints, despite the program's efforts to overcome these restraints. In one example, a small town of 200 with limited staff chose not to participate because they were already dealing with an urgent infrastructure issue; even when state agency staff explained "that we could include infrastructure resilience as part of the plan," the community would not participate "because they had absolutely no staff and no capacity." Another staff member at a state agency described a similar dynamic, where a community is "invested in a larger project and it just takes a lot out of the few staff members" so even when good opportunities come up, those staff members have their "hands full" and can't take them on.

Participating in the RCCP requires significant time commitment from staff even with help from contractors. One local government staff member described the process as "seamless," but said it was still "a lot of work administratively to have it all come together." A relatively large and well-staffed non-participating community reported that they are

waiting to apply to the RCCP until they have dedicated staff who can manage the grant: “once we get [a stormwater utility manager] we actually plan to go chase these funds because I’ll have somebody that can manage it.” In these examples, communities wait or choose not to participate in the program because they are focused on other urgent issues and/or decide they cannot dedicate the staff time that the process requires.

In Phases 3 and 4, financial and administrative barriers to participation are substantially larger than for Phases 1&2. Financially, the later phases require upfront spending by the community to be reimbursed. One community had not realized that, and when staff began budgeting, they realized they “didn’t have enough money to put the funding in for that [Phase 3] study.” A contractor agreed that it has “hindered them even though there isn’t a match requirement, just having that initial budget allocation.”

Phases 3 and 4 are also more complicated administratively. Even the application can be more complicated; one community reached out to a previous contractor “to develop some details to be able to apply for Phase 3 funding” because “they’re pretty limited on staff to carry things forward and implement.” The bidding process can similarly require technical expertise and administrative capacity that exceeds what local governments can manage. As a result, some communities may get stuck after Phases 1&2. Strategies for assisting communities in managing Phases 3 and 4 are a key issue for DCM to consider moving forward.

Recommendations

Continue supporting participation through program design and administration

The RCCP has been successful in reaching a range of communities with a straightforward and transparent application process, removal of matching requirements, and contracting for Phases 1&2, all of which can continue to facilitate community participation in the program.

Consider targeted outreach and support for the smallest communities

To increase participation of communities with smaller populations, the RCCP could consider direct outreach to these communities and provide additional resources to ease administrative burdens, such as grant managers to handle funding and reimbursements. In addition, the RCCP could engage with other partners, such as regional COGs, to create a more sustained support system between phases.

Increase transparency of the contractor matching process and application support

The RCCP could provide context and feedback to contractors through the matching process and clarify expectations for supporting community applications to later phases.

Address capacity constraints for communities pursuing project design, engineering, and implementation

The additional administrative burden in Phases 3 and 4 may become a substantial barrier for communities seeking to move into design and implementation. The RCCP could consider strategies (e.g., targeted grant administration support, technical assistance) to help communities move past Phases 1&2.

How rigorous and relevant are the RCCP's Resilience Strategies?

Evaluation of Resilience Strategies

Resilience Strategies are the final deliverable developed through Phases 1 and 2 of the Resilient Coastal Communities Program (RCCP). A detailed overview of what is required in each step of the Phase 1 and 2 process is provided in the RCCP Planning Handbook, which outlines how to assemble the final Resilience Strategy document. The RCCP Planning Handbook establishes minimum standards for the content, plus extended guidance and optional resources. Phase 1 includes five required sections culminating in the Vulnerability Assessment Report; Phase 2 produces the Project Portfolio. Combined, the Vulnerability Assessment Report and the Project Portfolio comprise the Resilience Strategy. The intent of this final deliverable is to provide a basis for a more comprehensive resilience plan, to be integrated into existing local plans and ordinances, and/or to support additional grant applications for project development and implementation.

We developed a tool to quantitatively evaluate the Resilience Strategies based on scores for 22 components. Resilience Strategies from four focal communities were scored using this tool, with additional strategies reviewed to calibrate the scoring range. Interviews with participating communities, contractors, involved state agencies and nonprofits provided deeper insight into the processes, challenges, and the outcomes of Phases 1&2. Together,

the scored evaluation and the interviews reflect both the quality of the deliverables and the processes that led to those results.

While Resilience Strategies were largely meeting the minimum criteria described in the RCCP Handbook, scores varied within and across strategies. Approaches to developing Resilience Strategies varied widely across communities and contractors. Consistent strengths were observed in the vulnerability assessments and project portfolio development. Natural infrastructure and socially vulnerable populations were often under-addressed or treated superficially. Only one community demonstrated consistently high quality across all components. Strong strategies clearly linked the Phase 1 risk assessment to Phase 2 project selection.

Resilience Strategy Evaluation Tool

To assess the quality of the Resilience Strategies, we developed an Excel-based scoring tool based on the requirements and expectations outlined in the RCCP Handbook. The tool comprises 22 components grouped into seven sections. Components and sections were drawn from the steps and document outline in the Handbook, with additional elements added to capture overall quality dimensions such as completeness, narrative details, thematic coherence, and consideration of socially vulnerable populations and community involvement.

Each of the 22 components was scored on a 5-point scale. A score of “4” indicates that a Resilience Strategy meets all minimum requirements per the Handbook. The scoring scale is defined as:

- 1 – Missing or entirely incorrect.
- 2 – Partially addressed but mostly incomplete, missing, incorrect, or underdeveloped.
- 3 – Mostly complete but missing significant pieces or steps.
- 4 – Fully meets all minimum requirements.
- 5 – Exceeded minimum requirements and includes additional relevant detail.

Half-point scores (e.g., 2.5, 3.5) were used when a Resilience Strategy met some, but not all, of the criteria for the next highest score.

In developing tailored criteria for each score (1-5) within each component, we considered the following guiding questions:

- Were minimum requirements from the RCCP Handbook met or exceeded?
- Were the requirements met with detail, completeness, and specificity to the community?

- Were components of interest to this evaluation addressed? (natural infrastructure, social vulnerability, community engagement)

To calibrate the scoring scale, we reviewed approximately ten Resilience Strategies. We then scored four Resilience Strategies in detail. The broader set of documents helped to balance the tool and improve its applicability. Section and total scores were calculated using component averages, allowing for comparison across sections, components, and strategies. These results can be visualized as a heat map to highlight areas of strength and weakness (Table 1). The tool was designed to be adaptable; future iterations could refine scoring criteria, adjust component grouping, or apply weighted averages to reflect the relative importance of different sections.

Table 1: Detailed Resilience Strategy evaluation scores by component with average component scores and overall average scores.

Section	Component	Community A	Community B	Community C	Community D	Average (Range)
Vision and Goals	List of community vision and set of goals & description of process for developing vision and goals	3.0	4.0	4.0	4.5	3.9 (1.5)
Review of Existing Local and Regional Efforts	Inventory of existing efforts	4.0	5.0	5.0	3.0	4.3 (2.0)
	Information provided by existing efforts	3.0	4.0	5.0	2.5	3.6 (2.5)
Community Action Team (CAT) Report	Description of process for developing CAT	3.0	3.0	3.5	4.0	3.4 (1.0)
	Meeting agendas, minutes, and list of participants	4.5	4.0	5.0	5.0	4.6 (1.0)
Stakeholder Engagement Strategy	Plan for engagement with the community during the risk assessment and project development processes	5.0	5.0	5.0	4.0	4.8 (1.0)
	Targeted stakeholder outreach to vulnerable and historically underrepresented members of the community	5.0	5.0	2.0	5.0	4.3 (3.0)
	Documentation of execution of stakeholder engagement strategy	3.0	3.5	4.0	2.5	3.3 (1.5)
Risk & Vulnerability Assessment Report	Map assets	3.5	4.5	4.5	2.0	3.6 (2.5)
	Map hazards	4.0	4.5	3.5	3.5	3.9 (1.0)
	Vulnerability assessment	4.0	5.0	4.0	4.5	4.4 (1.0)
	Estimated risk	3.0	4.5	1.0	3.0	2.9 (3.5)
	Natural infrastructure	1.5	4.0	5.0	2.5	3.3 (3.5)
	Socially vulnerable populations	1.5	5.0	2.0	1.0	2.4 (4.0)
	Completeness & detail	2.5	4.0	3.0	2.5	3.0 (1.5)
Project Portfolio	Public engagement documentation	5.0	5.0	5.0	4.0	4.8 (1.0)
	Consistency with overall strategy	5.0	5.0	5.0	3.0	4.5 (2.0)
	Portfolio content and detail	4.0	3.5	5.0	2.0	3.6 (3.0)
	Portfolio breadth	5.0	4.5	5.0	3.0	4.4 (2.0)
	Supplemental materials	5.0	4.0	4.5	3.0	4.1 (2.0)
Structure	Organizational structure	5.0	4.5	2.0	2.0	3.4 (3.0)
	Appendices	4.5	5.0	3.0	2.0	3.6 (3.0)
Overall Score		3.8	4.4	3.9	3.1	

Resilience Strategy Findings

Phase 1

Vision and Goals

Visions and goals were scored based on whether they listed a community vision, set goals, and provided a description of the process used to develop the vision and goals. Scores ranged from 3.0 to 4.5. Communities generally did well, although some vision statements were very broad and/or disconnected from the goals. Only one community indicated public input outside of the Community Action Team (CAT).

Review of Existing Local and Regional Efforts

The reviews of existing efforts were based on two components: 1) whether they conducted an inventory of existing efforts, and 2) the level of detail of the inventory. Scores ranged from 2.8 to 5.0. Stronger strategies included summary tables with detailed links and context for relevant documents; weaker strategies provided brief or incomplete references.

Contractors reported that these initial steps of developing a vision and goals and reviewing existing efforts was helpful in “making sure prior efforts are reflected and advanced” and reduced redundancy with other plans, particularly the Regional Hazard Mitigation Plan.

Stakeholder Engagement Strategy

The Stakeholder Engagement Strategy section included three components: 1) quality of their plan for engagement with the community during the risk assessment and project development processes; 2) extent of targeted stakeholder outreach to vulnerable and historically underrepresented members of the community; and 3) level of detail in documentation of the execution and outcomes of this stakeholder engagement. Scores ranged from 3.7 to 4.6. Most plans included robust general engagement strategies. Planned targeted outreach to vulnerable populations varied, with one community scoring a 2.0 on this component, and the rest scoring 5.0. Documentation of the outcomes of public engagement was often weak in comparison to the quality of the planned approach.

Interviewees confirmed there was a wide range of engagement activities undertaken, including surveys, tabling, and mapping, both in-person and digital. Most contractors agreed that public input was helpful in filling data gaps. However, turnout and participation were often challenging. Even when contractors reached out to members of vulnerable communities, they did not receive responses. Another recurring barrier was internet access and use; for instance, rural areas may have little to no internet, elderly people may not want to fill out digital surveys, or people may only access the internet through their

phone; in one instance, paper surveys were requested. One contractor said about their online survey, “we've gotten like a handful of responses, so that has not been as effective.”

Community Action Team (CAT) Report

The CAT report section was scored on two criteria: 1) a description of their process for developing the CAT, and 2) whether they included all meeting agendas, minutes, and lists of participants. Scores ranged from 3.8 to 4.5. CAT meeting documentation was generally strong. However, the CAT formation processes often lacked detail about representation or diversity, and member backgrounds were rarely described.

Methods of forming the CAT and composition of CAT members varied between communities. Sometimes the contractor recruited the CAT, but more frequently town staff put the team together. This resulted in some CATs being entirely made up of government staff, or staff plus residents who were already closely involved in local issues or close to elected officials. In these cases, contractors observed that the CAT did not include a variety of voices from the community. One contractor observed “we still sort of missed key groups that I think we should have had ... most of those CAT members, I believe, were pretty homogenous across their different attributes.” Other barriers to involving representatives from underserved communities included logistics, such as meeting times, frequency, and transportation.

Communities with a more representative CAT often succeeded in recruitment because of a motivated CAT member, a “dedicated town person that also has connections to really be the driving force,” for example, reaching out to adult services, local nonprofits, and neighborhood groups, or, in one instance, going door to door with flyers. Smaller communities may have had an advantage in CAT recruitment, simply because of a more interconnected network, or because of a more homogenous population. Other successful strategies for the CAT included involving elected officials and local nonprofits.

Risk and Vulnerability Assessment Report

Phase 1 culminated in a Risk and Vulnerability Assessment. We scored this section on seven different components. Average section scores ranged from 2.9 to 4.5.

1. Mapping of assets, natural infrastructure, and socially vulnerable populations:

Individual component scores ranged from 2.0 to 4.5. Map quality varied; some omitted or misinterpreted categories or had unreadable visuals. Interviewees reported some gaps in available data, such as survey and condition of water, sewer, utility, and other infrastructure. Data on social vulnerability was also frequently not granular enough. CAT members identified locations of vulnerable populations, such as senior living facilities and low-income neighborhoods.

2. **Mapping climate hazards:** Scores ranged from 3.5 to 4.5. Stronger strategies added extra hazard types or contextual narrative. Weaker strategies omitted some maps or were difficult to read and interpret. Noted gaps in data were pluvial flooding, compound flooding, and groundwater, which were bigger concerns in some communities than others and would require additional data collection and modeling. The CAT also supplemented and validated existing data by identifying frequently impacted roads or other infrastructure. Communities and contractors anticipated conducting additional data collection and modeling as part of their Phase 3 participation to move forward with engineering plans.
3. **Vulnerability assessment:** Scores ranged from 4.0 to 5.0, the highest scoring component of the section overall (average 4.4). The strongest strategies had detailed thresholds, criteria, and methods; thoughtful CAT input on subjective measures, additional tables and maps; and addressed social vulnerability throughout. Each method was completely different. Some contractors encountered ambiguities, such as flood zones touching a GIS parcel but not a building, or how to parse vulnerability to the hazard.
4. **Estimated risk:** Scores ranged from 1.0 to 4.5. The strongest strategy included vulnerable populations and natural infrastructure and addressed limitations to their approach. The weakest strategy omitted the section entirely. Interviewee feedback was that this section was somewhat confusing or disjointed from the stepwise flow of the rest of the vulnerability assessment.
5. **Natural infrastructure:** Scores ranged from 1.5 to 5.0. Many strategies grouped natural infrastructure with parks or open space without discussing their role in resiliency. Strong strategies identified natural infrastructure with specificity and explained their risk-mitigating functions.
6. **Social vulnerability:** Scores ranged from 1.0 to 5.0, the lowest scoring component of the section overall (average 2.4). Most strategies did not meet the minimum requirement of mapping vulnerable populations. One community addressed this theme thoroughly using community-specific data and integrated it into the narrative throughout the document. Contractors reported that community input was important to fill gaps in data around social vulnerability.
7. **Completeness and detail:** Scores ranged from 2.5 to 4.0. Many strategies omitted required elements or lacked narrative synthesis.

Overall, the Risk and Vulnerability Assessment section ranged widely in scores (Table 1). By section, the strategies ranged from 2.9 (two communities) to 4.5 out of 5.0. Community B stood out as a particularly high quality example, with all components scored 4.0 and above. Across all four focal communities, individual component scores ranged from 1.0 to

5 (out of 5.0), and average component scores across the four communities (i.e. scores for a specific component, averaged across the four documents) ranged from 2.4 to 4.4 out of 5.0.

The two weakest Risk and Vulnerability Assessments were RCCP Wave 1 (2020-2022) participants, which may reflect improvements to the handbook between funding waves. This is supported by interviews with contractors, who agreed that improvements to the handbook and an increase in budget improved the quality of the products from Wave 1 to Wave 2 (2023-2024).

The other three communities' Risk and Vulnerability Assessments were very strong in some categories and very weak in others. This reflects how, in all three reports, some sections were complete and well done (>4.0) whereas other sections had key elements minimally addressed or missing. Some plans contained the minimum explanation of methods plus tables and figures, with very little to no discussion. Higher quality plans tended to include some discussion and interpretation of results, particularly as they relate to that specific community's needs. Thoughtful narrative sections helped to tie together the pieces and create a coherent picture for the reader, which helped lead into Phase 2, the Project Portfolio.

Phase 2

Project Portfolio

In Phase 2, communities put together a portfolio of priority project profiles. We scored the Project Portfolio in the Resilience Strategy documents on five components. Average section scores ranged from 3.0 to 4.9.

Communities took similar approaches to generating and selecting projects. Contractors typically generated a long list of potential projects, including those drawn from other plans, which were refined and prioritized through CAT meetings and public engagement activities.

1. **Public engagement documentation:** Scores ranged from 4.0 to 5.0, the highest scoring component in this section (average 4.8). The three communities scoring a 5.0 described specific projects sourced from CAT meetings and/or public workshops.
2. **Consistency with overall strategy:** Scores ranged from 3.0 to 5.0. High scores referenced previous plans and targeted specific vulnerable assets identified in the Phase 1 Risk and Vulnerability Assessment.
3. **Portfolio content and detail:** Scores ranged from 2.0 to 4.0. This component assessed the inclusion of project categories from the RCCP template and the

specificity of project descriptions. Low-scoring strategies listed vague projects without defined locations or activities.

4. **Portfolio breadth:** Scores ranged from 3.0 to 5.0. High-scoring strategies included a wide range of projects including both structural and nonstructural solutions and prioritized multiple nature-based approaches.
5. **Supplemental materials:** Scores ranged from 3.0 to 5.0. Materials such as maps were included in most strategies. Strong examples clearly visualized project location, scope, and relevance to socially vulnerable populations.

As with the Risk and Vulnerability Assessment, contractors reported that improvements to the handbook and budget between Waves 1 and 2 supported them to create a higher quality portfolio. As one contractor said, “For the second round they revamped the handbook, which was awesome.” This is important because interviewees also identified that a strong project portfolio was the most important factor in readiness to apply to RCCP Phase 3 and other funding opportunities.

Nature-based solutions are a priority for the RCCP. From our interviews, the RCCP is socializing the idea of nature-based solutions and spreading awareness about their application, but the extent of uptake is very different from community to community. There were several instances in which the contractors introduced the idea of nature-based solutions or worked to find ways to incorporate them into existing ideas in hybrid approaches. In some communities, the nature-based solution was already top of mind as a priority solution, which was influenced by the local geography; for instance, if outdoor recreation was important to the economy, protecting those natural areas went hand in hand with flood resilience. In at least one community, the requirement was seen as a constraint, extraneous, or even in conflict with existing priority projects. One proposed solution to support uptake is to provide more information about costs and benefits to help communities evaluate these solutions.

Organization and Appendices

The Resilience Strategies were also scored on two additional components, organization and appendices. Component scores ranged from 2.0 to 5.0. Two focal communities organized the strategy document with a brief summary report with most material in the appendices; this style represents the lowest structure scores due to missing content and poor navigability.

Key Themes and Conclusions

The quality of Resilience Strategies across the four focal communities varied considerably. While several strategies demonstrated strong performance in selected areas, few were

consistently strong across all sections. Community B emerged as a particularly well-rounded example, with high scores in nearly all components. By contrast, other communities showed significant variation across different sections.

Common Strengths

The Resilience Strategies in our sample were consistently strong in several areas, including the vulnerability assessment, stakeholder engagement strategies, and documentation of CAT meetings. These areas generally met or exceeded the RCCP requirements across all four focal communities with high levels of narrative detail, stakeholder input, and supporting materials.

Common Weaknesses

The most common weaknesses were the inclusion of social vulnerability and natural infrastructure as cross-cutting themes. Only one strategy addressed socially vulnerable populations in a meaningful, data-informed way and comprehensively incorporated that information throughout the document. Our interviews showed difficulties encountered in this portion throughout the process: pre-determined CAT membership excluding other voices; logistical challenges to CAT membership, public meeting participation, and digital feedback; and gaps or granularity in available data.

For natural infrastructure, one strategy effectively incorporated natural infrastructure by mapping key natural assets and detailing how they mitigate flooding and climate hazards, while other strategies tend to group natural infrastructure with general open spaces without recognizing their specific role in climate resilience. Scores on vulnerable populations and natural infrastructure were higher in Wave 2 Resilience Strategies.

Other aspects of the Resilience Strategies were inconsistently addressed. Risk estimation methods varied in quality and scope, and information about the CAT formation process often lacked detail about inclusivity and member expertise.

Distinguishing Factors

The most compelling strategies made clear connections between the RCCP framework and local conditions, needs, and voices. Higher scoring strategies were more community-specific, using detailed data from additional sources and stakeholder input to identify local risks and resources. Lower scoring strategies relied on more generic content. Contractors reported that this lack of data was a challenge and indicated that Phase 3 proposals will necessarily include a data collection and modeling element in addition to engineering.

Second, equity and ecosystem services were under-addressed across the board. Consideration of socially vulnerable populations and integration of natural infrastructure are central to the RCCP's goals, yet they were often neglected or superficially addressed. Interview feedback showed a wide variety of responses to nature-based solutions and suggested other methods to increase emphasis, such as resources for quantifying ROI.

Finally, an important takeaway from this evaluation is the role of the Resilience Strategy as a bridge between RCCP phases. The stronger strategies connected Phase 1 findings to Phase 2 planning by using vulnerability assessment results to guide project selection and prioritization, improving the quality and feasibility of projects. Attention to themes like social vulnerability and natural infrastructure may enhance the community's ability to develop strong applications for Phase 3.

Recommendations

Continue improving the RCCP Planning Handbook between waves

There are opportunities to improve the quality of the Resilience Strategies through updates to the RCCP Planning Handbook to address some of the weaknesses identified in this evaluation. Contractors interviewed noted that improvements to the handbook between Wave 1 (2020-2022) and Wave 2 (2023-2024) did contribute to higher quality products, which is reflected in the scores. Future improvements would do well to follow this trajectory.

We identified two areas to consider for improvements. First, each community and contractor reviewed or interviewed approached the risk and vulnerability assessment in a different way, with a different scoring system. In some interviews, contractors suggested that developing these methods took significant time and had several sticking points or ambiguities to work through. Adopting a standardized method for scoring assets may save some time and resources.

Second, one contractor noted that the risk assessment portion of the exercise seemed disjointed from the vulnerability assessment, and it was often much lower scoring than the vulnerability assessment. Guidance for this section may be revised specifically to improve logical flow from the vulnerability assessment and with an eye to how it adds value to project portfolio development.

Clarify expectations for Community Action Teams

The process for creating CATs varied widely across communities, and in some instances, CATs were largely well-represented, well-known voices rather than new perspectives in the

community. Contractors often followed local governments' lead on who to include, though they occasionally independently solicited additional members to increase representation. While there is emphasis in the handbook on goals for CAT membership, DCM could set clearer expectations regarding the process for developing CATs and reporting on efforts to broaden participation. In particular, expectations for both the local government and the contractor regarding efforts to engage voices not typically represented could be clarified.

Foster peer learning among RCCP communities and contractors

Based on the diversity of approaches across communities and contractors, sharing lessons learned and innovative methods could significantly improve the quality of Resilience Strategies produced by the RCCP. Peer learning could be useful in many ways, such as providing examples of projects for other communities to adapt, sharing datasets that could assist in risk assessment, and offering example procurement and bidding documents.

Within the Vulnerability Assessment Report, peer learning could strengthen sections on socially vulnerable populations and natural infrastructure. While lack of granular data on social vulnerability was a challenge for many, one strategy overcame this obstacle by obtaining census block-level SVI data from the Harvard Dataverse and incorporating CAT input on specific vulnerable locations. For natural infrastructure, strategies varied substantially on their level of specificity and what they defined as natural infrastructure.

Continue to support Project Portfolio development to bridge the gap to Phase 3

Communities and contractors both emphasized the value of the project portfolio as a key step towards implementation. However, they also noted there can be a significant gap between what is included in the Project Portfolio and what is needed to apply to Phase 3's engineering and design funds. Due to variations in contractor expertise, some expressed interest in additional guidance to improve the level of detail included in the project profiles. For instance, guidance on market rates for certain services would help provide a baseline for better cost estimates ("I wish there were more resources on... project costs"), which would aid in Phase 3 and other applications. Information on ROI for nature-based solutions could also provide stronger support for uptake of nature-based solutions.

Address future conditions and long-term resilience in Project Portfolios

While Resilience Strategies collect data on future conditions and how coastal hazards are likely to evolve, this data was rarely considered explicitly in the final Project Portfolio. Concerns were raised about the long-term viability of some proposed projects, which may seem attractive in the near-term but are likely to be rendered ineffective by climate change. The RCCP could encourage communities to explicitly consider whether a project is a short-term band-aid or an investment that will require a larger upfront cost but be worthwhile in the long-term.

What are the impacts of the RCCP on community capacity, policy, and investments in resilience?

The RCCP can enhance resilience for participating communities in many ways. For some, the risk assessment process provides new information and raises awareness of new threats. For others, the funding for project engineering and design is needed to push a project to shovel-ready status and increase the likelihood of receiving a grant for implementation. Recognizing that communities are in different places, we evaluated impact in multiple ways, focusing on four primary areas: capacity, readiness for grant applications, plans and policy, and local investments. We used a combination of interviews and fiscal analysis of local government spending to inform our conclusions.

Capacity

Interviewees largely agreed that engagement in the RCCP contributed to greater local awareness and enhanced capacity for resilience. Local government staff reflected positively on the risk assessment and resilience strategy process (Phases 1 & 2), emphasizing that the flexibility and broad definition of resilience allowed them to cater the process to their needs. Having an assessment and plan specifically dedicated to the community, no matter how small, was seen as a particular benefit of this program. Interviewees contrasted it with the Regional Hazard Mitigation Plan process, noting that the regional planning effort can feel too large in scope for their own communities. One local government staff reported, “I use that [Resilience Strategy] constantly,” while another valued it “because it would give us a justification of what to go after.” Several interviewees also noted that the planning effort can build valuable connections to other key stakeholders, such as representatives of NC DOT or utilities, laying the groundwork for future collaboration.

Readiness for grant applications

The RCCP makes it easier to pursue external funding, with many communities applying for outside grants to fund RCCP projects. One contractor said, “we do know that it does give them an advantage with grants outside of this program,” and a participating community said, “we wouldn’t have been able to apply for that [BRIC grant], had we not had that [RCCP] report done.” Interviewees expressed preference to apply for RCCP Phase 3 before other grants, because of having no match requirement and ease of application, but went on to apply to other sources. In several instances, communities partnered with other state agencies or nonprofit organizations to apply for funding.

Interviewees reported successful grant applications or plans to apply for a variety of grants to fund projects proposed in RCCP’s Project Portfolio. These included federal, state, and nonprofit sources. Federal sources included the EPA’s Community Change grants and FEMA’s Building Resilient Infrastructure Program (BRIC) and Flood Mitigation Assistance Program (FMA). State grants included DEQ’s Viable Utilities program, the Coastal Storm Damage Mitigation Fund, and Public Beach and Coastal Waterfront Access Initiative, the Department of Agriculture and Consumer Services Streamflow Rehabilitation Assistance Program (StRAP), and the Department of Public Safety (DPS). Nonprofit organizations included the Golden Leaf Foundation and the Coastal Federation.

Readiness to apply for grants differed among communities who had completed a Resilience Strategy. Contractors regularly discussed their role in supporting grant applications. Some proactively identified potential sources and suggested them to local governments, while others contributed to the preparation of the application itself. However, just as communities have different levels of capacity internally, contractor support varies as well. This uneven distribution of capacity and support may lead to major discrepancies in which communities are able to move forward with their Project Portfolios.

The role of other state agencies in supporting grant applications for engineering, design, and implementation surfaced regularly among interviewees. In some instances, a project in the Project Portfolio was better suited for a non-RCCP funding source, such as federal grants run through the DPS. However, lack of awareness (e.g., state staff at DPS not being aware of Project Portfolios, and local staff not being aware of the DPS grant opportunity) is a challenge. Strengthening connections between the RCCP and other state agencies can expand the pool of funding that communities can access, ultimately increasing local investments in resilience.

Policy and plans

Impacts of RCCP activities on local policy and planning have been limited to date but are emerging in more recent years, perhaps as communities have had time to take advantage of RCCP outputs. Evidence of formal changes to policy and plans was limited in our evaluation. However, participating communities did report informally incorporating the Resilience Strategies into other plans and decision-making processes, with one describing the document as “enormously helpful” for an upcoming strategic plan update and CAMA Land Use Plan update.

In 2024, the RCCP funded the Town of Beaufort to incorporate resilience into their unified development ordinance, one of the first examples of a local government explicitly factoring long-term resilience into their land use planning. In 2025, the RCCP began a program to integrate RCCP efforts with CAMA Land Use Plans, another step that will contribute to mainstreaming resilience into existing policies and plans. Another opportunity for integration to consider in future years is the Community Rating System (CRS) of the National Flood Insurance Program; by considering projects that could improve CRS scores, communities can earn discounts on flood insurance premia for their residents.

Interviewees were largely neutral or slightly positive when asked about the impacts of the RCCP on local political will to undertake resilience. Starting in the second wave of the program, the RCCP began requiring that local elected officials are notified and approve of the decision to apply. Some communities experienced good, vocal support from elected officials. Contractors reported that it was helpful when elected officials were included on the CAT. However, despite RCCP activities increasing awareness and understanding about climate resilience, this did not consistently translate into political action.

Investments in coastal resilience

To evaluate the impact of participation in the RCCP on community investment in coastal resilience, we analyzed the budgets and audits of four participating communities across the coast at different stages in the program, with additional variation in size, income, racial composition, and contractor. We paired each participating community with a nonparticipating community with similar geographic, socioeconomic, and demographic characteristics. By comparing the paired communities, we sought to isolate differences attributable to the RCCP, rather than measuring differences in community capacity, risk perception, or financial resources. Depending on document availability and detail, we selected budgets and audits before community participation in the program in 2018-2019, 2019-2020, or 2020-2021 (pre-RCCP) and at communities’ most recent stage in 2023-2024 or 2024-2025 (post-RCCP). Budgets describe local expenditures from all revenue sources,

while audits more clearly delineate grants, including some multi-year awards. Thus, we use budgets to evaluate overall local expenditures on coastal resilience, and audits to evaluate grant activity.

For each budget and audit, we extracted expenditures and grants respectively across six categories of spending on coastal resilience: stormwater, beach nourishment/erosion, environmental protection, waterways, disaster preparedness, and disaster recovery. All expenditures with the keyword “stormwater” were included under the stormwater category. For communities with dedicated stormwater funds, we used the total of those stormwater fund expenditures. For communities with multiple stormwater funds, we used the total of the central stormwater fund in accordance with auditing methods. The beach nourishment and erosion spending category included all expenditures in dedicated beach funds and expenditures with the keyword “beach” in other funds. The environmental protection spending category included conservation expenditures across forestry, soil, and marine facilities, as well as contributions to local environmental organizations. The waterways spending category included expenditures on waterway dredging and debris removal as well as infrastructure such as bulkheads and docks. Finally, the disaster preparedness spending category included expenditures on floodplain planning, flood insurance, and transfers to dedicated recovery funds while the disaster recovery spending category included expenditures due to hurricanes.

From audits, we extracted grants related to the same six categories of coastal resilience, and included the grant amount, source, and source type, whether state, federal, or non-profit. Although water operation costs are not included in local coastal resilience spending, grants related to drinking water infrastructure are included as environmental protection. Similarly, general emergency operations costs are not included in overall expenditures on coastal resilience, but grants from North Carolina Emergency Management are included as disaster preparedness. Grants directly from the RCCP are sorted into the same six categories depending on the nature of the project.

Local expenditures on coastal resilience have not shifted substantially within RCCP communities relative to non-participating communities (Figure 3). Of our four participating communities, two had increases in resilience expenditures, one declined, and one remained steady. Of the four non-participating, results were identical: two increased, one declined, and one remained steady (at zero). Local expenditures on coastal resilience do not universally increase with participation in the RCCP for our sample of communities during this window of time, which may partially be explained by feedback from interviews that few communities were able to mobilize local funds to implement projects themselves and had only recently sought or received external funding for projects.

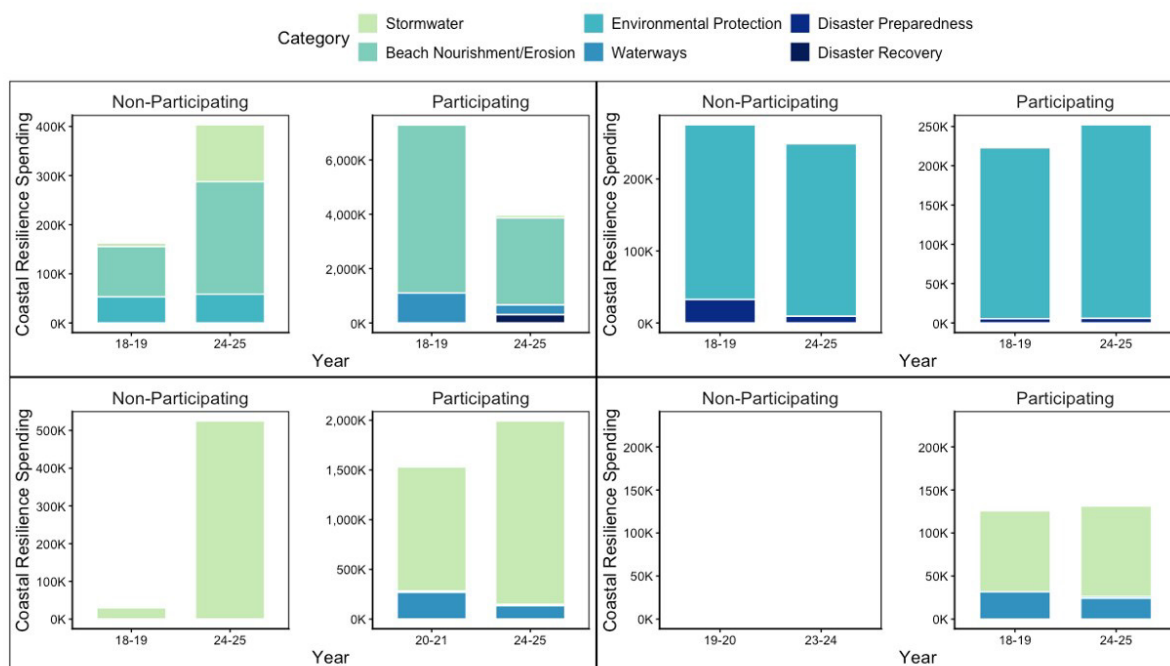


Figure 3: Total local expenditures on coastal resilience categories over time by paired participating and non-participating communities with data from pre-RCCP and post-RCCP budgets. Expenditures are organized by category and by time period. Four participating communities were paired with similar non-participating communities, and charts above are grouped into those pairs. Note: one non-participating community (bottom right) did not record any spending in resilience categories in either budget year.

All four of the focal participating communities received grants for coastal resilience after participating in the RCCP. In three of the four, grant amounts increased significantly from before to after RCCP participation (data were likely incomplete for one community). Grant totals declined in one. In the paired non-participating communities, grant totals declined in two, increased in one, and stayed the same in one. In addition, comparing similar participating and non-participating communities, resilience grant totals post-RCCP were greater for the participating community in three of the four pairs. Overall, these results are a positive indication that the RCCP is boosting communities' readiness to pursue and acquire funds for resilience.

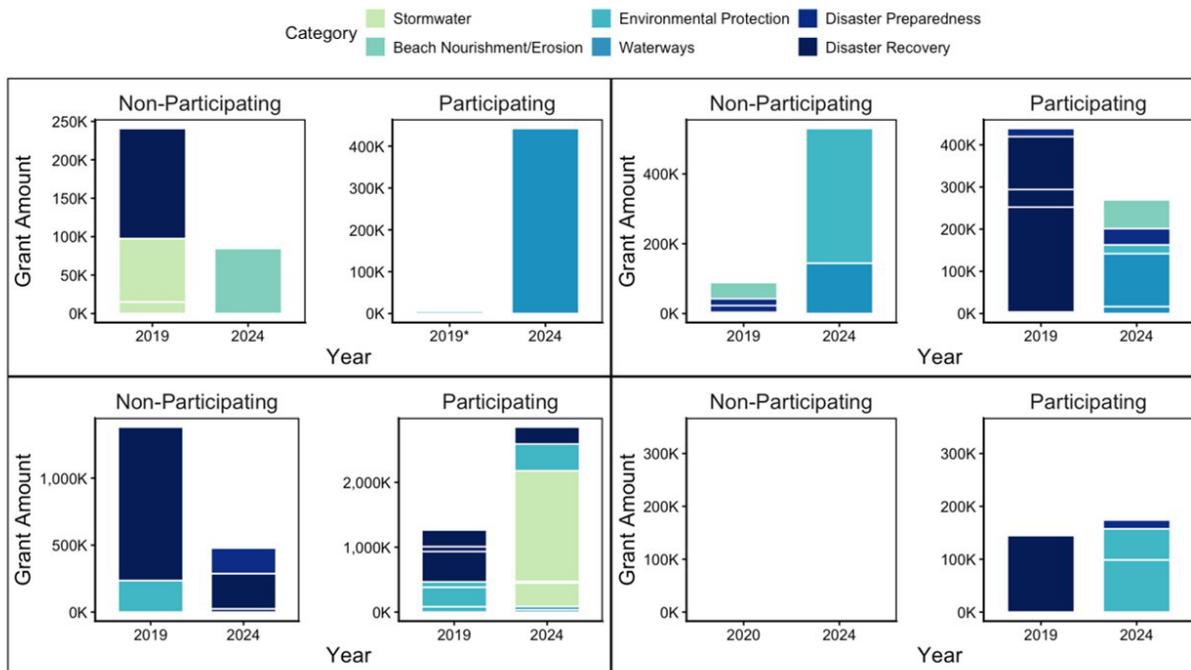


Figure 4: Grant totals for participating and non-participating community pairs before and after RCCP by coastal resilience category. Grants are organized by category and by time period. Four participating communities were paired with similar non-participating communities, and charts above are grouped into those pairs. Notes: (1) the 2019 audit for the participating community in the top left likely omitted some grant activity (based on differences in structure and format from the 2024 audit), which may explain the substantial jump between 2019 and 2024. (2) The non-participating community in the bottom right did not record any coastal resilience-specific grants in either year.

One important limitation of this analysis is that the impacts of the RCCP may take longer to materialize than the time period of this analysis. Any patterns in spending changes are difficult to detect over this short time period because of variability across communities and years. For example, beach nourishment funds and dedicated stormwater funds make up the majority of resilience spending in communities that have them, but expenditures can vary significantly from year to year. Similarly, the majority of coastal resilience grants in pre-RCCP reference years are categorized as disaster recovery due to damage from Hurricane Florence the year prior (2018), demonstrating how both amounts and categories of grants fluctuate from year to year. Repeating this analysis in the future, with more time having elapsed since RCCP participation, may be more indicative of the program's impacts on investments.

Recommendations

Continue investing in integration between the RCCP and local plans and policy

To ensure that RCCP investments translate into local plans and policy, the RCCP should continue seeking out opportunities to support mainstreaming resilience considerations into existing frameworks for land use and development management. Current efforts in this direction (i.e., funding policy reform as a “project” and coordinating with CAMA Land Use Plans) are a positive step.

Strengthen coordination between the RCCP and other organizations in the funding landscape

Greater coordination between funding organizations can strengthen the ability of RCCP communities to move from Phases 1&2 and into engineering, design, and implementation. For example, one straightforward step would be to ensure that all projects in the Resilience Strategy are included in regional Hazard Mitigation Plans, as inclusion in those plans is a prerequisite for some FEMA funds run through DPS. Linking these efforts would further the goals of both agencies and reduce redundancies. Strengthening relationships with other entities that facilitate or provide funding, such as COGs and nonprofits, would provide other opportunities to connect communities with more funding opportunities, especially those outside the scope of the RCCP.

Develop a system for tracking investments in resilience

A key indicator of program impact is the extent to which the RCCP increases on-the-ground investments in coastal resilience. Due to the nature of funding timelines, these impacts can take years to materialize and thus they require a longer-term tracking system. Ideally, the RCCP would be able to report on progress for projects in the RCCP Project Portfolio: associated grant applications, grants received (from the RCCP, from state sources, from federal sources, and from private sources), and local budget invested in those projects. Given that many of our interviewees reported on grant applications and a wide range of funding sources, we anticipate that such data would be a powerful demonstration of the value of the RCCP to the North Carolina coast.

There are many possible strategies for establishing such a system. One opportunity could be embedding questions in the application process for Phases 3 and 4, asking communities about progress towards implementing projects in the Project Portfolio. Another would be developing a survey that could be issued annually to collect data.

Appendix

Figure A1. Participation in the RCCP by phase and wave. Second waves of each phase have larger budgets and higher acceptance rates than first waves, while Phases 3 and 4 have larger budgets than Phases 1&2 within the same wave.

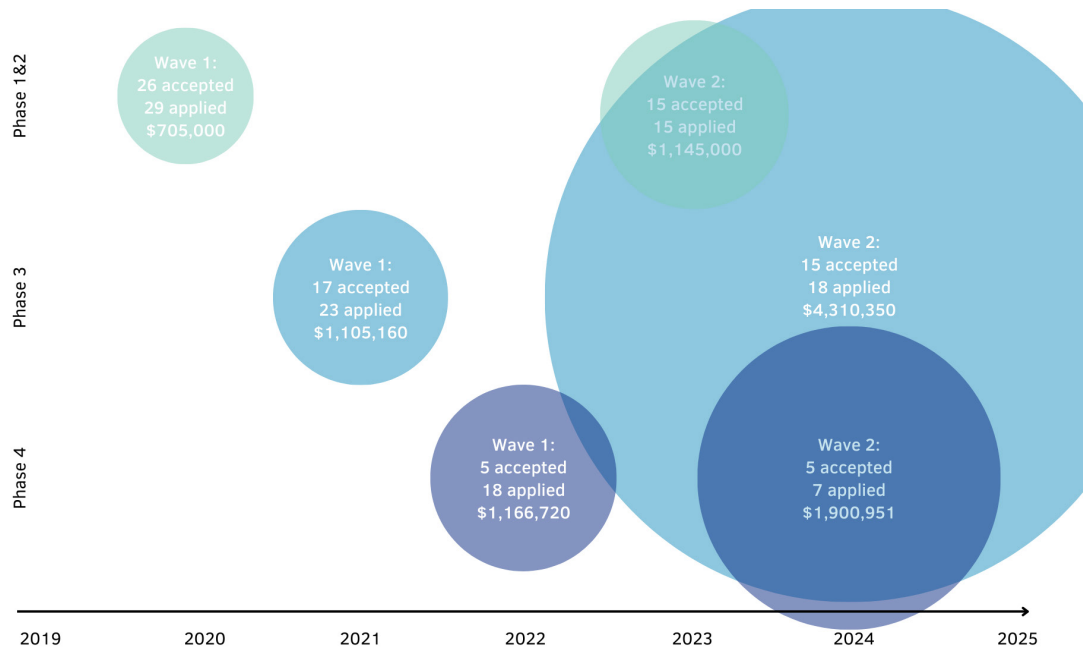


Figure A2. Of 119 eligible communities, 46 have engaged with the RCCP. 46 includes 45 which have applied to Phases 1&2 and one community which skipped directly to Phase 3. Most communities that apply to Phases 1&2 are accepted. Phase 4, with higher project budgets, is the most selective phase.

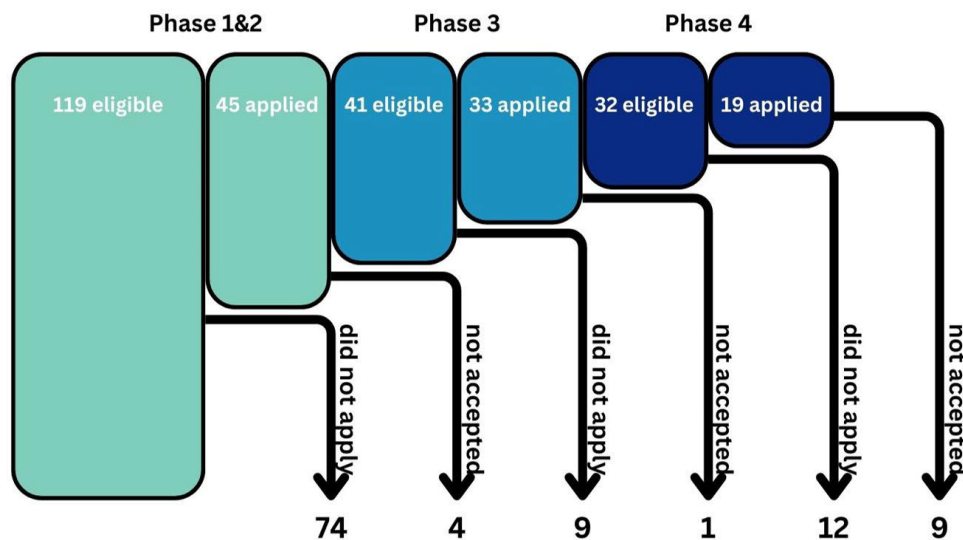


Figure A3. Total RCCP budget by population for all incorporated places with counties excluded due to size. Communities with small populations receive similar budgets to communities with larger populations reaching the same phases.

