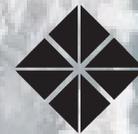


North Carolina

**RESILIENT
COASTAL
COMMUNITIES
PROGRAM**



NCORR

NORTH CAROLINA OFFICE OF RECOVERY AND RESILIENCY

Sam Burdick, *Coastal Resilience Coordinator*

Today's Objectives

- Participants will:
 - *Learn more about the N.C. Resilient Coastal Communities Program*
 - *Learn how they can participate in the program*
 - *Engage in discussion to inform the final stages of curriculum development*

Program Origins

- DCM Coastal Resilience Pilot Project: [RENA](#)
- [Regional Resilience Workshops](#)
- [DCM Coastal Community Resiliency Guide](#)
- [N.C. Climate Risk Assessment & Resilience Plan](#)
- State Legislature Funding
- [NFWF Emergency Coastal Resilience Fund](#)



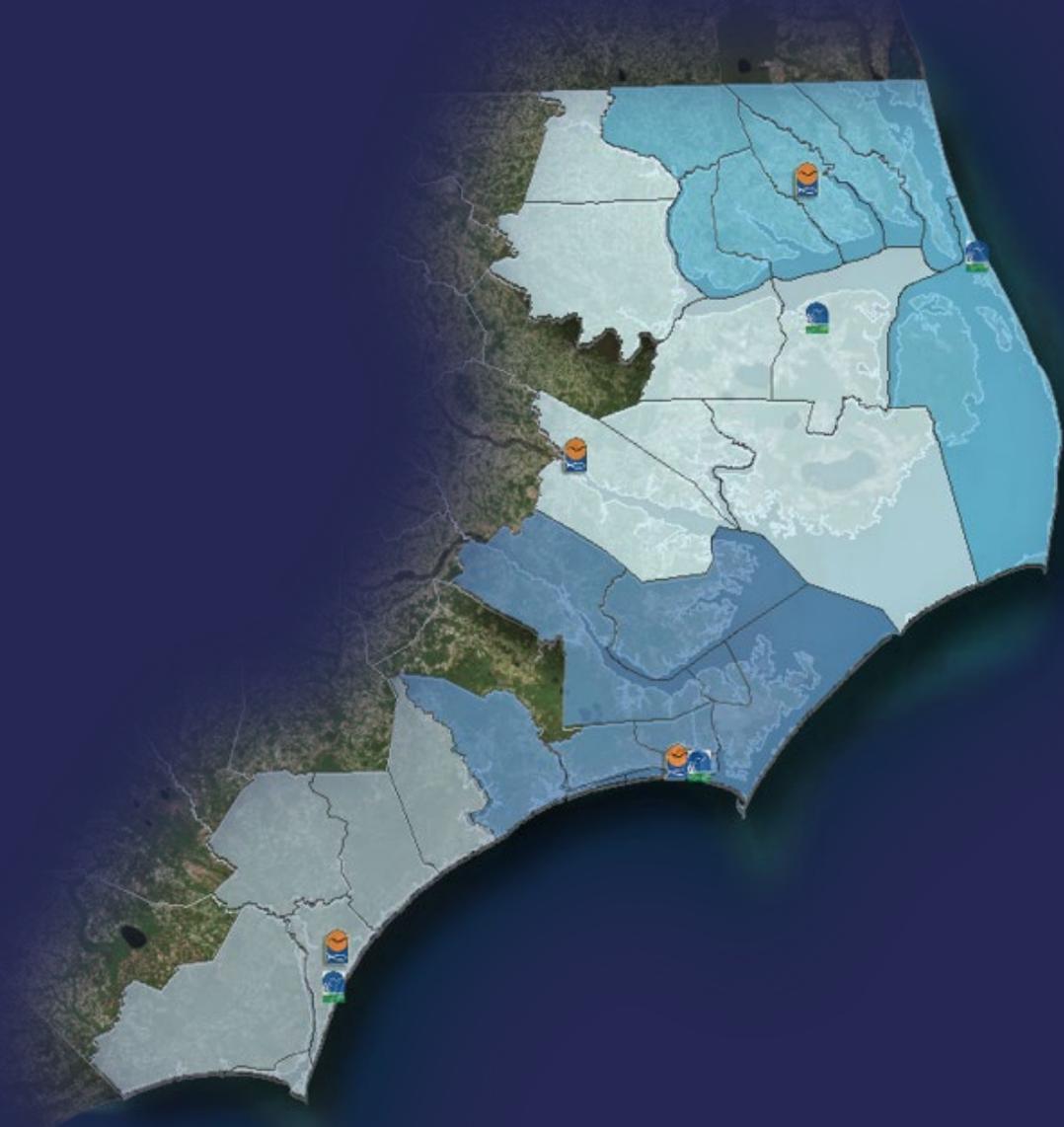
Program Partners



Other Resilience Frameworks

- MA [Municipal Vulnerability Preparedness Program](#)
- RI [Municipal Resilience Program](#)
- FL [Resilient Coastlines Program](#)

Program Scope



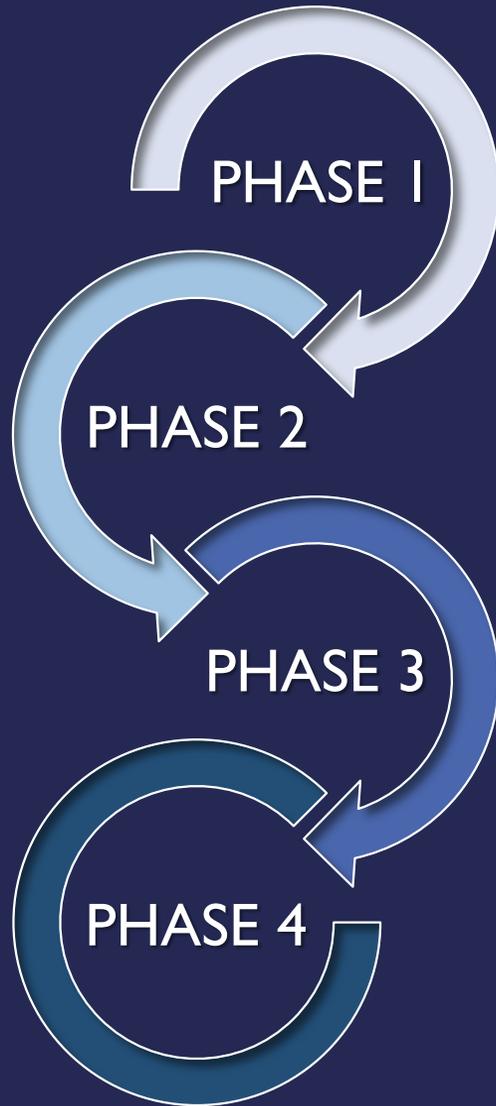
Guiding Principles

- Increase local capacity and capability for resilience planning and implementation
- Incentivize a data and community-driven process
- Provide tools to address support vulnerable populations
- Reduce costs to communities
- Meet communities *where they are*

Program Objectives:

- Address barriers to coastal resilience at the local level
- Assist communities with risk & vulnerability assessments
- Help communities develop portfolio of well-planned and prioritized projects
- Advance priority projects to “shovel-ready” status
- Link communities to funding streams for project implementation

Program Phases



Quantitative & Qualitative
Risk Assessment

Planning, Project Selection,
and Prioritization

Engineering & Design

Implementation

PHASES I & 2

Program Curriculum

- Guidance for contractors and communities
- Provides checklist of program requirements
- Guides process while allowing flexibility
- Details existing tools and resources to utilize
- Provides consistency in products



PHASE I

Quantitative & Qualitative Risk Assessment

PHASE I

Resilience Action Teams

- One per participating locality
- **Members:** Contractors, RCCP representatives, local staff and elected officials, resource managers, community leaders
- **Role:** actively participate in process with contractors



PHASE I

Assessment Overview

- **Quantitative *and* Qualitative** assessment
- Characterize vulnerability and evaluate risks primarily to **flooding hazards**
- Flexibility in process, consistency in products

STEP 1: Identify the hazards

STEP 2: Analyze exposure and sensitivity of community assets

STEP 3: Measure adaptive capacity

STEP 4: Identify and prioritize the highest risks

PHASE I

Community Assets

- Public facilities
- Critical infrastructure
- Vulnerable populations
- Economic
- Natural resources



PHASE I

Identifying Hazards

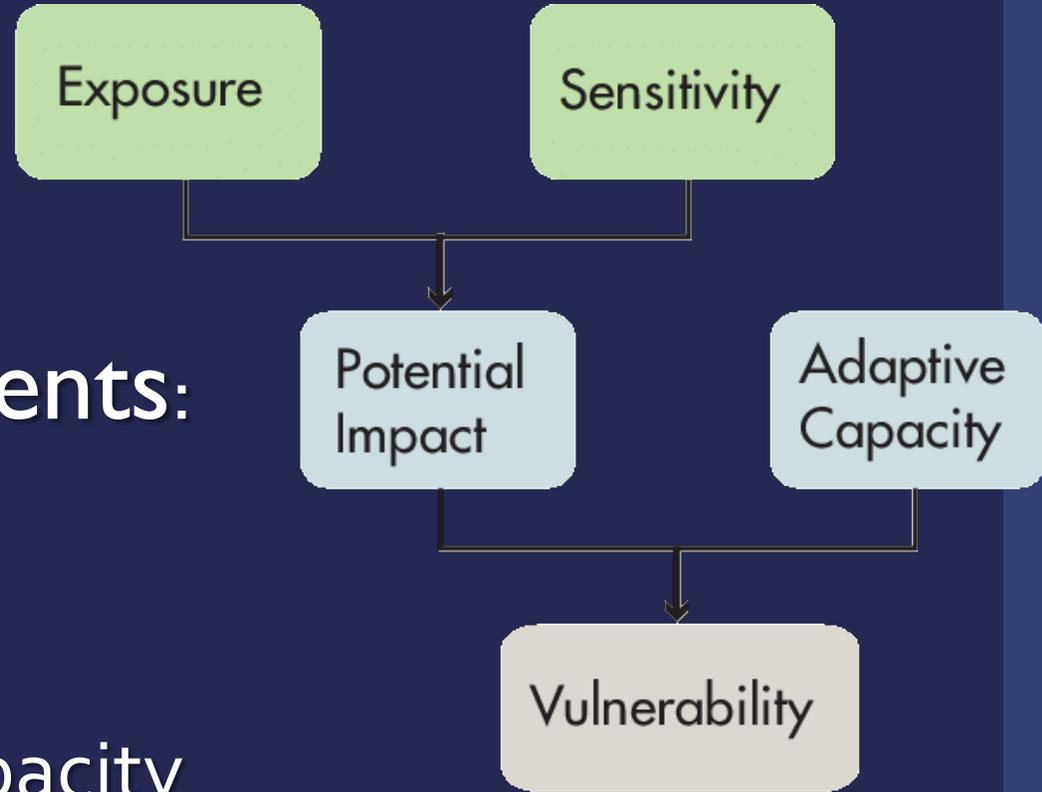
- Assess risks to the following **flood hazards**:
 - ✓ Storm surge
 - ✓ Heavy-intensity rainfall flooding
 - ✓ Tidal flooding
 - ✓ Sea Level Rise (minimum 30 years)
 - ✓ Can choose scenario
- Hazards that may need to be included:
 - ✓ Riverine flooding
 - ✓ Subsidence
 - ✓ Erosion

PHASE I

Assessing Vulnerability

3 main components:

- ☑ Exposure
- ☑ Sensitivity
- ☑ Adaptive capacity

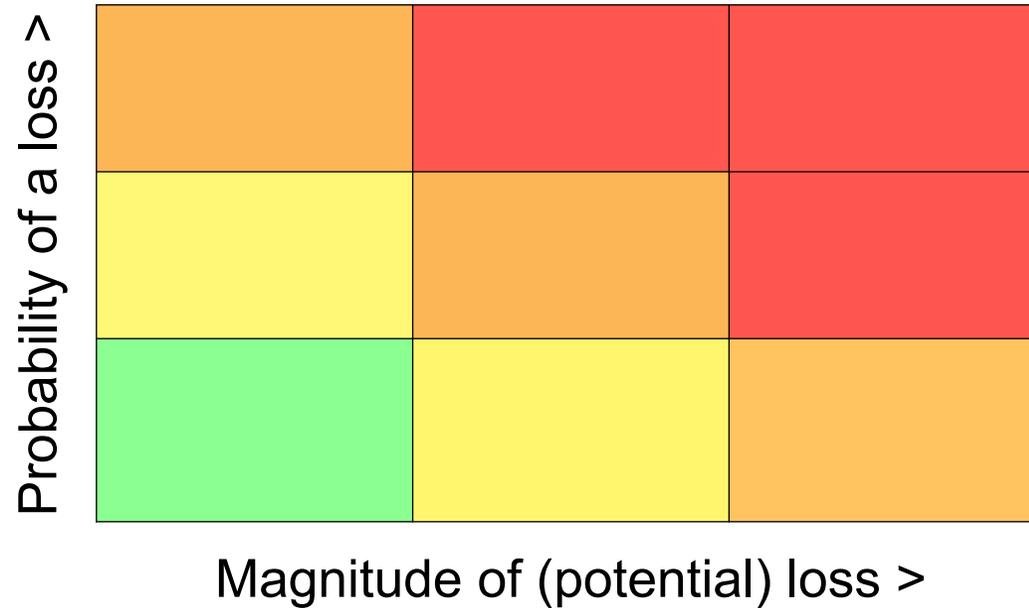


NWF 2014

PHASE I

Evaluating Risk

Risk Characterization Matrix



Relative Risk

Low

Medium

High

Very High

US Climate Resilience Toolkit

- Economic risk: Estimate **cost of inaction** under different scenarios
 - Direct and indirect costs

PHASE I

Community Engagement

- Engage community members, including historically underrepresented populations
- Three key areas to seek input:
 - Qualitative risk assessment
 - Quantitative assessment results
 - Project identification
- Flexible format



PHASE 2

Planning, Project Selection, and Prioritization

PHASE 2

Developing Solutions

- Infrastructure and Nature-Based Solutions
- Local Policy and Regulation
- Local and Regional Plans
- Education, Awareness, and Incentives

PHASE 2

Promote Integration

- Hazard Mitigation Plans
- CAMA Land Use Plans
- Hurricane Matthew Resilient Redevelopment Plans
- Floodplain Management Plans
- Stormwater or Watershed Plans

PHASE 2

Prioritize Projects

- Resilience Prioritization Criteria Assessment Tool
(Colorado Resiliency Playbook)
- Considers following aspects of each project:
 - Urgency
 - Adaptive capacity
 - Co-benefits
 - Economic benefit-cost
 - Risk and vulnerability
 - Social equity
 - Sustainability
 - Ability to harmonize with existing activities
 - Innovation
 - Technical soundness

Natural Infrastructure / Nature-based Solutions

WATERSHED / REGIONAL

- Land conservation
- Wetland restoration and protection
- Floodplain restoration
- Greenways
- Stormwater parks

COMMUNITY / SITE

- Rain gardens
- Green roofs
- Permeable pavement
- Tree trenches
- Vegetated swales
- Rainwater harvesting
- Tree canopy
- Green streets

COASTAL FOCUS

- Coastal wetlands
- Dunes
- Living shorelines
- Oyster reefs
- Waterfront parks

Community Application Process

- Invitations to apply issued
- Local governments submit pre-application
 - Assesses level of need and existing capacity and resources
- Once selected, fill out questionnaire with more detailed assessment
- Communities and contractors matched

Contractor Application Process

- RFQ released by **10/31**
- Interested parties submit proposals by **12/31**
 - Detail how qualifications align with program elements
 - Illustrate how much assistance applicant can provide
 - Identify existing relationships and any ongoing discussions with communities
 - Organizations may partner to submit a joint proposal

Selection Process

- **Primary contractor selection criteria:**
 - Qualifications, previous experience, cost-effectiveness
- **Primary community selection criteria:**
 - 1 per county, subject to interest
 - Level of assistance needed
- Contractors and communities will be matched
- **Contracts administered by DCM**

Matching process

- Identify existing relationships / partnerships between selected communities and contractors to continue promoting them
- Match up contractor qualifications with community need

Outputs & Products

- Resilience Strategy
 - Phase 1: Risk & Vulnerability Assessment
 - Assessment table cataloging qualitative and quantitative data
 - Quantitative products developed using ArcGIS
 - Phase 2: Project Portfolio
 - Planned and ranked using prioritization criteria provided by DCM

PHASE 3

Engineering & Design

PHASE 3:
Engineering &
Design

- Secured funding: \$800,000 (\$40k per community)



PHASE 4

Implementation

PHASE 4: Implementation

- Secured funding to date: \$300,000 (total)
- Capitalize upon other implementation funding programs



Phases 1 & 2 Tentative Timeline

October 31	RFQs and Invitations to Apply issued
December 31	Pre-applications due from communities
December 31	Responses due from contractors
January 2021	20 communities selected to complete questionnaire
February 2021	Contractors selected
February 2021	Questionnaire due from communities
April 2021	Phase 1 and 2 contracts finalized, work begins
December 2021	Resilience Strategies due; Phase 1 and 2 contracts expire