

OUTER BANKS REGIONAL HAZARD MITIGATION PLAN UPDATE

HAZARD MITIGATION PLANNING COMMITTEE – MEETING #2

August 28, 2024, 1pm, Dare County Emergency Operations Center

ATTENDANCE

There were 25 attendees in person and 15 online. The following individuals were in attendance:

Drew Pearson, Dare County EM
James Wooten, Dare County EM
Mary Ellon Ballance Dare County stakeholder – Hatteras Island
Ed Snyder, Nags Head Planning
Mike Strader, Currituck County stakeholder
Donna Creef, Dare County stakeholder – Outer Banks Association of Realtors
Noah Gillam, Dare County Planning
John Finelli, Dare County stakeholder – Martin’s Point
Rob Testerman, Kitty Hawk Planning
Skip Jones, Kill Devil Hills stakeholder – Outer Banks Home Builders Association
Barton Grover, Dare County Planning
Kevin Wright, Duck stakeholder
Mike Talley, Kitty Hawk Fire
David Bradley, Southern Shores Public Works
Andrea Webster, NCORR
Olivia Doherty, Currituck County EM
Sandy Cross, Duck Planning
Joe Heard, Duck Planning
Mike Palkovics, Kitty Hawk Police
Melissa Dickerson, Manteo Planning
Josh Honston, Manteo Planning
Holly White, NCORR
Kelly Hoeltzel, SBP
Helene Wetherington, NCORR
Jason Litteral, Currituck County Planning
Anthony Dickinson, Currituck County, NC Farm Bureau Insurance Agent
Mike McGuire, Dare County stakeholder – Hatteras Island
Shari Fiveash, Dare County stakeholder – Room in the Inn
Tom Amatucci, Dare County stakeholder – Salvo
Cameron Ray, Kill Devil Hills, Assistant Planning Director
Mark Bissell, Kitty Hawk Stakeholder
Kevin Zorc, Manteo EM
Kelly Wyatt, Nags Head Planning
Carl Baker, NCEM
John Mello, NCEM, Hazard Mitigation Planner
Chris Smith, NCEM Area 1 Coordinator
David Stroud, WSP
Abby Moore, WSP
Ranger Ruffins, WSP
Kimmy Hansen, WSP

AGENDA

- Introductions
- Project Overview & Where we are in the Planning Process
- Hazard Identification
- Asset Inventory
 - iRisk Inventory: People, Property, and Critical Facilities
 - Current Property Estimate
- Hazard Profiles: Risk & Vulnerability
 - Summary of key findings for each hazard
 - Extreme Heat (Andrea Webster, NCORR)
- Discussion
- Next Steps

INTRODUCTIONS

Drew Pearson, Dare County Emergency Manager, kicked off the meeting with an introduction to the plan update process and the importance of hazard mitigation. David Stroud with WSP facilitated the rest of the meeting following the agenda above.

PROJECT OVERVIEW

David began the presentation by explaining where we are in the planning process. Currently, the plan update is in Phase 2 of the four-phase planning process which includes identifying hazards and assessing the problems. David proceeded to describe the steps taken during the Hazard Identification & Risk Assessment (HIRA) process which are shown to the right. David noted that a Hazard Mitigation Plan is required to maintain eligibility for FEMA mitigation funding and that the plan must include the projects that the community plans to apply for funding to implement. Drew mentioned that having a Hazard Mitigation Plan makes the community eligible for funding, but it is never guaranteed. Overall, the mitigation action plan should include all mitigation projects you want to pursue, regardless of funding source.



HAZARD IDENTIFICATION

David noted that there has been a total of 28 Disaster and Emergency Declarations within the Outer Banks Region. Around 78% of those declarations have been caused due to Hurricanes. As shown in slides 10 and 11 of the presentation, a comprehensive list of all existing hazards that are being carried forward and reevaluated in the plan update was provided and reviewed. David explained that a few of these hazard profiles have been consolidated to mirror the State HMP. He presented the hazards that have been included and not included in the plan update. A question was raised on why infectious disease was not being included as a hazard profile. Drew noted that the Public Health Department already maintains a plan for infectious disease that was effectively implemented during COVID-19. Therefore, infectious disease was not deemed necessary to include in the hazard mitigation plan update.

ASSET INVENTORY

David briefly reviewed the data that has been collected to represent the asset inventory for both Currituck and Dare Counties. The data was collected using the NCEM iRisk platform to collect information about population demographics, building counts and values, and critical facilities. Critical facilities are buildings and infrastructure that support continuity of operations and are essential to health and safety.

David reminded HMPC members to provide critical facility updates by September 6th. James Wooten is handling all of unincorporated Dare County's updates. Dare County's new incident management system will include critical facility updates. It was suggested that each community choose a point person to provide the critical facility updates.

HAZARD PROFILES

David reviewed the Priority Risk Index (PRI) methodology and results. He asked HMPC members to review the PRI ratings (found on slide 18) for each hazard and provide feedback if any changes are recommended. David suggested Terrorism impact rating might need to be lowered and Drew suggested the Cyber Attack impact rating be increased. David briefly reviewed current draft findings for the hazard profiles listed below.

Drought

According to the U.S. Drought Monitor, from 2000-2023, Currituck County was in some level of drought 35% of the time, or 443 of 1,252 weeks, and Dare County was in some level of drought condition 33% of the time, or 418 of 1,252 weeks. David mentioned that drought can increase wildfire risk and may become more frequent and severe due to climate change.

Earthquake

The overall risk and probability of an earthquake occurring in the Outer Banks Region is relatively low. Since 1970, four earthquakes have occurred within 100 miles of the Region; all less than 4.0 magnitude.

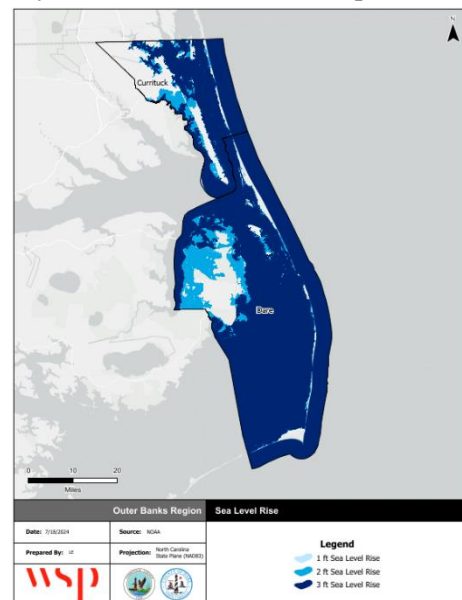
Flood

David noted that coastal flooding, sea level rise, and localized stormwater flooding were all considered under the flood hazard profile. David reviewed the effective FIRMS for both Currituck and Dare counties and shared how they differ from the 2006 FIRMs. An exposure analysis was conducted for the plan update and provides an estimate of buildings that would be impacted by an additional 1-, 2-, and 3-feet of flooding above the current estimated base flood elevation. This FFRMS exposure analysis will also be done using the 2006 FIRM data as a baseline. NOTE: The building exposure counts that were presented included duplicated parcel counts in error. The numbers have been corrected in the presentation that will be sent to the committee and posted online.

Data from iRisk estimates that 14.3% of property is at risk to the 1% annual chance flood event with an estimated damage of over \$69 million.

Percent of total buildings at risk is highest in:

- Dare County (25.1%)
- Kitty Hawk (21.2%)
- Nags Head (12.8%)
- Currituck County (12.3%)
- Manteo (11.0%)



While reviewing storm surge maps, Drew noted that there is a new basin and that the SLOSH maps have been updated to better reflect the sound side flooding.

Hurricane & Coastal Hazards

This hazard profile includes information on hurricanes and Nor'easters, erosion, and rip currents. NCEI reports 6 new hurricane and tropical storm events reported since the last plan update shown in the table below.

Date	Storm	Deaths/ Injuries	Property Damage	Crop Damage
9/5 – 9/6/2019	Hurricane Dorian	0/0	\$150,000	\$0
8/4/2020	Hurricane Isaias	0/0	\$500,000	\$0
7/8/2021	Tropical Storm Elsa	0/0	\$20,000	\$0
9/30/2022	Hurricane Ian	0/0	\$0	\$0
8/31/2023	Hurricane Idalia	0/0	\$0	\$0
9/22/2023	Tropical Storm Ophelia	0/0	\$0	\$0

There have been 30 reported rip current events in NCEI, which have caused 28 deaths since 2002. Questions were asked concerning the total number of lives lost to ocean hazards from NCEI. It was suggested that this number is much lower than what the HMPC has experienced, and it may be beneficial to add a note in the plan to indicate that the NCEI tables are not comprehensive.

Tornado & Thunderstorm

The Outer Banks Region has experienced 20 tornado incidents between 1996 and 2023, causing 6 injuries and \$1,397,000 in property damage. Based on past occurrences, there is a 68% annual probability of a tornado occurring somewhere in the region. David described how occurrences of hail, high winds, strong winds, and thunderstorm winds have been recorded within the Outer Banks Region. It was also noted that these separate wind events will be defined within the plan update. In total the Outer Banks Region averages 8.5 thunderstorm wind events, 15 lightning events, and 1.5 hail events per year.

Severe Winter Storm

There has only been 1 emergency declaration due to severe winter storm in the Outer Banks Region. NCEI records show 54 severe winter storm related events during the 25-year period from 1999 through 2023.

Wildfire

David reviewed data collected from the Southern Wildfire Risk Assessment to show how Wildland Urban Interface (WUI), Fire Intensity, and Fire Burnability was measured within both Currituck and Dare Counties. It is estimated that 71.7% of the Region's population lives within the WUI. Over 32% of the Region is susceptible to Class 4 and 4.5 high intensity fires, which pose significant harm or damage to life and property. Most of the Outer Banks Region has a relatively low burn probability of 5 or less, however, approximately 43% of the Region has a burn probability of 6 or 7.

Burn Probability

	Class	Acres	Percent
	1	38,039	12.7%
	2	33,901	11.4%
	3	37,115	12.4%
	4	16,466	5.5%
	5	43,380	14.5%
	6	117,198	39.3%
	7	12,386	4.1%
	8	0	0.0 %
	9	0	0.0%
	10	0	0.0%
	Total	298,487	100.0%

Hazardous Materials Incident

The Toxic Release Inventory reports 4 sites with hazardous materials in the planning area shown in the table below. Between 1990 and 2023 there were 8 recorded hazardous materials incidents in the Outer

Facility Name	County	Chemicals Reported	Most Recent Release
Tidewater Agricorp Central Fertilizer	Currituck	Ammonium Sulfate, Ammonia, Phosphoric Acid	1988
W S Clark & Sons Inc	Currituck	Ammonia, Phosphoric Acid	1990
Us Air Force Dare County Bomb Range	Dare	Lead	2023
Us Natl Park Service Cape Hatteras Natl Seashore (Caha)	Dare	Lead	2018

Source: US EPA

Banks Region. Of these events, 2 were flagged as serious incidents and caused 4316,891 in damages. The most common materials spilled in the planning area are Class 2 (Gases) and Class 3 (Flammable Combustible Liquids). David

also noted the Buxton Beach underground petroleum tanks that have started to release hazardous materials due to erosion.

Currituck and Dare counties participated in a Commodity Flow Study since the last HMP update. James Wooten will provide information on this study.

There are several FUD (Formerly Utilized Defense) sites in the region. Buxton Beach came to light because of erosion, but other sites could pose a risk in future. Drew will provide information on these sites.

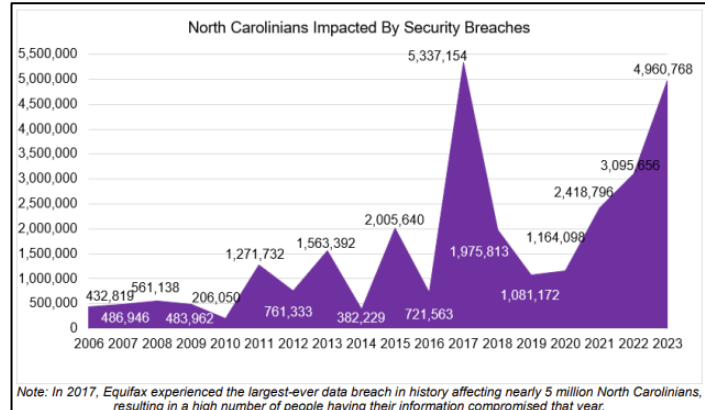
Radiological Emergency

Overall, there is a low probability of a radiological emergency occurring within the Outer Banks Region. A very small portion of northeastern Currituck County is within the 50-mile Ingestion Pathway Zone (IPZ) of Surry Power station in Surry, VA.

Cyber Threat

In 2023, NC Department of Justice received 2,033 data breach notices from organizations. These breaches impacted more than 4,960,768 North Carolinians. David noted that while the majority of breaches were not specifically targeted at the Outer Banks Region, some of them almost certainly included information on individuals who live in the region.

Drew indicated that foreign actors have been successful in cyber attacks against the county. It's important to be able to track and report threats prevented.



Terrorism

In 2023, 50 active hate groups were reported by Southern Poverty Law Center in North Carolina. Hate groups were defined as any group with "beliefs or practices that attack or malign an entire class of people." None of the identified hate groups have a specifically identified footprint in the Currituck or Dare counties. It was mentioned that the gunfire attack on two electrical substations in Moore County in 2022 should be noted in the plan update as an example of terrorism attacks on local infrastructure.

Transportation Infrastructure Failure

The Region depends on several key bridges, roads, and ferry crossings for access and services – integral for the functioning of the planning area. David noted that the loss of major highway or key bridges could

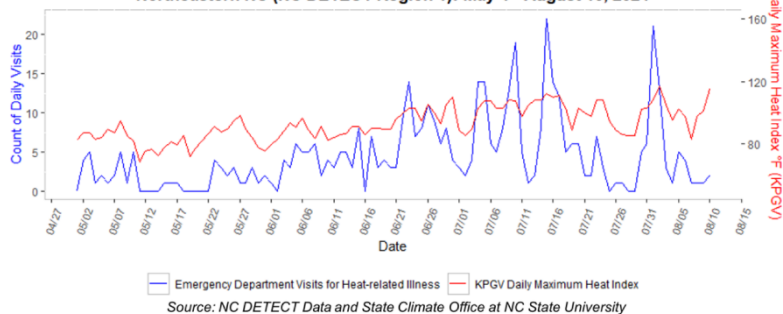
cause significant disruption for residents. There are 15 bridges built prior to 1995 in the Outer Banks Region. Two of these bridges were rated as “Structurally deficient” and 5 were rated as “Functionally Obsolete.”

James asked to broaden the Transportation Infrastructure Failure profile to include other types of infrastructure. Dare County has been tracking failure of fiber optic lines and water lines. The NC-12 Task Force Report provides hot spots for infrastructure.

NCORR HEAT

Andrea Webster presented on heat vulnerability in the Outer Banks. She noted that it is likely that temperatures will continue to increase which will impact the rate of heat-related illness. Higher temperatures will specifically impact infants and children, pregnant persons, persons taking certain medications, older adults (65+), outdoor workers, low income, people with underlying health conditions, and athletes. Additionally, it was noted that high temperatures will not only impact human health but utility costs, infrastructure, and agriculture.

Figure 3. Count of Emergency Department Visits for Heat-related Illness and Maximum Heat Index Northeastern NC (NC DETECT Region 1): May 1 - August 10, 2024



NEXT STEPS

David discussed the key milestones and upcoming meetings that will be facilitated by WSP. David briefly reviewed the public survey results which has received 379 responses so far. The HMPC was asked to provide any critical facility updates to the WSP team by Friday, September 6th and to begin reviewing existing mitigation action plans to provide a status update for each action. WSP will post an updated draft HIRA on the plan website for review by Friday, September 13th. The next HMPC meeting will be tentatively scheduled in October.