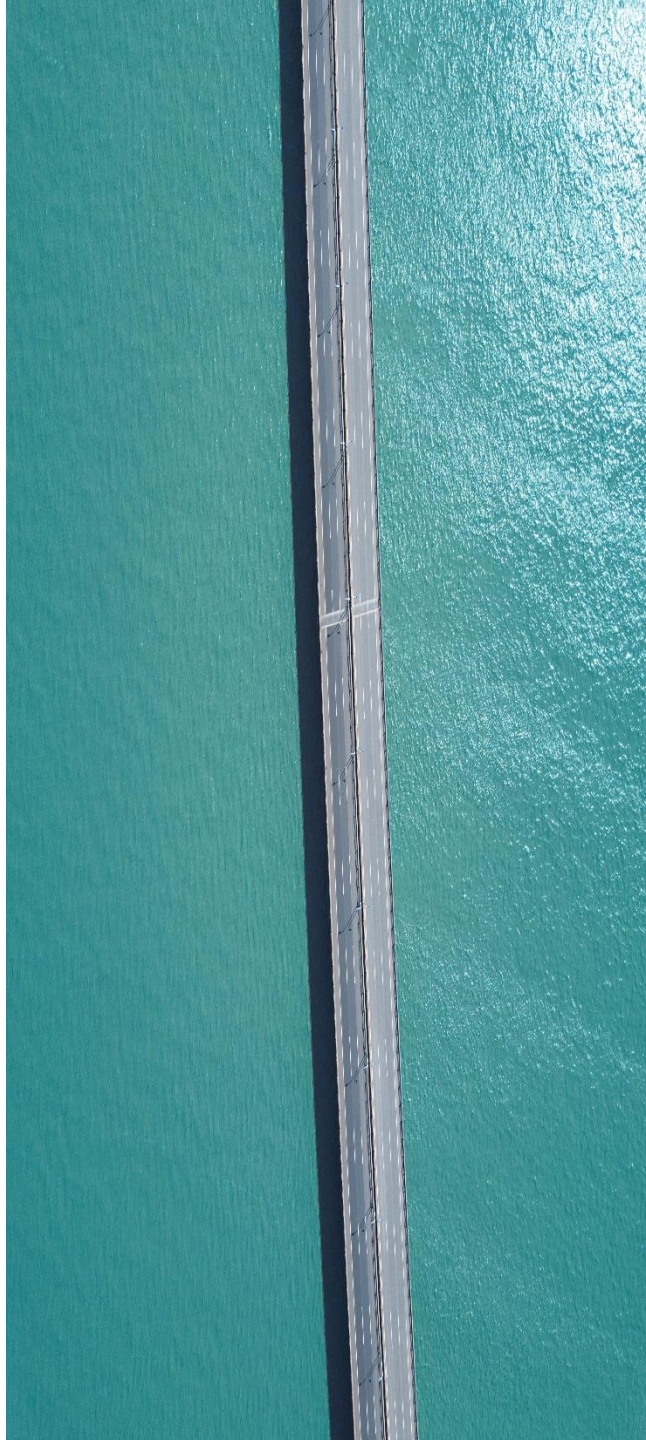
Outer Banks Regional Hazard Mitigation Plan Update

Public Meeting

Meeting 2 – August 28 & 29, 2024

Agenda & Introductions



Agenda

- Introductions
- Why Plan?
- Project Overview
- Planning Process
- Risk & Vulnerability Assessment Update
- Project Schedule
- Next Steps
- Q & A

Introductions

- Welcome!
- Reminder to sign in
- Introductions

WSP Planning Consultants & Contact Info

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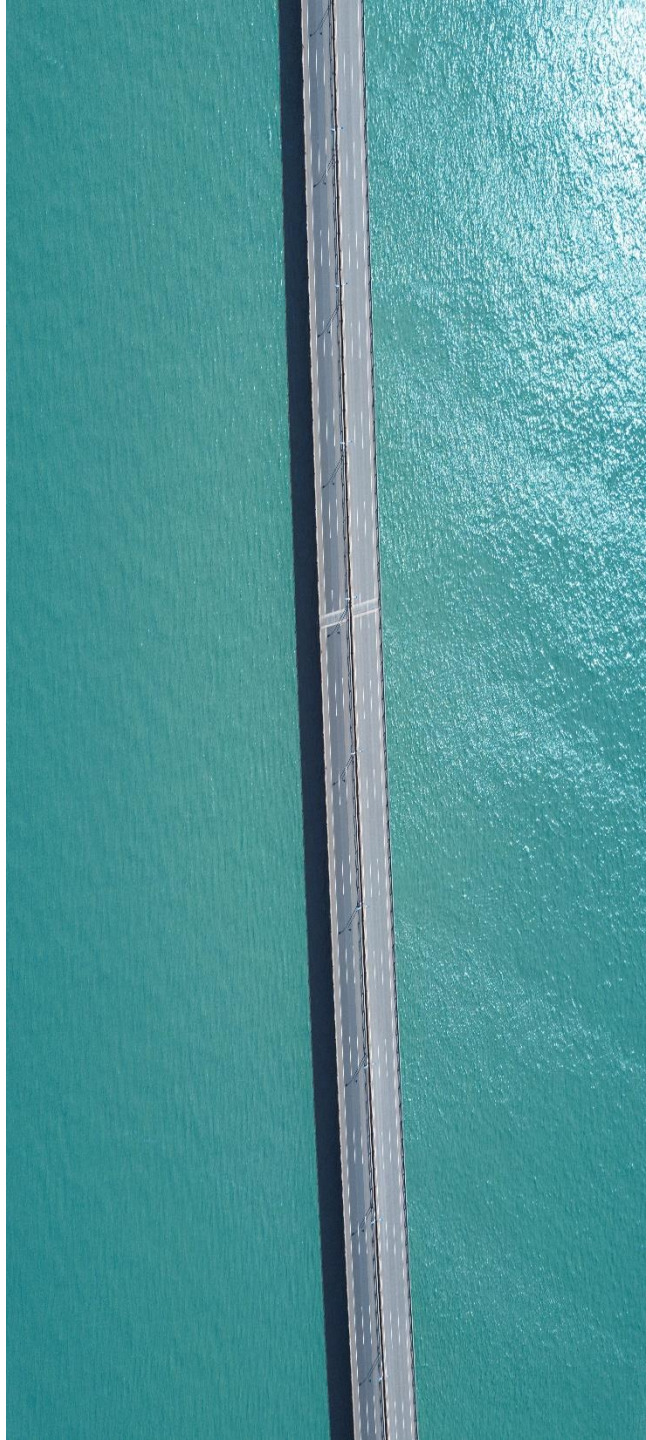
Why Plan?



Why Plan?

1. Ensure preparedness and continued eligibility for FEMA grant funding
   - Comply with Disaster Mitigation Act of 2000 and maintain eligibility for HMGP, FMA, and BRIC funds
2. Identify and understand changing risks, address new FEMA requirements
   - Greater exposure due to new development and population growth
   - New populations, including vulnerable and underserved populations
   - Changes to hazards from development patterns, more impermeable surface
   - Impacts of climate change on the frequency and intensity of hazards
3. Increase community resilience through mitigation and plan integration

Hazard Mitigation Plan Update Requirement

Disaster Mitigation Act of 2000: 44CFR 201.6

- Communities are required to update their hazard mitigation plans every 5 years to remain eligible for federal pre- and post-disaster funding
- Any federally declared disaster in the State of North Carolina means that Dare and Currituck Counties are eligible to apply for HMGP funding
  - The disaster does not have to impact Dare or Currituck Counties for communities in the Outer Banks region to apply for funding
- Having an updated plan ensures all communities will be ready with mitigation project ideas whenever funding becomes available

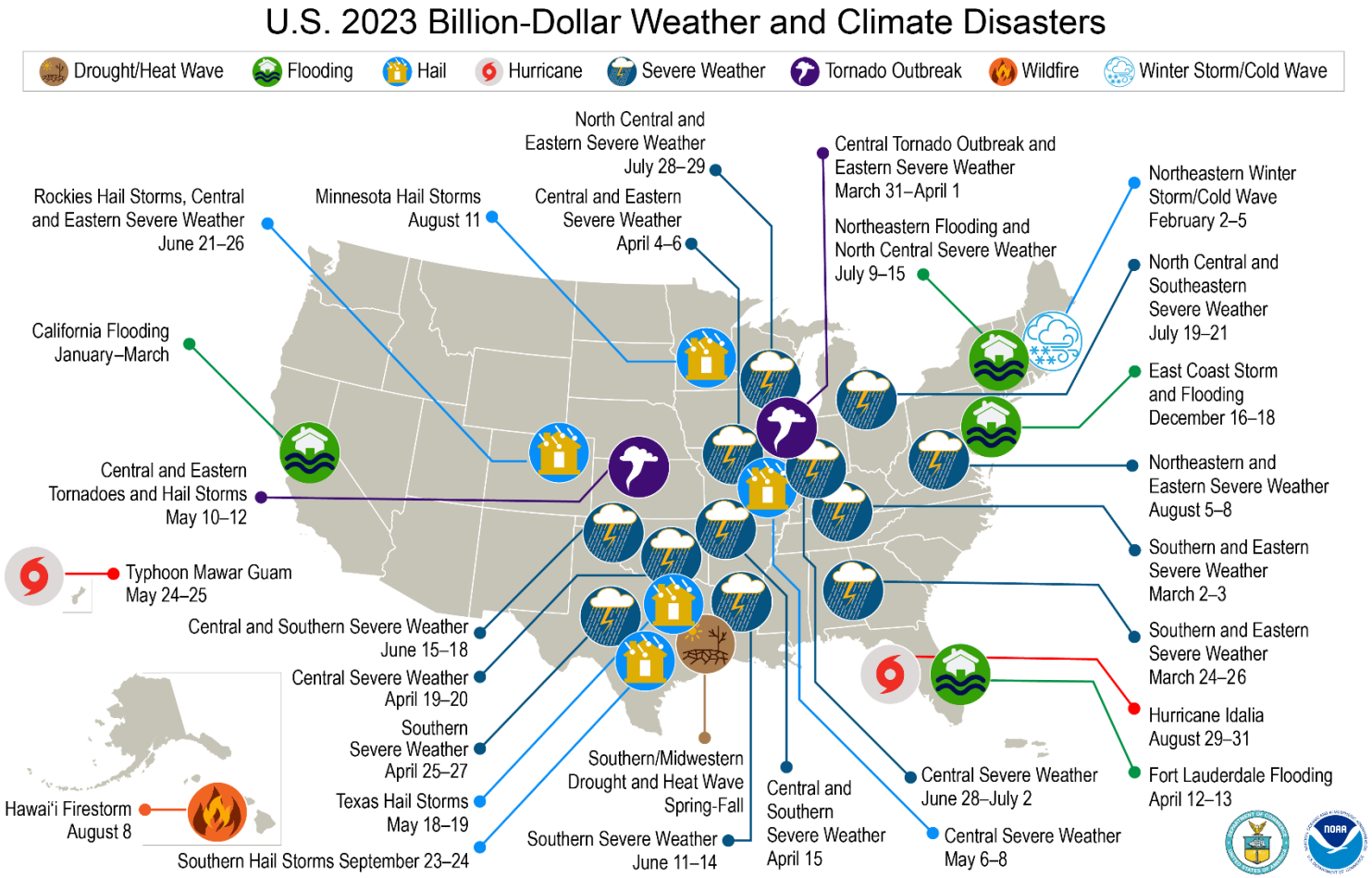
Trends in Disasters

In 2023, there were more billion-dollar disasters than in any previous year – 28 total

The 1980-2023 average of billion-dollar disasters is 8.5 events per year; the 2021-2023 average is 22 events per year (CPI adjusted)

There are **more people, buildings, and infrastructure exposed to risk**

Hazard events are occurring with **more frequency and intensity**



*This map denotes the approximate location for each of the **28 separate billion-dollar weather and climate disasters that impacted the United States in 2023.***

Trends in Disasters

Costliest Disasters to Impact NC since 1980

Event	Year	CPI Adjusted Estimated Cost (Across US)	Deaths (Across US)
Hurricane Harvey	2017	$157.5b	89
Hurricane Ian	2022	$117.4b	152
Hurricane Sandy	2012	$87.2b	159
Hurricane Ida	2021	$83.1b	96
Hurricane Irma	2017	$63.0b	97
Drought/Heat Wave	1980	$40.0b	1,260
Hurricane Ivan	2004	$33.4b	57
Hurricane Michael	2018	$30.7b	49
Hurricane Florence	2018	$29.5b	53
Winter Storm/Cold Wave	2021	$26.8b	262

Why Hazard Mitigation is a Priority:

1. The **spiraling costs of response and recovery**; the cost of doing nothing is too much
2. Many **events are predictable and repetitive**; we know what to expect
3. Loss reduction activities can be **effective, cost-beneficial, and environmentally sound**
4. There are **legal and moral responsibilities** to prevent future disasters
5. There are **funds available** to help; federally-funded projects average a **6:1 benefit-cost ratio**

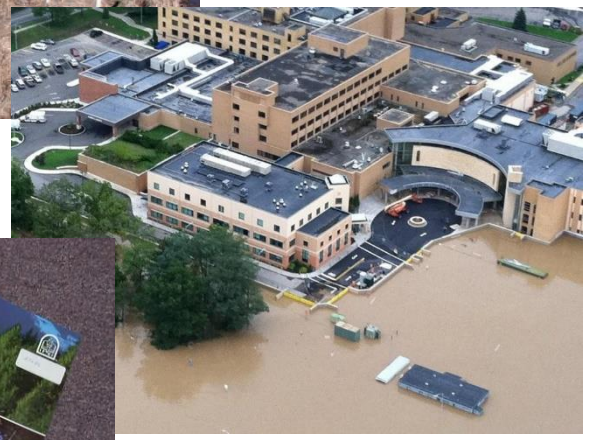
What is Mitigation?

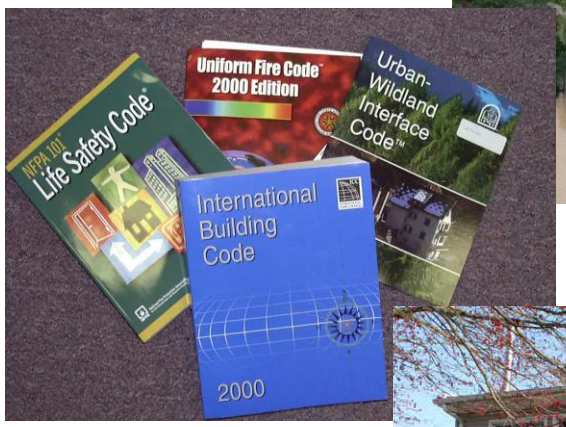
Mitigation is any **sustained action** taken to **reduce or eliminate long-term risk** to human life and property from hazards

Planning for mitigation helps to break the damage/rebuild cycle

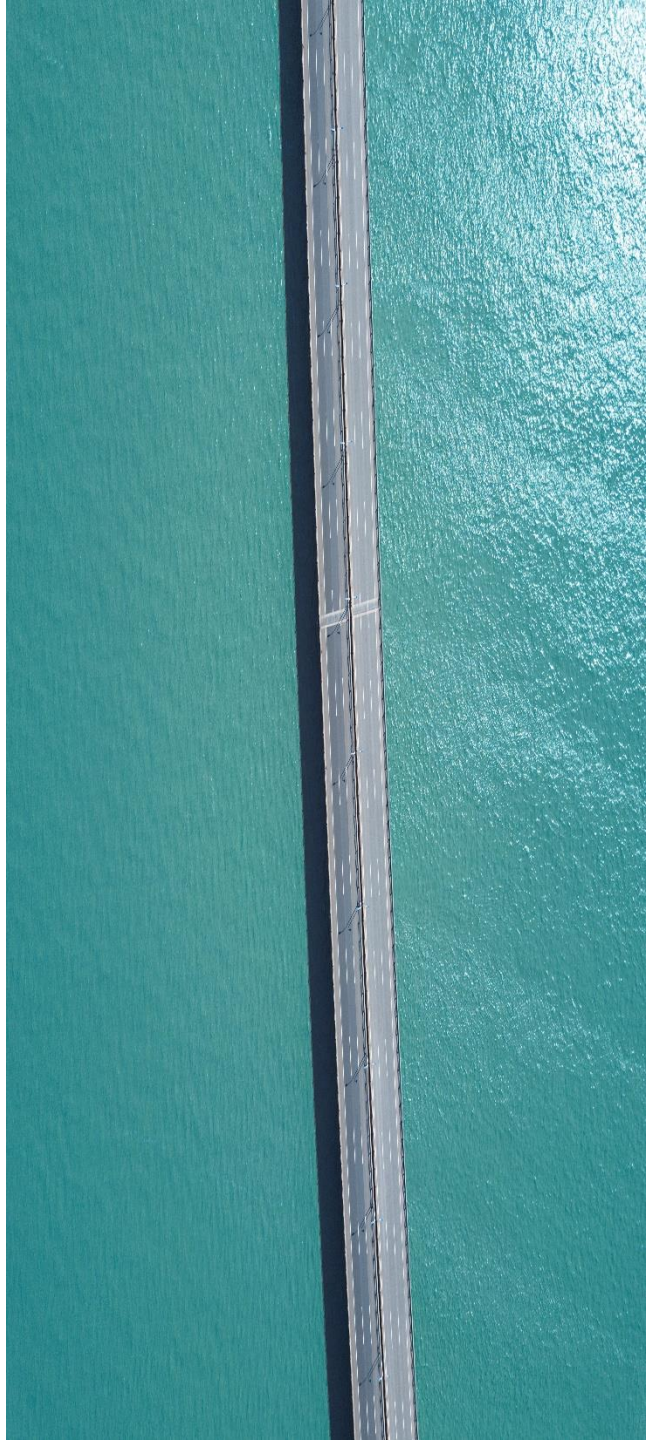
Basic Approaches to Mitigation

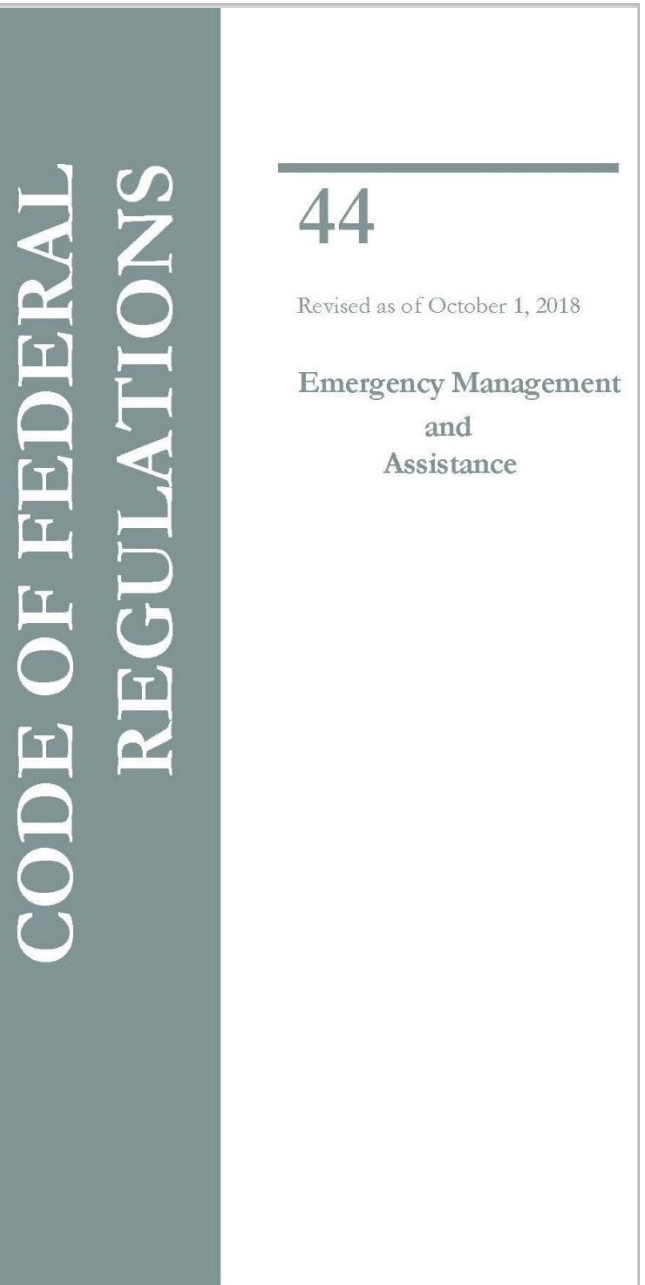
1. Alter the hazard
   - Change how the hazard occurs
   - Constructed wetlands, prescribed burns, beach renourishment
2. Avert the hazard
   - Prevent impacts from the hazard
   - Floodwalls, channels and culverts, fire breaks
3. Adapt to the hazard
   - Change building and development practices to minimize impacts
   - Building codes, zoning, design standards, safe rooms, generators
4. Avoid the hazard
   - Prevent or reduce exposure to known hazard areas
   - Property acquisition, open space preservation, relocation





Project Overview





Project Overview

Disaster Mitigation Act (DMA) Planning Requirements

What is DMA? Why is it Important?

- Outlines the planning requirements that local governments must follow
- Provides continued eligibility for mitigation funds, pre- and post-disaster funding
- Guides mitigation activities in a coordinated & economical manner
- Integrates into other existing planning mechanisms
- Directs future development and informs wise planning and building
- Reduces losses and makes communities more disaster resistant

Phase 1

Organize Resources

Phase 2

Assess Risks

Phase 3

Develop a Mitigation Strategy

Phase 4

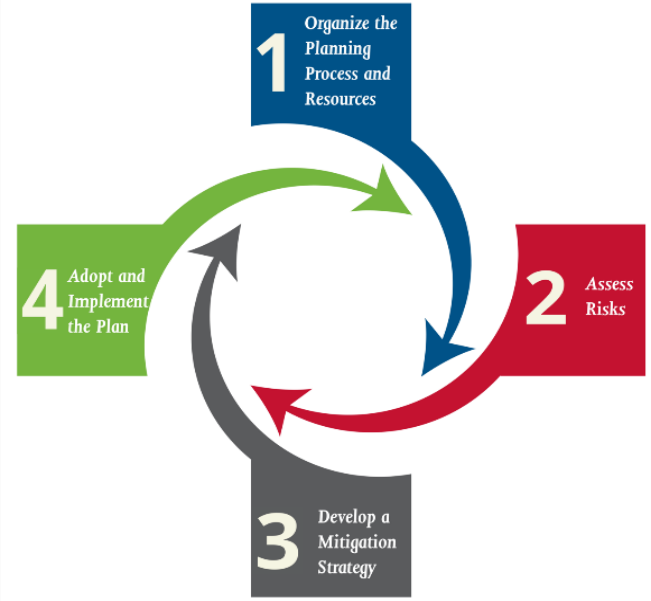
Adopt and Implement

Community Rating System (CRS) Planning Requirements

CRS Activity 510 Floodplain Management Planning

10-Step planning process aligns with the four phases of DMA

This plan will follow a blended planning process; completed HMP will meet the requirements of both programs



DMA Process	CRS Process
Phase I – Organize Resources	
§201.6(c)(1)	Step 1. Organize to Prepare the Plan
§201.6(b)(1)	Step 2. Involve the Public
§201.6(b)(2) & (3)	Step 3. Coordinate
Phase II – Risk Assessment	
§201.6(c)(2)(i)	Step 4. Assess the Hazard
§201.6(c)(2)(ii) & (iii)	Step 5. Assess the Problem
Phase III – Mitigation Strategy	
§201.6(c)(3)(i)	Step 6. Set Goals
§201.6(c)(3)(ii)	Step 7. Review Possible Activities
§201.6(c)(3)(iii)	Step 8. Draft an Action Plan
Phase IV – Plan Maintenance	
§201.6(c)(5)	Step 9. Adopt the Plan
§201.6(c)(4)	Step 10. Implement, Evaluate, and Revise the Plan

CRS Program Overview

- Based on ISO Fire Insurance Rating Program
- Encourages higher standards than the NFIP minimum
- 10 Classes
- Point-based system
- 5% premium discount for every 500 points

Goals of the Program

1. Reduce flood damage to insurable property
2. Strengthen and support the insurance aspects of the NFIP
3. Encourage a comprehensive approach to floodplain management

Table 110-1. CRS classes, credit points, and premium discounts.

CRS Class	Credit Points (cT)	Premium Reduction	
		In SFHA	Outside SFHA
1	4,500+	45%	10%
2	4,000–4,499	40%	10%
3	3,500–3,999	35%	10%
4	3,000–3,499	30%	10%
5	2,500–2,999	25%	10%
6	2,000–2,499	20%	10%
7	1,500–1,999	15%	5%
8	1,000–1,499	10%	5%
9	500–999	5%	5%
10	0–499	0	0

SFHA: Zones A, AE, A1–A30, V, V1–V30, AO, and AH

Outside the SFHA: Zones X, B, C, A99, AR, and D

Preferred Risk Policies are not eligible for CRS premium discounts because they already have premiums lower than other policies. Preferred Risk Policies are available only in B, C, and X Zones for properties that are shown to have a minimal risk of flood damage.

Some minus-rated policies may not be eligible for CRS premium discounts.

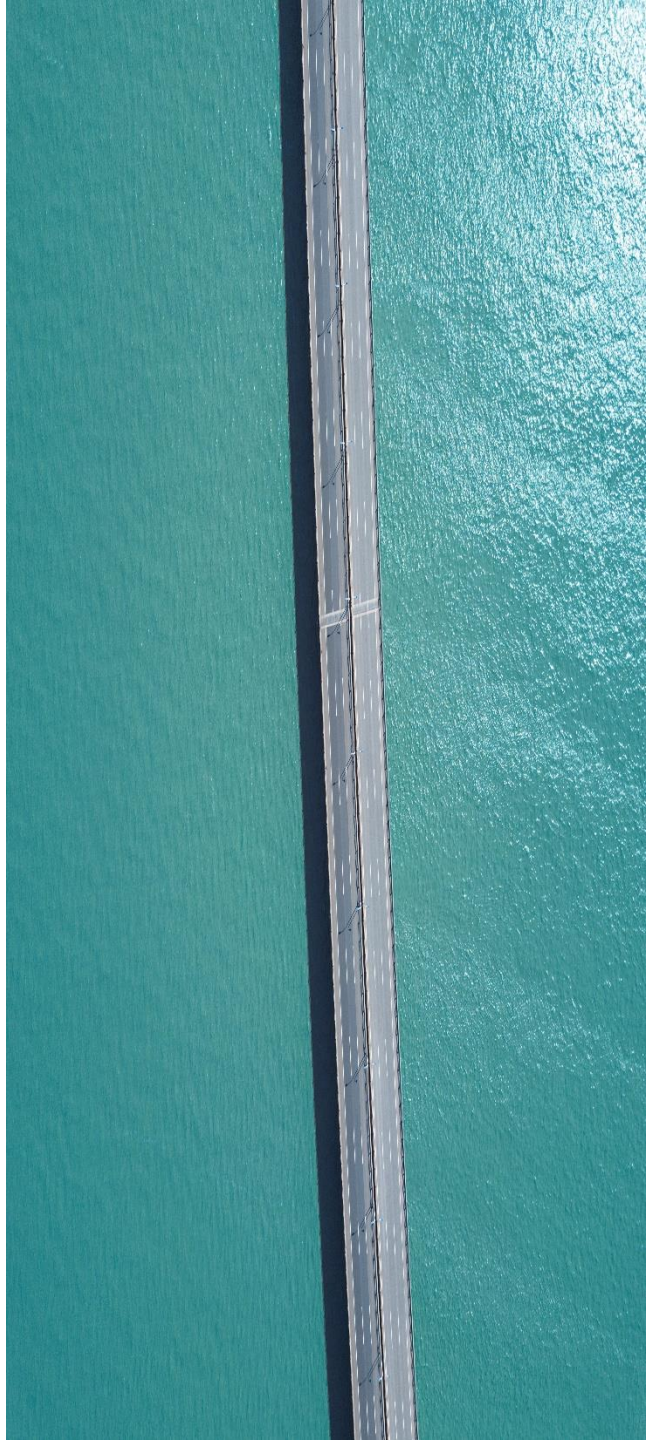
Premium discounts are subject to change.

Scope of Work

The updated plan will meet the following criteria:

- Will include all required elements (as defined by FEMA)
- Will meet or exceed the final rule for local mitigation planning found in 44 CFR, Section 201.6, in order to be approved by FEMA
- Natural hazards will coordinate with current FEMA-approved State Mitigation Plan
- Will include natural and human-caused hazards and mitigation measures
- Will incorporate any local climate adaptation data and findings
- Will address equitable outcomes (underserved communities and social vulnerability)

Planning Process



Four-Phase Planning Process

Get Organized

Convene a committee, involve the public, and coordinate

Assess Risks

Identify hazards and evaluate the problems

Develop a Mitigation Strategy

Set goals, review actions, and draft an action plan

Plan Maintenance

Implement, evaluate, and revise the plan

Phase 1: Organize Resources

- Form the Hazard Mitigation Planning Committee
- Plan for Public Involvement
- Coordinate with other stakeholders
  - FEMA Region 4
  - NOAA, NWS, other federal agencies
  - NCEM, NCORR, NCDPS, other state agencies
  - Neighboring communities
  - Non-profits
  - Businesses
  - Colleges & universities
  - Others…
- Stakeholders will be invited to contribute data and input, review drafts, and attend public meetings

Phase 2: Assess Risks

Hazard Identification

- *What can happen here?*
- Hazard list will coordinate with the 2023 State HMP and previous Outer Banks Regional plan
- FEMA only requires and reviews natural hazards

Vulnerability Assessment

- *What will be affected or impacted?*
- Property, critical facilities, people, economy, natural resources, cultural and historic resources
- GIS datasets will enable spatial analysis of vulnerability

Capability Assessment

- How can we implement mitigation?
- Planning & regulatory resources, administrative & technical resources, financial resources, past mitigation efforts, etc.

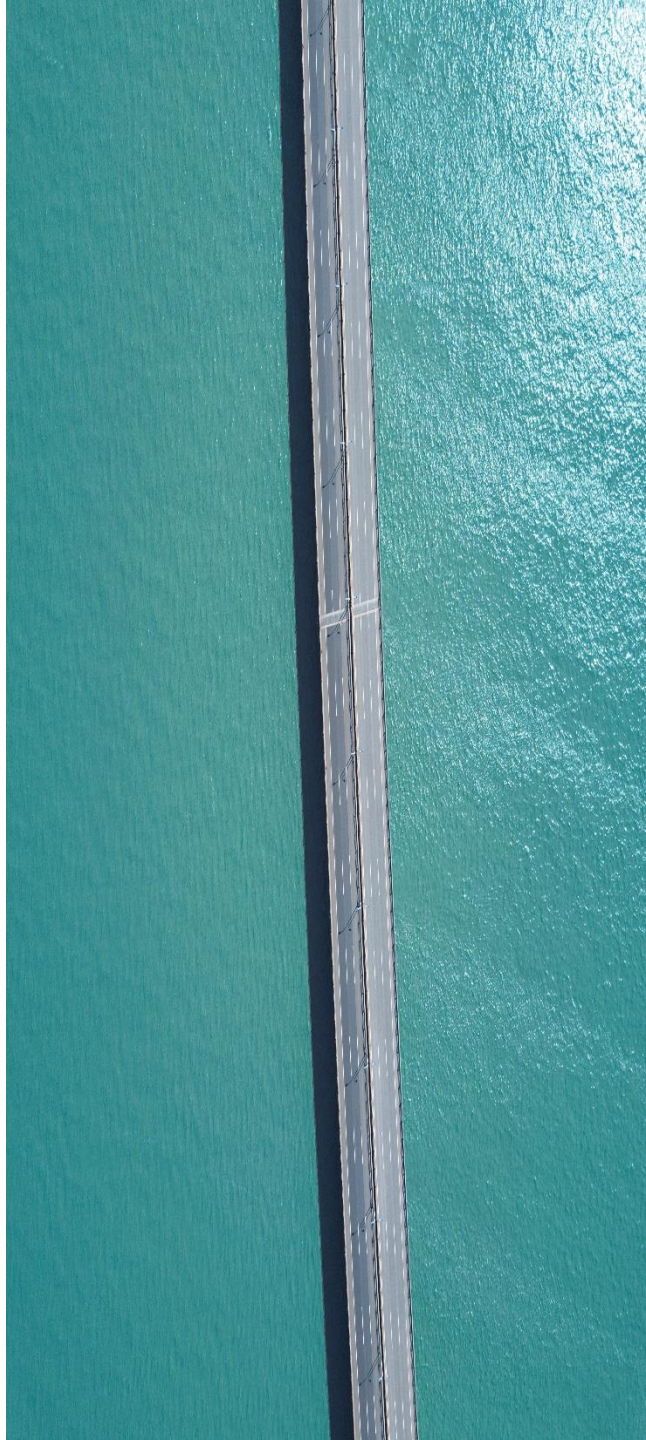
Phase 3: Develop a Mitigation Strategy

- Set Planning Goals
  - Review the goals from the previous plan to determine if they are still relevant and appropriate. Update the existing goals as needed.
- Review Mitigation Alternatives
  - Consider action ideas from each of FEMA's mitigation categories: Prevention, Property Protection, Structural Projects, Emergency Services, Natural Resource Protection, and Public Education
  - Review all existing mitigation actions – were they completed? If not, should they be carried forward or deleted?
- Draft an Action Plan
  - Develop and prioritize mitigation actions for all identified and evaluated hazards
  - Decide who will be responsible, when projects will be completed, how projects will be funded, etc.

Phase 4: Adoption and Implementation

- Each participating jurisdiction must adopt the plan by resolution
- Ongoing plan maintenance includes at least annual meetings of the HMPC to review the plan
- Communities will seek opportunities to fund and implement mitigation actions
- Plan will continue to undergo a full update every five years

Risk & Vulnerability Assessment Update



Priority Risk Index (PRI)

- The purpose of the PRI is to categorize and prioritize all potential hazards for the Outer Banks planning area as high, moderate, or low risk
- The sum of all five risk assessment categories equals the final PRI value
- The highest possible PRI value is 4.0

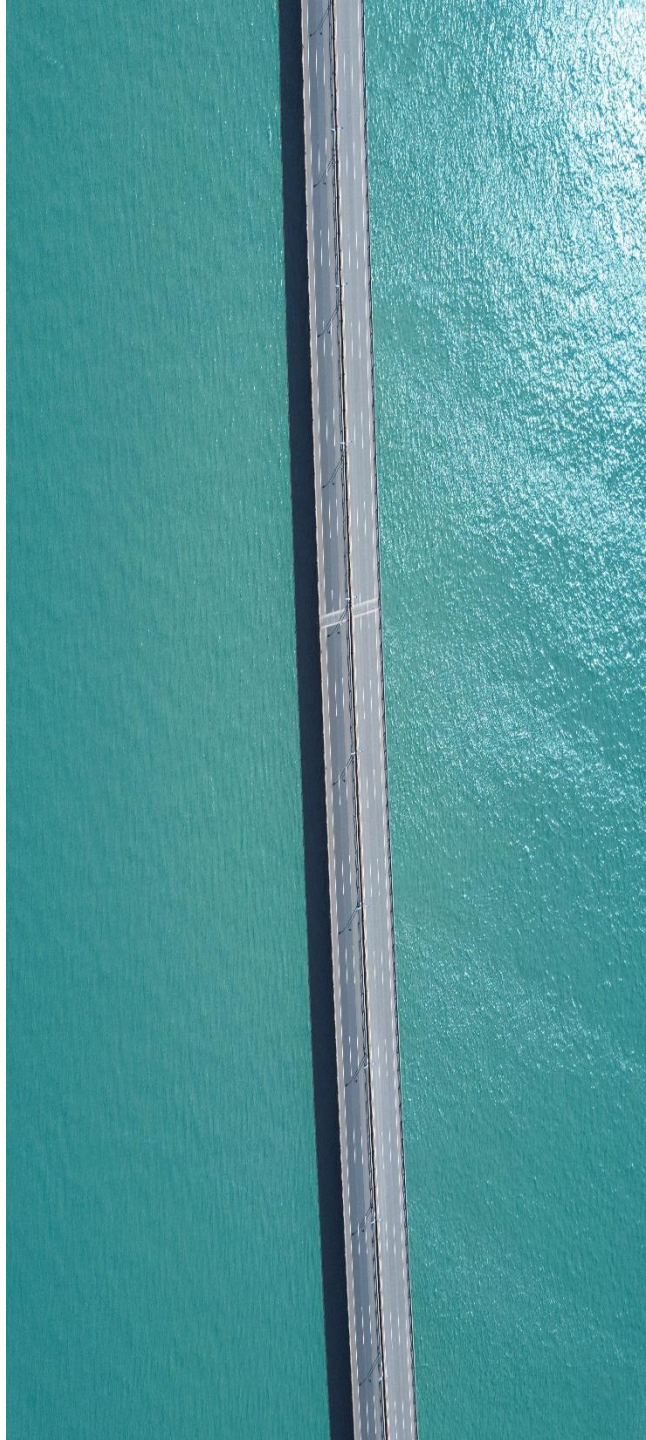
RISK ASSESSMENT CATEGORY	LEVEL	DEGREE OF RISK CRITERIA	INDEX	WEIGHT
PROBABILITY What is the likelihood of a hazard event occurring in a given year?	UNLIKELY	LESS THAN 1% ANNUAL PROBABILITY	1	30%
	POSSIBLE	BETWEEN 1 & 10% ANNUAL PROBABILITY	2	
	LIKELY	BETWEEN 10 &100% ANNUAL PROBABILITY	3	
	HIGHLY LIKELY	100% ANNUAL PROBABILTY	4	
IMPACT In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?	MINOR	VERY FEW INJURIES, IF ANY. ONLY MINOR PROPERTY DAMAGE & MINIMAL DISRUPTION ON QUALITY OF LIFE. TEMPORARY SHUTDOWN OF CRITICAL FACILITIES.	1	30%
	LIMITED	MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR > 1 DAY	2	
	CRITICAL	MULTIPLE DEATHS/INJURIES POSSIBLE. MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR > 1 WEEK.	3	
	CATASTROPHIC	HIGH NUMBER OF DEATHS/INJURIES POSSIBLE. MORE THAN 50% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES > 30 DAYS.	4	
SPATIAL EXTENT How large of an area could be impacted by a hazard event? Are impacts localized or regional?	NEGLIGIBLE	LESS THAN 1% OF AREA AFFECTED	1	20%
	SMALL	BETWEEN 1 & 10% OF AREA AFFECTED	2	
	MODERATE	BETWEEN 10 & 50% OF AREA AFFECTED	3	
	LARGE	BETWEEN 50 & 100% OF AREA AFFECTED	4	
WARNING TIME Is there usually some lead time associated with the hazard event? Have warning measures been implemented?	MORE THAN 24 HRS	SELF DEFINED	1	10%
	12 TO 24 HRS	SELF DEFINED	2	
	6 TO 12 HRS	SELF DEFINED	3	
	LESS THAN 6 HRS	SELF DEFINED	4	
DURATION How long does the hazard event usually last?	LESS THAN 6 HRS	SELF DEFINED	1	10%
	LESS THAN 24 HRS	SELF DEFINED	2	
	LESS THAN 1 WEEK	SELF DEFINED	3	
	MORE THAN 1 WEEK	SELF DEFINED	4	

PRI = [(PROBABILITY x .30) + (IMPACT x .30) + (SPATIAL EXTENT x .20) + (WARNING TIME x .10) + (DURATION x .10)]

Priority Risk Index Results

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	PRI Score
Drought	Possible	Minor	Large	More than 24 hrs	More than 1 week	2.2
Earthquake	Unlikely	Minor	Large	Less than 6 hrs	Less than 6 hrs	1.9
Extreme Heat	Highly Likely	Limited	Large	More than 24 hrs	Less than 1 week	3.0
Flood	Highly Likely	Critical	Large	6 to 12 hours	Less than 1 week	3.5
Hurricane & Coastal Hazards	Likely	Catastrophic	Large	More than 24 hrs	Less than 1 week	3.3
Tornadoes & Thunderstorms	Highly Likely	Limited	Moderate	Less than 6 hrs	Less than 6 hrs	2.9
Severe Winter Storm	Highly Likely	Minor	Large	More than 24 hrs	Less than 1 week	2.7
Wildfire	Possible	Limited	Moderate	Less than 6 hrs	Less than 1 week	2.5
Hazardous Materials Incident	Likely	Minor	Negligible	Less than 6 hrs	Less than 24 hrs	2.0
Radiological Emergency	Unlikely	Limited	Negligible	Less than 6 hrs	More than 1 week	1.9
Cyber Attack	Possible	Minor	Small	Less than 6 hrs	More than 1 week	2.1
Terrorism	Unlikely	Catastrophic	Small	Less than 6 hrs	More than 1 week	2.7
Transportation Infrastructure Failure	Possible	Critical	Small	Less than 6 hrs	More than 1 week	2.7

Project Schedule

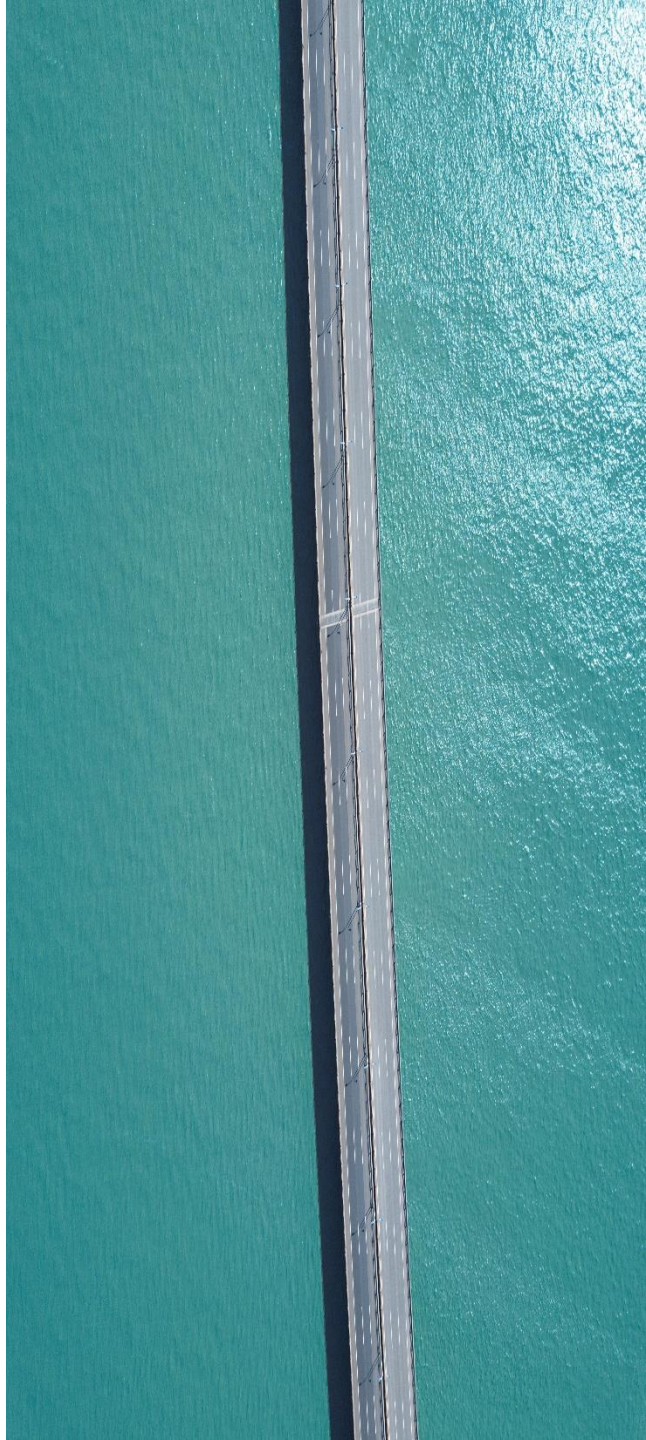


Project Schedule

Key Milestones and Meetings

April	Initial Public Meetings – Kickoff
August	Risk Assessment draft Additional public meetings
December	Final public meetings – Draft Plan Review; Proposed delivery of draft plan
June 2025	Existing plan expiration

Next Steps



Public Involvement Opportunities

Public meetings

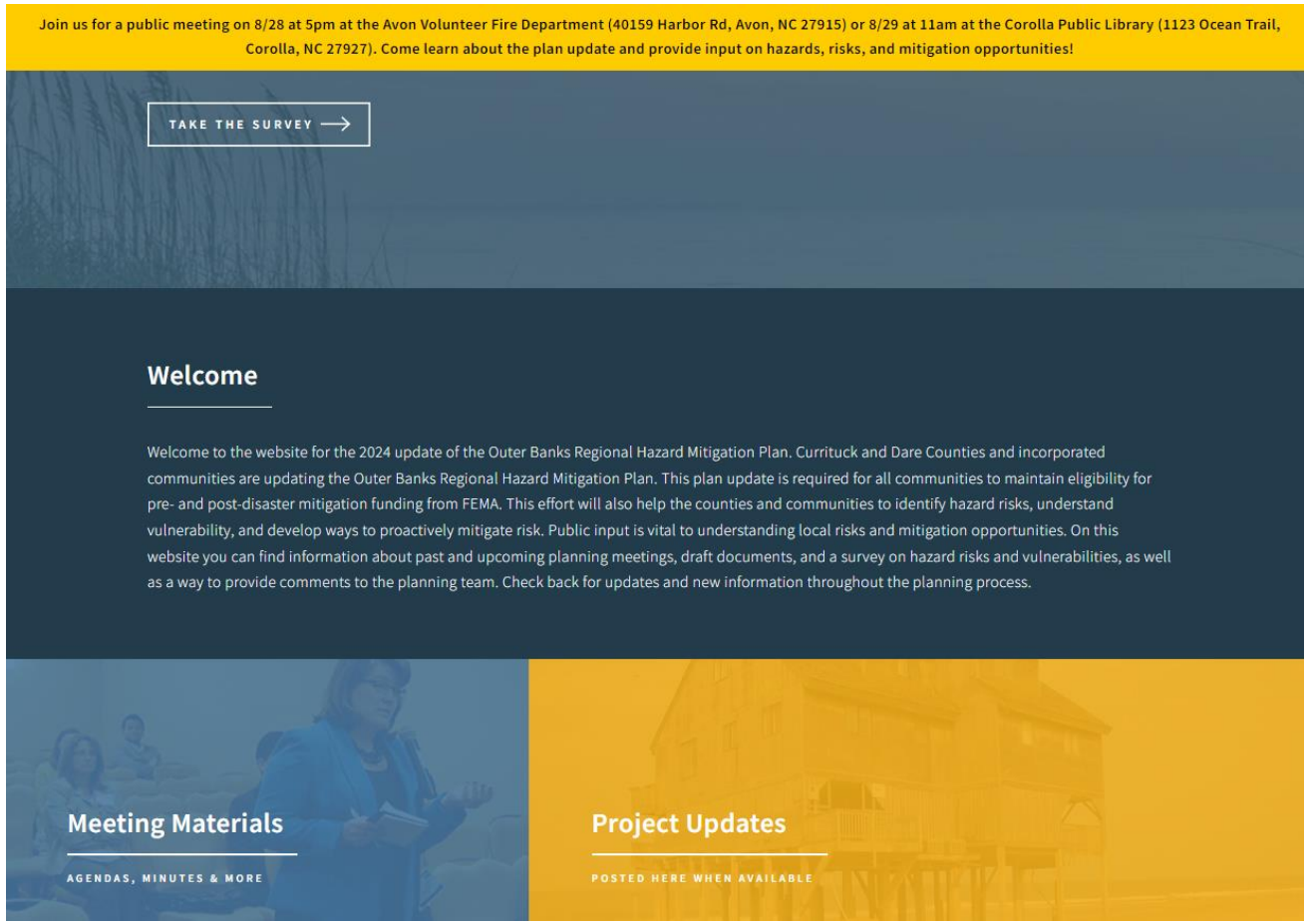
- 2-3 meetings will be held at the end of the planning process to review the draft plan

Public survey available online

Draft documents for public review

- Draft Hazard Identification & Risk Assessment and draft plan will be posted on the plan website

Visit www.OBX-HMP.com to learn more and stay involved in the planning process.



What's Next

- WSP team is working on the risk and vulnerability assessment; a draft Hazard Identification & Risk Assessment will be posted by Friday, September 13th
- Input from public meetings will be reviewed, discussed with the HMPC, and incorporated into the plan update
- Public survey has 379 responses so far. Make sure your input is shared!

Thank you

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